UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2021
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission file number 001-15451

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United Parcel Service, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**58-2480149**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification No.)***

55 Glenlake Parkway, N.E. Atlanta, Georgia 30328
(Address of Principal Executive Offices) ***(Zip Code)***

(404) 828-6000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Class B common stock, par value $.01 per share	UPS	New York Stock Exchange
0.375% Senior Notes due 2023	UPS23A	New York Stock Exchange
1.625% Senior Notes due 2025	UPS25	New York Stock Exchange
1% Senior Notes due 2028	UPS28	New York Stock Exchange
1.500% Senior Notes due 2032	UPS32	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
Class A common stock, par value $.01 per share
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of " large accelerated filer", "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the class B common stock held by non-affiliates of the registrant was $151,320,492,469 as of June 30, 2021. The registrant’s class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of the registrant’s class A common stock is convertible into one share of the registrant’s class B common stock.

As of February 6, 2022, there were 137,837,443 outstanding shares of class A common stock and 732,553,960 outstanding shares of class B common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s definitive proxy statement for its annual meeting of shareowners scheduled for May 5, 2022 are incorporated by reference into Part III of this report.

UNITED PARCEL SERVICE, INC.
ANNUAL REPORT ON FORM 10-K
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PART I

Cautionary Statement About Forward-Looking Statements

This report and our other filings with the Securities and Exchange Commission ("SEC") contain and in the future may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Statements other than those of current or historical fact, and all statements accompanied by terms such as "will," "believe," "project," "expect," "estimate," "assume," "intend," "anticipate," "target," "plan" and similar terms, are intended to be forward-looking statements. Forward-looking statements are made subject to the safe harbor provisions of the federal securities laws pursuant to Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

From time to time, we also include written or oral forward-looking statements in other publicly disclosed materials. Such statements relate to our intent, belief and current expectations about our strategic direction, prospects and future results, and give our current expectations or forecasts of future events; they do not relate strictly to historical or current facts. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or anticipated results. These risks and uncertainties include, but are not limited to, those described in Part I, "Item 1A. Risk Factors" and elsewhere in this report and may also be described from time to time in our future reports filed with the SEC. You should consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of predictions contained in such forward-looking statements. We do not undertake any obligation to update forward-looking statements to reflect events, circumstances, changes in expectations or the occurrence of unanticipated events after the date of those statements.

Item 1. *Business*

Overview

United Parcel Service, Inc. ("UPS"), founded in 1907, is the world's premier package delivery company and a leading provider of global supply chain management solutions. We offer a broad range of industry-leading products and services through our extensive presence in North America; Europe; the Indian sub-continent, Middle East and Africa ("ISMEA"); Asia Pacific and Latin America. Our services include transportation and delivery, distribution, contract logistics, ocean freight, air freight, customs brokerage and insurance.

We operate one of the largest airlines and one of the largest fleets of alternative fuel vehicles under a global UPS brand. We deliver packages each business day for approximately 1.7 million shipping customers to 11.8 million delivery customers in over 220 countries and territories. In 2021, we delivered an average of 25.2 million packages per day, totaling 6.4 billion packages during the year. Total revenue in 2021 was $97.3 billion.

Strategy

Our well-defined strategy focuses on growing in the parts of the market that value our end-to-end network, including business-to-business ("B2B"), healthcare, small- and medium-sized businesses ("SMBs") and large enterprise accounts. We are on a journey to execute our *Customer First, People Led, Innovation Driven* strategy as we transform our business.

Customer First is about reducing the friction of doing business. We help our customers seize new opportunities, compete, and succeed by delivering the capabilities that they tell us matter the most: speed and ease.

People Led specifically focuses on how likely an employee is to recommend UPS employment to a friend or family member. We know successful outcomes are built from a strong culture, so we are striving to make UPS a great place to work. Through our transformation initiatives, we are creating fewer but more impactful jobs. We are also enhancing the employee value proposition to align with evolving market practices.

Innovation Driven is designed to optimize the volume that flows through our network, to focus on increasing value share and driving business growth from higher-yielding opportunities in our target markets. We are using technology and automation to deliver sustainable improvements to our network. In our United States (" U.S.") Domestic Package segment, our aim is to improve revenue mix and lower our cost to serve. Within the International Package segment and Supply Chain Solutions businesses, we are focused on value share gains and growing operating profit.

Competitive Strengths

Our competitive strengths include:

Global Smart Logistics Network. We believe that our integrated global air and ground network is the most extensive in the industry. We provide all types of package services (air, ground, domestic, international, commercial and residential) through a single pickup and delivery network. Our sophisticated engineering systems allow us to optimize network efficiency and asset utilization.

Global Presence. We serve more than 220 countries and territories. We have a significant presence in all of the world's major economies, allowing us to effectively and efficiently operate around the world.

Cutting-Edge Technologies. We are a global leader in developing technologies that help our customers enhance their shipping and logistics business processes to lower costs, improve service and increase efficiency. We offer a variety of online tools that enable our customers to integrate UPS functionality into their own websites, deepening our customer relationships. These tools allow customers to send, manage and track their shipments, and also to provide their customers with better information services.

A Broad Portfolio of Services. Our portfolio of services helps customers choose their most appropriate delivery option. Increasingly, our customers benefit from UPS business solutions that integrate our services beyond package delivery. For example, supply chain services – such as freight forwarding, truckload brokerage, customs brokerage, order fulfillment and returns management – help improve the efficiency of our customers' entire supply chain management process.

Customer Relationships. We focus on building and maintaining long-term customer relationships. Providing value-added services beyond package delivery, and cross-selling small package and supply chain services across our customer base, are important retention tools and growth mechanisms for us.

Brand Equity. We have built a leading and trusted brand that stands for quality, reliability and service innovation. Our vehicles and the professional courtesy of our drivers are major contributors to our brand equity.

Distinctive Culture. We believe that the dedication of our employees comes in large part from our distinctive "employee-owner" culture. Our founders believed that employee stock ownership was a vital foundation for successful business, and the employee stock ownership tradition dates back to our first stock ownership program in 1927. Our legacy of fairness and equity is the bedrock of our culture and of our relationships with those we serve.

Financial Strength. Our financial strength allows us to generate value for our shareowners by investing in technology, transportation equipment, facilities and employee development; pursuing strategic opportunities that facilitate our growth and maintaining a strong credit rating that gives us flexibility in running the business.

Products and Services; Reporting Segments

We have two reporting segments: U.S. Domestic Package and International Package. Our remaining businesses are reported as Supply Chain Solutions. U.S. Domestic Package and International Package are together referred to as our global small package operations.

Global Small Package

Our global small package operations provide time-definite delivery services for express letters, documents, packages and palletized freight via air and ground services. These services are supported by numerous shipping, visibility and billing technologies. For example, our Digital Access Program makes it easier for SMBs to use our services by embedding our shipping solutions directly into leading e-commerce platforms.

All services (air, ground, domestic, international, commercial and residential) are managed through a single, global smart logistics network. We combine all packages within our network, unless dictated by specific service commitments. This enables us to efficiently pick up customers' shipments for any services at a scheduled time each day. Our integrated network provides unique operational and capital efficiencies that have a lower environmental impact than single service network designs.

We offer same-day pickup of air and ground packages seven days a week. Our global network offers approximately 188,000 entry points where customers can tender packages to us at locations and times convenient to them. This includes UPS drivers who can accept packages, UPS drop boxes, UPS Access Point locations, The UPS Store locations, authorized shipping outlets and commercial counters, alliance locations and customer centers attached to UPS facilities. Our UPS Access Point network includes local small businesses and national retailers. This network allows consumers to ship or redirect packages to an alternate delivery location or to drop off pre-labeled packages, including returns. The UPS Access Point network includes more than 20,000 locations within the U.S. and 52,000 globally.

We offer a portfolio of returns services in more than 140 countries. These services are driven by the continued growth of e-commerce that has increased our customers' need for efficient and reliable returns, and are designed to promote efficiency and a friction-free consumer experience. This portfolio provides a range of cost-effective label and digital returns options and a broad network of consumer drop points. We also offer a selection of returns technologies, such as UPS Returns Manager, that promote systems integration, increase customer ease of use and visibility of inbound merchandise. These technologies help reduce costs and improve efficiency in our customers' reverse logistics processes.

Our global air operations are based in Louisville, Kentucky, and are supported by air hubs across the United States and internationally. We operate international air hubs in Germany, China, Hong Kong, Canada and Florida (for Latin America and the Caribbean). This network design enables cost-effective package processing in our most technology-enabled facilities, which allows us to use fewer, larger and more fuel-efficient aircraft.

U.S. Domestic Package

We are a leader in time-definite, guaranteed small package delivery services in the United States. We offer a full spectrum of U.S. domestic guaranteed air and ground package transportation services. Our U.S. ground fleet serves all business and residential zip codes in the contiguous United States.

- Our air portfolio offers time-definite, same day, next day, two day and three day delivery alternatives.
- Our ground network enables customers to ship using our day-definite guaranteed ground service. We deliver more ground packages in the U.S. than any other carrier, with average daily package volume of more than 17 million, most within one to three business days.
- UPS SurePost provides residential ground service for customers with non-urgent, lightweight residential shipments. It offers the consistency and reliability of the UPS ground network, with final delivery often provided by the U.S. Postal Service.

International Package

International Package consists of our small package operations in Europe, Asia Pacific, Canada, Latin America and ISMEA. International high-growth markets are one of our identified growth opportunities. We offer a wide selection of guaranteed day- and time-definite international shipping services, including more guaranteed time-definite express options than any other carrier.

For international package shipments that do not require express services, UPS Worldwide Expedited offers a reliable, deferred, guaranteed day-definite service option. For cross-border ground package delivery, we offer UPS Standard delivery services within Europe, between the U.S. and Canada, and between the U.S. and Mexico. UPS Worldwide Express Freight is a premium international service for urgent, palletized shipments over 150 pounds.

Europe is our largest region outside of the U.S. and, in 2021, accounted for nearly half of our international package segment revenue. We continue to make major European infrastructure investments to meet growing demand for our services and to improve transit times across the region. Customers can reach more than 80% of Europe's population within two business days using UPS Standard.

We serve more than 40 Asia Pacific countries and territories through more than two dozen alliances with local delivery companies that supplement our owned operations.

The introduction of a direct flight from the U.S. to Dubai has improved time-in-transit to key destinations in ISMEA for shippers throughout the U.S., Canada and Latin America. In India, we are investing in our network to improve transit times and extend pickup times, allowing businesses to gain faster access to markets in Europe and the United States.

Supply Chain Solutions

Supply Chain Solutions consists of our forwarding, truckload brokerage, logistics and distribution, Roadie, UPS Capital and other businesses. Supply chain complexity creates demand for a global service offering that incorporates transportation, distribution and international trade and brokerage services, with complementary financial and information services. Many companies see value in outsourcing non-core logistics activity. With increased competition and growth opportunities in new markets, businesses require flexible and responsive supply chains to support their strategies. We meet this demand by offering a broad array of supply chain services in more than 200 countries and territories.

The divestiture of UPS Freight was completed on April 30, 2021. As a result of the divestiture, we renamed Supply Chain & Freight as Supply Chain Solutions. For additional information on the divestiture, see note 4 to the audited, consolidated financial statements.

Forwarding

We are one of the largest U.S. domestic air freight carriers and among the top air freight forwarders globally. We offer a portfolio of guaranteed and non-guaranteed global air freight services. Additionally, as one of the world's leading non-vessel operating common carriers, we provide ocean freight full-container load, less-than-container load and multimodal transportation services between most major ports around the world.

Truckload Brokerage

We provide truckload brokerage services in the U.S. and Europe through our Coyote-branded subsidiaries. Access to the UPS fleet, combined with a broad third-party carrier network, creates customized capacity solutions for all markets and customers. Coyote customers can also access UPS services such as air freight, customs brokerage and global freight forwarding.

Logistics & Distribution

Our Logistics & Distribution business provides value-added fulfillment and transportation management services. We leverage a network of more than 1,000 facilities in over 120 countries to ensure products and parts are in the right place at the right time. We operate both multi-client and dedicated facilities across our network, many of which are strategically located near UPS air and ground transportation hubs to support rapid delivery to consumer and business markets.

Healthcare logistics is one of our targeted areas for growth. We offer world-class technology, deep expertise and the most sophisticated suite of services in the industry. With a strategic focus on serving the unique, priority-handling needs of healthcare and life sciences customers, we have increased our cold-chain logistics capabilities to support the rapid deployment of COVID-19 vaccines both in the U.S. and internationally and we have delivered over one billion doses of COVID-19 vaccines.

Customs Brokerage

We are among the world's largest customs brokers, as measured by both the number of shipments processed annually and by the number of dedicated brokerage employees worldwide. In addition to customs clearance services, we provide product classification, trade management, duty drawback and consulting services.

Roadie

On October 1, 2021, we acquired Roadie, a technology platform that enables local same-day delivery with operations throughout the United States. The Roadie technology platform is purpose-built to connect merchants and consumers with contract drivers to enable efficient and scalable same-day local delivery services, including items that are not compatible with the UPS network.

UPS Capital

UPS Capital offers integrated supply chain insurance solutions for in-transit goods to both small and large businesses. UPS Capital also offers insured transportation of high value goods.

Human Capital

Our success is dependent upon our people, working together with a common purpose. We have approximately 534,000 employees (excluding temporary seasonal employees), of which 444,000 are in the U.S. and 90,000 are located internationally. Our global workforce includes approximately 89,000 management employees (44% of whom are part-time) and 445,000 hourly employees (51% of whom are part-time). More than 70% of our U.S. employees are represented by unions, primarily those employees handling or transporting packages. In addition, approximately 3,100 of our pilots are represented by the Independent Pilots Association.

We believe that UPS employees are among the most motivated, highest-performing people in the industry and provide us with a meaningful competitive advantage. To assist with employee recruitment and retention, we continue to review the competitiveness of our employee value proposition, including benefits and pay, the range of continuous training, talent development and promotional opportunities. For additional information on the importance of our human capital efforts, see "Risk Factors - Business and Operating Risks - Failure to attract or retain qualified employees could materially adversely affect us".

Oversight and management

We believe in creating an inclusive and equitable environment that represents a broad spectrum of backgrounds, cultures and stakeholders. By leveraging diversity with respect to gender, age, ethnicity, skills and other factors, and creating inclusive environments, we believe we can improve organizational effectiveness, cultivate innovation and drive growth.

Our Board of Directors and Board committees provide oversight on human capital matters through a variety of methods and processes. These include regular updates and discussion around human capital transformation efforts, technology initiatives impacting the workforce, health and safety matters, employee survey results related to culture and other matters, hiring and retention, employee demographics, labor relations and contract negotiations, compensation and benefits, succession planning and employee training initiatives. We believe the Board’s oversight of these matters helps identify and mitigate exposure to labor and human capital management risks, and is part of the broader framework that guides how we attract, retain and develop a workforce that aligns with our values and strategies.

Transformation

As we expand and enter new markets, and seek to capture new opportunities and pursue growth, we need employees to grow and innovate along with us. We believe that transforming the UPS employee experience is foundational to our success. This requires a thoughtful balance between the culture we have cultivated over the years and new approaches to lead our business into the future.

We are investing in capabilities that will transform our business, including investments in employee opportunities to support growth. We provide training for management employees on professionalism and performance as well as unconscious bias and diversity and inclusion to ensure our actions match our values.

Additional information on our human capital efforts is contained in our annual sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society. This report is available under the heading "Social Impact" at *www.about.ups.com*.

Collective bargaining

We bargain in good faith with the unions that represent our employees. We frequently engage union leaders at the national level and at local chapters throughout the United States. We participate in works councils and associations outside the U.S., which allows us to respond to emerging regional issues. This work helps our operations to build and maintain productive relationships with our employees. For additional information regarding employees employed under collective bargaining agreements, see note 7 to the audited, consolidated financial statements.

Employee health and safety

We are committed to industry-leading employee health, safety and wellness programs across our growing workforce. We develop a culture of health and safety by:

- investing in safety training and audits;
- promoting wellness practices which mitigate risk; and
- offering benefits designed to keep employees safe in the workplace and beyond.

Our local health and safety committees coach employees on UPS's safety processes and are able to share best practices across work groups. Our safety methods and procedures are increasingly focused on the variables associated with residential delivery environments, which have become more common with the growth in e-commerce. We monitor our performance in this area through various measurable targets including lost time injury frequency and the number of recorded auto accidents.

Customers

Building and maintaining long-term customer relationships is a competitive strength of UPS. In 2021, we served 1.7 million shipping customers and more than 11.8 million delivery customers daily. For the year ended December 31, 2021, one customer, Amazon.com, Inc. and its affiliates, represented approximately 11.7% of our consolidated revenues, substantially all of which was within our U.S. Domestic Package segment. For additional information on our customers, see "Risk Factors - Business and Operating Risks - Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us" and note 15 to the audited, consolidated financial statements.

Competition

We offer a broad array of transportation and logistics services and compete with many local, regional, national and international logistics providers as well as national postal services. We believe our strategy, network and competitive strengths position us well to compete in the marketplace. For additional information on our competitive environment, see "Risk Factors - Business and Operating Risks - Our industry is rapidly evolving. We expect to continue to face significant competition, which could materially adversely affect us".

Government Regulation

We are subject to numerous laws and regulations in the countries in which we operate. Continued compliance with increasingly stringent laws, regulations and policies in the U.S. and in the other countries in which we operate may result in materially increased costs, or we could be subject to substantial fines or possible revocation of our authority to conduct our operations.

Air Operations

The U.S. Department of Transportation ("DOT"), the Federal Aviation Administration ("FAA") and the U.S. Department of Homeland Security, through the Transportation Security Administration ("TSA"), have primary regulatory authority over our air transportation services.

The DOT's authority primarily relates to economic aspects of air transportation, such as operating authority, insurance requirements, pricing, non-competitive practices, interlocking relations and cooperative agreements. The DOT also regulates international routes, fares, rates and practices and is authorized to investigate and take action against discriminatory treatment of U.S. air carriers abroad. International operating rights for U.S. airlines are usually subject to bilateral agreements between the U.S. and foreign governments or, in the absence of such agreements, by principles of reciprocity. We are also subject to current and potential aviation, health, customs and immigration regulations imposed by governments in other countries in which we operate, including registration and license requirements and security regulations. We have international route operating rights granted by the DOT and we may apply for additional authorities when those operating rights are available and are required for the efficient operation of our international network. The efficiency and flexibility of our international air transportation network is subject to DOT and foreign government regulations and operating restrictions.

The FAA's authority primarily relates to operational, technical and safety aspects of air transportation, including certification, aircraft operating procedures, transportation of hazardous materials, record keeping standards and maintenance activities and personnel. In addition, we are subject to non-U.S. government regulation of aviation rights involving non-U.S. jurisdictions and non-U.S. customs regulation.

UPS's aircraft maintenance programs and procedures, including aircraft inspection and repair at periodic intervals, are approved for all aircraft under FAA regulations. The future cost of repairs pursuant to these programs may fluctuate according to aircraft condition, age and the enactment of additional FAA regulatory requirements.

The TSA regulates various security aspects of air cargo transportation. Our airport and off-airport locations, as well as our personnel, facilities and procedures involved in air cargo transportation must comply with TSA regulations.

We participate in the Civil Reserve Air Fleet ("CRAF") program. Our participation in this program allows the U.S. Department of Defense ("DOD") to requisition specified UPS aircraft for military use during a national defense emergency. The DOD is required to compensate us for any use of aircraft under the CRAF program. In addition, participation in the CRAF program entitles us to bid for other U.S. Government opportunities including small package and air freight.

Ground Operations

Our ground transportation of packages in the U.S. is subject to regulation by the DOT and its agency, the Federal Motor Carrier Safety Administration (the "FMCSA"). Ground transportation also falls under state jurisdiction with respect to the regulation of operations, safety and insurance. Our ground transportation of hazardous materials in the U.S. is subject to regulation by the DOT's Pipeline and Hazardous Materials Safety Administration. We also must comply with safety and fitness regulations promulgated by the FMCSA, including those relating to drug and alcohol testing and hours of service for drivers. Ground transportation of packages outside of the U.S. is subject to similar regulatory schemes in the countries in which we transport those packages.

The Postal Reorganization Act of 1970 created the U.S. Postal Service as an independent establishment of the executive branch of the federal government, and created the Postal Rate Commission, an independent agency, to recommend postal rates. The Postal Accountability and Enhancement Act of 2006 amended the 1970 Act to give the re-named Postal Regulatory Commission revised oversight authority over many aspects of the U.S. Postal Service, including postal rates, product offerings and service standards. We sometimes participate in proceedings before the Postal Regulatory Commission in an attempt to secure fair postal rates for competitive services.

Our ground operations are also subject to compliance with various cargo-security and transportation regulations issued by the U.S. Department of Homeland Security, including regulation by the TSA in the U.S., and similar regulations issued by foreign governments in other countries.

Customs

We are subject to the customs laws regarding the import and export of shipments in the countries in which we operate, including those related to the filing of documents on behalf of client importers and exporters. Our activities in the U.S., including customs brokerage and freight forwarding, are subject to regulation by the Bureau of Customs and Border Protection, the TSA, the U.S. Federal Maritime Commission and the DOT. Our international operations are subject to similar regulatory structures in their respective jurisdictions.

For additional information, see "Risk Factors – Business and Operating Risks – Increased security requirements impose substantial costs on us and we could be the target of an attack or have a security breach, which could materially adversely affect us".

Environmental

We are subject to federal, state and local environmental laws and regulations across all of our operations. These laws and regulations cover a variety of processes, including, but not limited to: properly storing, handling and disposing of waste materials; appropriately managing waste water and storm water; monitoring and maintaining the integrity of underground storage tanks; complying with laws regarding clean air, including those governing emissions; protecting against and appropriately responding to spills and releases and communicating the presence of reportable quantities of hazardous materials to local responders. We maintain site- and activity-specific environmental compliance and pollution prevention programs to address our environmental responsibilities and remain compliant. In addition, we maintain numerous programs which seek to minimize waste and prevent pollution within our operations.

Pursuant to the Federal Aviation Act, the FAA, with the assistance of the Environmental Protection Agency is authorized to establish standards governing aircraft noise. Our aircraft fleet complies with current noise standards of the federal aviation regulations. Our international operations are also subject to noise regulations in certain other countries in which we operate.

For additional information, see "Risk Factors – Regulatory and Legal Risks – Increasingly stringent regulations related to climate change could materially increase our operating costs".

Communications and Data Protection

Because of our use of radio and other communication facilities in our operations, we are subject to the Federal Communications Act of 1934, as amended. In addition, the Federal Communications Commission regulates and licenses our activities pertaining to satellite communications. There has recently been increased regulatory and enforcement focus on data protection in the U.S. (at both the state and federal level) and in other countries.

For additional information, see “Risk Factors – Business and Operating Risks – A significant data breach or information technology system disruption could materially adversely affect us”.

Health and Safety

We are subject to numerous federal, state and local laws and regulations governing employee health and safety, both in the U.S and in other countries. Compliance with changing laws and regulations from time to time, including those promulgated by the United States Occupational Safety and Health Administration, could result in materially increased operating costs and capital expenditures, and negatively impact our ability to attract and retain employees.

For additional information on governmental regulations and their potential impact on us generally, see “Risk Factors – Regulatory and Legal Risks”.

Where You Can Find More Information

We maintain websites for business and customer matters at *www.ups.com*, and for investor relations matters at *www.investors.ups.com*. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed with or furnished to the SEC pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available free of charge through our investor relations website under the heading "SEC Filings" as soon as reasonably practical after we electronically file or furnish the reports to the SEC. We have a written Code of Business Conduct that applies to all of our directors, officers and employees, including our principal executive and financial officers. It is available under the heading "ESG" on the Governance Documents page of our investor relations website. In the event that we make changes in, or provide waivers from, the provisions of the Code of Business Conduct that the SEC requires us to disclose, we intend to disclose these events within four business days following the date of the amendment or waiver under that heading on our investor relations website.

Our Corporate Governance Guidelines and the Charters for our Audit, Compensation and Human Capital, Risk and Nominating and Corporate Governance Committees are also available under the heading "ESG" on the Governance Documents page of our investor relations website.

Our sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society, is available under the heading "Social Impact" at *www.about.ups.com*.

We provide the addresses to our websites solely for information. We do not intend for any addresses to be active links or to otherwise incorporate the contents of any website into this or any other report we file with the SEC.

Item 1A. *Risk Factors*

Our business, financial condition and results of operations are and will remain subject to numerous risks and uncertainties. You should carefully consider the following risk factors, which may have materially affected or could materially affect us, including impacting our business, financial condition, results of operations, stock price, credit rating or reputation. You should read these risk factors in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 and our "Financial Statements and Supplementary Data" in Item 8. These are not the only risks we face. We could also be affected by other unknown events, factors, uncertainties, or risks that we do not currently consider to be material.

Business and Operating Risks

The outbreak and spread of the coronavirus COVID-19 has had a significant impact on us, as well as on the operations, financial performance and liquidity of many of our customers. We are unable to predict the full extent to which the COVID-19 pandemic, or variations thereof, will continue to impact us.

The COVID-19 pandemic has had a substantial impact on business and consumer activity, including a curtailment of business activities (including a decrease in demand for a broad variety of goods and services), and resulted in weakened economic conditions, significant supply chain disruptions, ongoing economic uncertainty and volatility in global financial markets. The effects of the COVID-19 pandemic have significantly impacted, and may continue to significantly impact us, and have had, and may continue to have, a material adverse impact on the operations, financial performance and liquidity of many of our customers.

Because the ongoing COVID-19 pandemic and its consequences remain uncertain, are changing and difficult to predict, the future impact on our operations, financial condition and liquidity also remains uncertain and difficult to predict. The impact of the pandemic will continue to depend on evolving factors, many of which are not within our control, and to which we may not be able to effectively respond. These risks include, but are not limited to: a significant reduction in revenue due to renewed or extended curtailment of business activities; a significant increase in our expenses or a reduction in our operating margins due to long-term changes in the mix of our products and services; effects from governmental, business and individuals' actions that have been and continue to be taken in response to the pandemic (including restrictions on travel and transportation and workforce pressures); reductions in operating effectiveness due to employees working remotely; unavailability of personnel; the delay or cancellation of capital projects and related delays in, or loss of, expected benefits therefrom; limited access to liquidity; increased volatility and pricing in the capital and commercial paper markets; further disruption of global supply chains; impairments in the fair value of our assets; increases in pension funding obligations; and reductions in our customers' credit-worthiness. Further, the COVID-19 pandemic, and the volatile regional and global economic conditions stemming from it, could also precipitate or aggravate risk factors that we identify herein or affect our operations and financial performance in a manner that is not presently known to us or that we currently do not consider material. The occurrence or continuation of any of the foregoing could have a material adverse effect on us.

Changes in general economic conditions, in the U.S. and internationally, may adversely affect us.

We conduct operations in over 220 countries and territories. Our operations are subject to cyclicality affecting national and international economies in general, as well as the local economic environments in which we operate. Changes in general economic conditions are beyond our control, and it may be difficult for us to adjust our business model to mitigate the impact of these factors. For example, we are affected by levels of industrial production, inflation, consumer spending and retail activity. We could be materially affected by adverse developments in these aspects of the economy, including without limitation the impact of the ongoing COVID-19 pandemic. We have also been, and may in the future be adversely impacted by, changes in economic conditions as a result of geopolitical uncertainty and/or conflicts in the countries and/or regions where we operate, including the United Kingdom, the European Union, the Ukraine, the Russian Federation and the Trans-Pacific region. Changes in general economic conditions, or our inability to accurately forecast these changes or mitigate the impact of these conditions on our business, could materially adversely affect us.

Our industry is rapidly evolving. We expect to continue to face significant competition, which could materially adversely affect us.

Our industry is rapidly evolving, including demands for faster deliveries and increased visibility into shipments. We expect to continue to face significant competition on a local, regional, national and international basis. Competitors include the U. S. and other international postal services, various motor carriers, express companies, freight forwarders, air couriers, large transportation and e-commerce companies that have made and continue to make significant investments in their own logistics capabilities, some of whom are currently our customers. We also face competition from start ups and other smaller companies that combine technologies with crowdsourcing to focus on local market needs. Competition may also come from other sources in the future as new technologies are developed. Competitors have cost, operational and organizational structures that differ from ours and may offer services or pricing terms that we are not willing or able to offer. Additionally, to sustain the level of service and value that we deliver to our customers, from time to time we may raise prices and our customers may not be willing to accept these higher prices. If we do not timely and appropriately respond to competitive pressures, including replacing any lost volume or maintaining our profitability, we could be materially adversely affected.

Continued transportation market growth may further increase competition. As a result, competitors may improve their financial capacity and strengthen their competitive positions. Business combinations could also result in competitors providing a wider variety of services and products at competitive prices, which could materially adversely affect us.

Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us.

For the year ended December 31, 2021, business from one customer, Amazon.com, Inc. and its affiliates, accounted for 11.7% of our consolidated revenues. Some of our other significant customers can account for a relatively significant portion of our revenues in a particular quarter or year. Customer impact on our revenue is based on factors such as: pricing terms; product launches; e-commerce or other industry trends, including those related to the holiday season; business combinations and the overall growth of a customer's underlying business; as well as any disruptions to their businesses. Customers could choose, and have in the past chosen, to divert all or a portion of their business with us to one of our competitors, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or develop their own logistics capabilities. In addition, certain of our significant customer contracts include termination rights of either party upon the occurrence of certain events or without cause upon advance notice to the other party. If all or a portion of our business relationships with one or more significant customers were to terminate or significantly change, this could materially adversely affect us.

Failure to attract or retain qualified employees could materially adversely affect us.

We maintain a large workforce. We necessarily depend on the skills and continued service of our employees, including our executive leadership team. We also regularly hire a large number of part-time and seasonal workers. We must attract, engage, develop and retain a large and diverse global workforce, while controlling labor costs and maintaining an environment that supports our core values. Our ability to control labor costs is subject to numerous factors, including turnover, training costs, regulatory changes, market pressures, inflation, unemployment levels and healthcare and other benefit costs. If we are unable to hire, properly train and retain qualified employees, we could experience higher labor costs, reduced revenues, further increased workers' compensation and automobile liability claims, regulatory noncompliance, customer losses and diminution of our brand value or company culture, which could materially adversely affect us.

In addition, our strategic initiatives, including transformation, have led and are expected to continue to lead to the creation of fewer, but more impactful, jobs as we strive to lower our cost to serve. Our inability to continue to retain experienced and motivated employees may also materially adversely affect us.

Increased security requirements impose substantial costs on us and we could be the target of an attack or have a security breach, which could materially adversely affect us.

As a result of concerns about global terrorism and homeland security, various governments have adopted and may continue to adopt stricter security requirements resulting in increased operating costs in the transportation industry. Regulatory and legislative requirements may change periodically in response to evolving threats. We cannot determine the effect that any new requirements will have on our operations, cost structure or operating results, and new rules or other future security requirements may increase our operating costs and reduce operating efficiencies. Regardless of our compliance with security requirements or the steps we take to secure our facilities or fleet, we could also be the target of an attack or security breaches could occur, which could materially adversely affect us.

Strikes, work stoppages and slowdowns by our employees could materially adversely affect us.

Many of our U.S. employees are employed under a national master agreement and various supplemental agreements with local unions affiliated with the International Brotherhood of Teamsters ("the Teamsters"). Our airline pilots, airline mechanics, ground mechanics and certain other employees are employed under other collective bargaining agreements. In addition, some of our international employees are employed under collective bargaining or similar agreements. Strikes, work stoppages or slowdowns by our employees could adversely affect our ability to meet our customers' needs. As a result, customers may reduce their business or stop doing business with us if they believe that such actions or threatened actions may adversely affect our ability to provide services. We may permanently lose customers if we are unable to provide uninterrupted service, and this could materially adversely affect us. The terms of future collective bargaining agreements also may affect our competitive position and results of operations.

Failure to maintain our brand image and corporate reputation could materially adversely affect us.

Our success depends in part on our ability to maintain the image of the UPS brand and our reputation. Service quality issues, actual or perceived, could tarnish the image of our brand and may cause customers not to use UPS services. Also, adverse publicity or public sentiment surrounding labor relations, environmental and sustainability concerns, security matters, political activities and similar matters, or attempts to connect our company to such issues, either in the U.S. or other countries in which we operate, could negatively affect our overall reputation and demand for our services. Damage to our reputation and loss of brand equity could have a material adverse effect on us, and could require additional resources to rebuild our reputation and restore the value of our brand.

A significant data breach or information technology system disruption could materially adversely affect us.

We rely on information technology networks and systems, including the internet and a number of internally-developed systems and applications. For example, we rely on information technology to receive package level information in advance of the physical receipt of packages, to move and track packages through our operations, to efficiently plan deliveries, to execute billing processes, and to track and report financial and operational data. Our franchise locations and subsidiaries also rely on information technology systems to manage their business processes and activities.

In addition, our services, and the operation of our networks and systems involve the collection, storage and transmission of significant amounts of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. We regularly move data across national borders, and are subject to a variety of evolving laws and regulations in the U.S. and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the E.U.'s General Data Protection Regulation greatly increases the jurisdictional reach of, and potential penalties under, E.U. law, and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches. Other countries have also enacted or are enacting data localization laws that require data to stay within their borders. These evolving requirements impose significant costs that are likely to increase over time.

Information technology systems (ours, as well as those of our franchisees, acquired businesses, and third-party service providers) are susceptible to damage, disruptions or shutdowns due to programming errors, defects or other vulnerabilities, power outages, hardware failures, computer viruses, cyber-attacks, ransomware attacks, malware attacks, theft, misconduct by employees or other insiders, telecommunications failures, misuse, human errors or other catastrophic events. These events may, from time to time, cause service outages, allow inappropriate or block legitimate access to systems or information, or result in other interruptions in our business. In addition, breaches in security expose us, our customers and franchisees, or the individuals affected, to a risk of loss, disclosure or misuse of proprietary information and sensitive or confidential data, including personally identifiable information. The techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, may be difficult to detect and often are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate measures to prevent any of the events described above.

We also depend on and interact with the information technology networks and systems of third-parties for many aspects of our business operations, including our customers, franchisees and service providers such as cloud service providers and third-party delivery services. These third parties may have access to information we maintain about our company, operations, customers, employees and vendors, or operating systems that are critical to or can significantly impact our business operations. These third parties are subject to risks imposed by data breaches and information technology systems disruptions like those described above, and other events or actions that could damage, disrupt or close down their networks or systems. Security processes, protocols and standards that we implement and contractual provisions requiring security measures that we impose on such third-parties may not be sufficient or effective at preventing such events. These events could result in unauthorized access to, or disruptions or denials of access to, misuse or disclosure of, information or systems that are important to us, including proprietary information, sensitive or confidential data, and other information about our operations, customers, employees and suppliers, including personal information.

Any of these events that impact our information technology networks or systems, franchisees, customers, service providers or other third-parties, could result in material disruptions in our business, the loss of existing or potential customers, damage to our brand and reputation, regulatory scrutiny, litigation and other potential liability. In addition, our customers' confidence in our ability to protect data and systems and to provide services consistent with their expectations could be impacted, further disrupting our operations. Similarly, an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation, fines, sanctions or other penalties.

We have invested and expect to continue to invest in technology security initiatives, information technology risk management and disaster recovery plans. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly frequent, complex and sophisticated cyber threats. Despite our best efforts, we are at risk from data breaches and system disruptions. Although to date we are unaware of any material data breach or system disruption, including a cyber-attack, we cannot provide any assurances that such events and impacts will not be material in the future. Our efforts to deter, identify, mitigate and/or eliminate future breaches may require significant additional effort and expense and may not be successful.

Global climate change presents challenges to our business which could materially adversely affect us.

The effects of climate change create financial and operational risks to our business, both directly and indirectly. We have made several public statements regarding our intended reduction of carbon emissions, including our most recent goal to achieve net zero carbon emissions by 2050 and our other short- and mid-term environmental sustainability goals. We may be required to expend significant additional resources to acquire assets or on remediation efforts to meet these goals, which could significantly increase our operational costs. We could also be required to write down the carrying value of assets, which could result in impairment charges.

Further, there can be no assurance of the extent to which any of our goals will be achieved, or that any future investments we make will meet investor expectations or any legal standards regarding sustainability performance. In particular, our ability to meet our goals depends in part on significant technological advancements with respect to the development and availability of reliable, affordable and sustainable alternative solutions, including aviation fuel and alternative fuel vehicles. Moreover, we may determine that it is in our best interests to prioritize other business, social, governance or sustainable investments over the achievement of our current goals based on economic, regulatory or social factors, business strategy or other factors. If we do not meet these goals, then, in addition to regulatory and legal risks related to compliance, we could incur adverse publicity and reaction, which could adversely impact our reputation, and in turn adversely impact our results of operations. While we remain committed to being responsive to climate change and reducing our carbon footprint, there can be no assurance that our goals and strategic plans to achieve those goals will be successful, that the costs related to climate transition will not be higher than expected, that the necessary technological advancements will occur in the timeframe we expect, or at all, or that proposed regulation or deregulation related to climate change will not have a negative competitive impact, any one of which could have a material adverse effect on our capital expenditures, operating margins and results of operations.

Severe weather or other natural or man-made disasters could materially adversely affect us.

Severe weather conditions or other natural or man-made disasters, including storms, floods, fires, earthquakes, epidemics, pandemics, conflicts, unrest, or terrorist attacks, have in the past and may in the future disrupt our business. Customers may reduce shipments, or our costs to operate our business may increase, either of which could have a material adverse effect on us. Any such event affecting one of our major facilities could result in a significant interruption in or disruption of our business.

Economic, political, or social developments and other risks associated with international operations could materially adversely affect us.

We have significant international operations. We are exposed to changing economic, political and social developments that are beyond our control. Emerging markets are typically more volatile than those in other countries, and any broad-based downturn in these markets could reduce our revenues and materially adversely affect our business, financial condition and results of operations. We are subject to many laws governing our international operations, including those that prohibit improper payments to government officials and commercial customers, govern our environmental impact or labor matters, and restrict where we can do business, our shipments to certain countries and the information that we can provide to non-U.S. governments. Our failure to manage and anticipate these and other risks associated with our international operations could materially adversely affect us.

Our inability to effectively integrate any acquired operations and realize the anticipated benefits of any acquisitions, joint ventures, strategic alliances or dispositions could materially adversely affect us.

From time to time we acquire businesses, form joint ventures and strategic alliances, and dispose of operations. Whether we realize the anticipated benefits from these transactions will depend, in part, upon the successful integration between the businesses involved, the performance of the underlying operations, capabilities or technologies and the management of the acquired operations. Accordingly, our financial results could be materially adversely affected by our failure to effectively integrate acquired operations, unanticipated performance issues or transaction-related charges.

Financial Risks

We are exposed to the effects of changing fuel and energy prices, including gasoline, diesel and jet fuel, and interruptions in supplies of these commodities.

Changing fuel and energy costs have a significant impact on our operations. We require significant quantities of fuel for our aircraft and delivery vehicles and are exposed to the risks associated with variations in the market price for petroleum products, including gasoline, diesel and jet fuel. We seek to mitigate our exposure to changing fuel prices through fuel surcharges and utilizing hedging transactions from time to time. If we are unable to maintain or increase our fuel surcharges, higher fuel costs could materially adversely impact our operating results. Even if we are able to offset changes in fuel costs with surcharges, high fuel surcharges have in the past, and may in the future result in a shift from our higher-yielding products to lower-yielding products or an overall reduction in volume, revenue and profitability. There can also be no assurance that our hedging transactions will be effective. Moreover, we could experience a disruption in energy supplies as a result of war, weather-related events or natural disasters, actions by producers (including as part of their own sustainability efforts) or other factors beyond our control, which could have a material adverse effect on us.

Changes in exchange rates or interest rates may have a material adverse effect on us.

We conduct business in a number of countries, with a significant portion of our revenue derived from operations outside the United States. Our international operations are affected by changes in the exchange rates for local currencies, in particular the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar.

We are exposed to changes in interest rates, primarily on our short-term debt and that portion of our long-term debt that carries floating interest rates. Additionally, changes in interest rates impact the valuation of our pension and postretirement benefit obligations and the related benefit cost recognized in the statements of consolidated income. The impact of changes in interest rates on our pension and postretirement benefit obligations and costs, and affecting our debt, is discussed further in Part I, "Item 7 - Critical Accounting Estimates," and Part II, “Item 7A - Quantitative and Qualitative Disclosures about Market Risk,” respectively, of this report.

We monitor and manage currency exchange rates and interest rate exposure, and use derivative instruments to mitigate the impact of changes in these rates on our financial condition and results of operations; however, changes in exchange rates and interest rates cannot always be predicted or effectively hedged, and may have a material adverse effect on us.

Our business requires significant capital and other investments; if we do not accurately forecast our future investment needs, we could be materially adversely affected.

Our business requires significant capital investments, including in aircraft, vehicles, technology, facilities and sortation and other equipment. In addition to forecasting our capital investment requirements, we adjust other elements of our operations and cost structure in response to economic and regulatory conditions, and consistent with our long-term strategy and commitments. These investments support both our existing business and anticipated growth. Forecasting projected volume involves many factors which are subject to uncertainty, such as general economic trends, changes in governmental regulation and competition. If we do not accurately forecast our future capital investment needs, we could have excess capacity or insufficient capacity, either of which would negatively affect our revenues and profitability.

Employee health and retiree health and pension benefit costs represent a significant expense to us; further cost increases could materially adversely affect us.

Our employee health, retiree health and pension benefit expenses are significant. In recent years, we have experienced significant increases in some of these costs, in particular, ongoing increases in healthcare costs in excess of the rate of inflation and historically low discount rates that we use to value our company-sponsored defined benefit plan obligations. Increasing healthcare costs, volatility in investment returns and discount rates, as well as changes in laws, regulations and assumptions used to calculate retiree health and pension benefit expenses, may materially adversely affect our business, financial condition, or results of operations, and have required, and may in the future require significant contributions to our benefit plans. Our national master agreement with the Teamsters includes provisions that are designed to mitigate certain healthcare expenses, but there can be no assurance that our efforts will be successful or that these efforts will not materially adversely affect us.

We participate in various trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans will be determined through collective bargaining. However, in future collective bargaining negotiations, we could agree to make significantly higher future contributions to one or more of these plans. At this time, we are unable to determine the amount of additional future contributions, if any, or whether any material adverse effect on us could result from our participation in these plans.

In addition to our ongoing multiemployer pension plan obligations, we may have an obligation in the future to pay significant coordinating benefits previously earned by UPS employees in the Central States Pension Fund (the "CSPF"). For additional information on our potential liabilities related to the CSPF, see note 6 to the audited, consolidated financial statements.

Insurance and claims expense could materially adversely affect us.

We have a combination of both self-insurance and high-deductible insurance programs for the risks arising out of the services we provide and the nature of our global operations, including claims exposure resulting from cargo loss, personal injury, property damage, aircraft and related liabilities, business interruption and workers' compensation. Self-insured workers' compensation, automobile and general liabilities are determined using actuarial estimates of the aggregate liability for claims incurred and an estimate of incurred but not reported claims, on an undiscounted basis. Our accruals for insurance reserves reflect certain actuarial assumptions and management judgments, which are subject to a high degree of variability. If the number or severity of claims for which we are retaining risk continues to increase, which has occurred in recent periods, our financial condition and results of operations could be materially adversely affected. If we lose our ability to self-insure these risks, our insurance cost could materially increase and we may find it difficult to obtain adequate levels of insurance coverage.

Changes in markets and our business plans have resulted, and may in the future result, in substantial write-downs of the carrying value of our assets, thereby reducing our net income.

Our regular review of the carrying value of our assets, changes in business strategy, government regulations, including related to climate change, and economic or market conditions have resulted from time to time, and may in the future result, in substantial impairments of our intangible, fixed or other assets. In addition, we have been and may be required in the future to recognize increased depreciation and amortization charges if we determine that the useful lives of our fixed assets or intangible assets are shorter than we originally estimated. Such changes have in the past, and may in the future, reduce our net income.

We may have significant additional tax liabilities that could materially adversely affect us.

We are subject to income taxes in the U.S. and many foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. There are many transactions and calculations where the ultimate tax determination is uncertain.

We are regularly under audit by tax authorities in many jurisdictions. Economic and political pressures to increase tax revenue may make resolving tax disputes more difficult. The final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals. In addition, changes in U.S. federal and state or international tax laws, other fundamental law changes currently being considered by many countries, and changes in taxing jurisdictions' administrative interpretations, decisions, policies and positions may materially adversely impact our tax expense and cash flows.

Regulatory and Legal Risks

Increasingly complex and stringent laws, regulations and policies could materially increase our operating costs.

We are subject to complex and stringent aviation, transportation, environmental, security, labor, employment, safety, privacy and data protection and other governmental laws, regulations and policies, both in the U.S. and internationally. In addition, we are impacted by laws, regulations and policies that affect global trade, including tariff and trade policies, export requirements, taxes, monetary policies and other restrictions and charges. Trade discussions between the U.S. and various of its trading partners are fluid, and existing and future trade agreements are, and are expected to continue to be, subject to a number of uncertainties, including the imposition of new tariffs or adjustments and changes to the products covered by existing tariffs. The impact of new laws, regulations and policies or decisions or interpretations by authorities applying those laws and regulations, cannot be predicted. Compliance with any new laws, regulations or policies may increase our operating costs or require significant capital expenditures. Any failure to comply with applicable laws, regulations or policies in the U.S. or other countries could result in substantial fines or possible revocation of our authority to conduct our operations, which could materially adversely affect us.

Increasingly stringent regulations related to climate change could materially increase our operating costs.

Regulation of greenhouse gas ("GHG") emissions exposes us to potentially significant new taxes, fees and other costs. Compliance with such regulation, and any increased or additional regulation, or the associated costs is further complicated by the fact that various countries and regions may adopt different approaches to climate change regulation.

For example, in 2016, the International Civil Aviation Organization ("ICAO") adopted the Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA"), which is a global, market-based emissions offset program to encourage carbon-neutral growth. A voluntary participation pilot phase began in 2021, and full mandatory participation is scheduled to begin in 2027. ICAO continues to develop details regarding implementation, but compliance with CORSIA will increase our operating costs.

In the U.S., Congress has considered but, to date, not passed various bills that would regulate GHG emissions. Nevertheless, we believe some form of federal climate change legislation is possible in the future. Even in the absence of such legislation, the Environmental Protection Agency could determine to regulate GHG emissions, especially aircraft or diesel engine emissions, and this could impose substantial costs on us.

In addition, the impact that the recent re-entry into the Paris climate accord may have on future U.S. policy regarding GHG emissions, on CORSIA and on other GHG regulation remains uncertain. The extent to which other countries implement that accord could also have a material adverse effect on us.

Increased regulation relating to GHG emissions in the U.S. or abroad, especially aircraft or diesel engine emissions, could increase the cost of fuel and other energy we purchase and the capital costs associated with updating or replacing our aircraft or vehicles prematurely. We cannot predict the impact any future regulation would have on our cost structure or our operating results. It is likely that such regulation could significantly increase our operating costs and that we may not be willing or able to pass such costs along to our customers. Moreover, even without such regulation, increased awareness and any adverse publicity in the global marketplace about the GHGs emitted by companies in the airline and transportation industries could harm our reputation and reduce customer demand for our services, especially our air services.

We may be subject to various claims and lawsuits that could result in significant expenditures which may materially adversely affect us.

The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, property damage, business practices, environmental liability and other matters. Any material litigation or a catastrophic accident or series of accidents could result in significant expenditures and have a material adverse effect on us.

Item 1B. ***Unresolved Staff Comments***

None.

Information About Our Executive Officers

For information about our executive officers, see Part III, "Item 10. Directors, Executive Officers and Corporate Governance".

Item 2. ***Properties***

Operating Facilities

We own our corporate headquarters in Atlanta, Georgia, our UPS Supply Chain Solutions headquarters, located in Alpharetta, Georgia and our information technology headquarters, located in Parsippany, New Jersey. Our primary information technology operations are consolidated in an owned facility in New Jersey and we own a backup facility in Georgia.

We own or lease over 1,000 package operating facilities in the U.S., with approximately 85 million square feet of floor space. These facilities have vehicles and drivers stationed for the pickup and delivery of packages, and capacity to sort and transfer packages. Our larger facilities also service our vehicles and equipment, and employ specialized mechanical equipment for the sorting and handling of packages. We own or lease approximately 800 facilities that support our international package operations, with approximately 23 million square feet of floor space.

Our aircraft are operated in a hub and spoke pattern in the U.S., with our principal air hub, Worldport, located in Louisville, Kentucky. Our major air hub in Europe is located in Germany, and in Asia we operate two major air hubs in China and one in Hong Kong.

We own or lease more than 500 facilities, with approximately 41 million square feet of floor space, which support our freight forwarding and logistics operations. This includes approximately 11 million square feet of healthcare-compliant warehousing. We own and operate a logistics campus consisting of approximately 4 million square feet in Louisville, Kentucky.

Fleet

Aircraft

The following table shows information about our aircraft fleet as of December 31, 2021:

Description	Owned & Finance Leases	Operating Leases & Charters From Others	On Order	Under Option
Boeing 757-200	75	—	—	—
Boeing 767-300	72	—	19	8
Boeing 767-300BCF	4	—	—	—
Boeing 767-300BDSF	4	—	—	—
Airbus A300-600	52	—	—	—
Boeing MD-11	42	—	—	—
Boeing 747-400F	11	—	—	—
Boeing 747-400BCF	2	—	—	—
Boeing 747-8F	26	—	2	—
Other	—	307	—	—
Total	288	307	21	8

Vehicles

We operate a global ground fleet of approximately 121,000 package cars, vans, tractors and motorcycles, including more than 13,000 alternative fuel and advanced technology vehicles. Our ground support fleet consists of 39,000 pieces of equipment designed specifically to support our aircraft fleet. We also have 59,000 containers used to transport cargo in our aircraft.

Item 3. *Legal Proceedings*

See note 11 to the audited, consolidated financial statements for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. ***Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities***

Our class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of our class A common stock is convertible into one share of our class B common stock. Our class B common stock is listed on the New York Stock Exchange under the symbol "UPS".

As of February 6, 2022, there were 160,542 and 19,737 shareowners of record of class A and class B common stock, respectively.

Our practice has been to pay dividends on a quarterly basis. The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors.

On January 31, 2022, our Board declared a dividend of $1.52 per share, which is payable on March 10, 2022 to shareowners of record on February 22, 2022.

In May 2016, the Board of Directors approved a share repurchase authorization for $8.0 billion of class A and class B common stock. We did not repurchase any shares under this program during the year ended December 31, 2021.

In August 2021, the Board of Directors terminated this authorization and approved a new share repurchase authorization of $5.0 billion. We repurchased 2.6 million shares of class B common stock for $500 million under an accelerated stock repurchase transaction during the year ended December 31, 2021. We anticipate repurchasing approximately $1.0 billion in shares in 2022. As of December 31, 2021, we had $4.5 billion available under our share repurchase authorization.

For additional information on our share repurchase activities, see note 13 to the audited, consolidated financial statements.

Shareowner Return Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates such information by reference into such filing.

The following graph shows a five-year comparison of cumulative total shareowners' returns for our class B common stock, the Standard & Poor's 500 Index and the Dow Jones Transportation Average. The comparison of the total cumulative return on investment, which is the change in the stock price plus reinvested dividends for each of the quarterly periods, assumes that $100 was invested on December 31, 2016 in the Standard & Poor's 500 Index, the Dow Jones Transportation Average and our class B common stock.

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	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
United Parcel Service, Inc.	$ 100.00	$ 107.14	$ 90.56	$ 113.64	$ 168.99	$ 219.71
Standard & Poor's 500 Index	$ 100.00	$ 121.82	$ 116.47	$ 154.46	$ 182.86	$ 235.31
Dow Jones Transportation Average	$ 100.00	$ 119.02	$ 104.35	$ 126.93	$ 147.91	$ 197.02

For information regarding our equity compensation plans, see Item 12 of this report.

Item 6. [Reserved]

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

Overview

We are on a journey to execute our *Customer First, People Led, Innovation Driven* strategy within our *Better not Bigger* framework. We are focused on improving revenue quality, reducing our cost to serve, growing operating profit and allocating capital in a disciplined fashion. The *Customer First* component of our strategy focuses on, among other things, enhancing the capabilities that we believe our customers value the most: speed and ease of access to our services. The *People Led* component of our strategy aims to enhance the employee value proposition. Our *Innovation Driven* strategic approach utilizes technology and automation to deliver sustainable improvements to our network and to enhance the customer experience.

We have two reportable segments: U.S. Domestic Package and International Package, which are together referred to as our global small package operations. Our remaining businesses are reported as Supply Chain Solutions. For the year, we increased average daily volume, revenue per piece and operating margin within global small package operations, with growth led by small- and medium-sized businesses ("SMBs") as we executed on our strategy. The COVID-19 pandemic continued to have, and is expected to continue to have, an impact on our business. We experienced a year-over-year increase in commercial volume as business returned to pre-pandemic levels, while business-to-consumer volume declined, partly due to the surge in e-commerce at the onset of the pandemic. In the second half of the year, COVID-19 resulted in a reduction in the number of flights we operated in Asia relative to our expectations, which contributed to an overall decline in international volume in the fourth quarter. Within Supply Chain Solutions, operating margin increased with demand for our services particularly strong in Forwarding and healthcare logistics, including COVID-19 relief efforts.

The overall economic environment continues to be challenging. Global supply chain disruption continues, and resulted in capacity constraints that drove higher transportation costs, particularly in our Supply Chain Solutions businesses. Rising inflation and labor market challenges continue to cause wage pressures in certain markets. We continue to monitor the impacts of these external conditions on our business; however, we anticipate that demand for our services will remain strong.

During the first quarter of 2021, following enactment of the American Rescue Plan Act ("ARPA"), we remeasured the UPS/IBT Full Time Employee Pension Plan. This resulted in a $3.3 billion pre-tax mark-to-market gain in the first quarter. We completed the divestiture of UPS Freight on April 30, 2021, and used the cash proceeds of $848 million to reduce outstanding indebtedness. We recognized a pre-tax gain of $46 million for the year in respect of this transaction. The divestiture triggered a remeasurement of certain of our U.S. defined benefit pension and postretirement benefit plans, which had only an immaterial impact on results of operations for the year. For additional information on this divestiture, see note 4 to the audited, consolidated financial statements. Following the divestiture, we renamed our Supply Chain & Freight businesses Supply Chain Solutions.

In October 2021, we completed the acquisition of Roadie, a technology platform focused on same-day delivery services, for $586 million. The results of Roadie are reported within Supply Chain Solutions. The acquisition did not have a material impact on our results of operations for the year. See note 9 to the audited, consolidated financial statements for additional information on this transaction.

Highlights of our results for the years ended December 31, 2021 and 2020, which are discussed in more detail in the sections that follow, include:

	Year Ended December 31,		Change	
	2021	2020	$	%
Revenue (in millions)	$ 97,287	$ 84,628	$ 12,659	15.0 %
Operating Expenses (in millions)	84,477	76,944	7,533	9.8 %
Operating Profit (in millions)	$ 12,810	$ 7,684	$ 5,126	66.7 %
Operating Margin	13.2 %	9.1 %		
Net Income (in millions)	$ 12,890	$ 1,343	$ 11,547	859.8 %
Basic Earnings Per Share	$ 14.75	$ 1.55	$ 13.20	851.6 %
Diluted Earnings Per Share	$ 14.68	$ 1.54	$ 13.14	853.2 %
Operating Days	254	255		
Average Daily Package Volume (in thousands)	25,250	24,676		2.3 %
Average Revenue Per Piece	$ 12.32	$ 10.94	$ 1.38	12.6 %

- Revenue increased in all segments, with double digit revenue per piece growth in both U.S. Domestic Package and International Package.
- Average daily package volume increases were driven by growth in SMB and business-to-business volume.
- Operating expenses increased, primarily driven by fuel and third-party transportation costs.
- Operating profit and operating margin increased in global small package and Supply Chain Solutions.
- We reported net income of $12.9 billion and diluted earnings per share of $14.68. Adjusted diluted earnings per share was $12.13 after adjusting for the after-tax impacts of:
    - a gain on the divestiture of UPS Freight of $35 million or $0.04 per diluted share;
    - transformation strategy costs of $285 million or $0.32 per diluted share; and
    - a pension mark-to-market gain recognized outside of a 10% corridor of $2.5 billion or $2.83 per share.

In the U.S. Domestic Package segment, volume increases were driven by strong growth from SMBs. Revenue and revenue per piece increased through execution of our revenue quality initiatives, with favorable shifts in customer and product mix and base rate increases, as well as increases in fuel and demand-related surcharges. Expenses increased primarily due to higher fuel prices and increases in employee compensation and benefit costs, which were slightly offset by productivity improvements.

The International Package segment also experienced volume growth for the year, driven by business-to-business volume. Revenue and revenue per piece increased due to fuel and demand-related surcharges, base rate increases, shifts in customer and product mix and favorable currency movements. Expense increases were primarily due to higher network costs, driven by higher fuel prices, and volume growth, which resulted in additional third-party pickup and delivery expense.

In Supply Chain Solutions, the impact of divesting UPS Freight was more than offset by revenue growth from the remaining businesses, primarily Forwarding and Logistics. Forwarding growth was driven by higher volumes in our air and ocean freight businesses and market rate and base pricing increases. Within Logistics, we experienced strong growth in our healthcare operations. Expense increases in Supply Chain Solutions were primarily due to higher third-party transportation costs.

2020 compared to 2019

See *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* of the Company's Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Securities and Exchange Commission on February 22, 2021.

Supplemental Information - Items Affecting Comparability

We supplement the reporting of our financial information determined under generally accepted accounting principles in the United States ("GAAP") with certain non-GAAP financial measures. These include: "adjusted" compensation and benefits; operating expenses; operating profit; operating margin; other income and (expense); income before income taxes; income tax expense; effective tax rate; net income; and earnings per share. Adjusted financial measures may exclude the impact of period over period exchange rate changes and hedging activities, amounts related to mark-to-market gains or losses, transformation and other charges, goodwill and asset impairment charges and divestitures, as described below.

We believe that these non-GAAP measures provide additional meaningful information to assist users of our financial statements in more fully understanding our financial results and assessing our ongoing performance, because they exclude items that may not be indicative of, or are unrelated to, our underlying operations, and may provide a useful baseline for analyzing trends in our underlying businesses. These non-GAAP measures are used internally by management for business unit operating performance analysis, business unit resource allocation and in connection with incentive compensation award determinations.

Adjusted financial measures should be considered in addition to, and not as an alternative for, our reported results prepared in accordance with GAAP. Our adjusted financial measures do not represent a comprehensive basis of accounting. Therefore, our adjusted financial measures may not be comparable to similarly titled measures reported by other companies.

Adjusted amounts reflect the following (in millions):

	Year Ended Decem		
Non-GAAP Adjustments	**2021**		
Operating Expenses:			
Transformation Strategy Costs	$	380	$
Goodwill and Asset Impairment Charges, and Divestitures		(46)	
Total Adjustments to Operating Expenses	$	334	$
Other Income and (Expense):			
Defined Benefit Plans Mark-to-Market (Gain) Loss	$	(3,272)	$
Total Adjustments to Other Income and (Expense)	$	(3,272)	$
Total Adjustments to Income Before Income Taxes	$	(2,938)	$
Income Tax (Benefit) Expense from Defined Benefit Plans Mark-to-Market	$	784	$
Income Tax Benefit from Transformation Strategy Costs		(95)	
Income Tax (Benefit) Expense from Goodwill and Asset Impairment Charges, and Divestitures		11	
Total Adjustments to Income Tax Expense	$	700	$
Total Adjustments to Net Income	$	(2,238)	$

These items have been excluded from comparisons of "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, other income and (expense), income tax expense and effective tax rate in the discussion that follows. The income tax impacts from transformation and other charges; mark-to-market gains and losses; goodwill and asset impairment charges, and divestitures are calculated by multiplying the statutory tax rates applicable in each tax jurisdiction, including the U.S. federal jurisdiction and various U.S. state and non-U.S.

jurisdictions, by the tax-deductible adjustments. The blended average effective tax rates in 2021 and 2020 were 23.8% and 22.5%, respectively.

Transformation and Other Charges, Goodwill and Asset Impairment Charges, and Divestitures

We supplement the presentation of our operating profit, operating margin, income before income taxes, net income and earnings per share with non-GAAP measures that exclude the impact of charges related to transformation activities, goodwill and asset impairment charges and divestitures. For more information regarding transformation activities, see note 19 to the audited, consolidated financial statements. For more information regarding goodwill and asset impairment charges and divestitures, see note 4 to the audited, consolidated financial statements.

Changes in Foreign Currency Exchange Rates and Hedging Activities

We also supplement the reporting of revenue, revenue per piece and operating profit with adjusted measures that exclude the period over period impact of foreign currency exchange rate changes and hedging activities. We believe currency-neutral revenue, revenue per piece and operating profit information allows users of our financial statements to understand growth trends in our products and results. We evaluate the performance of International Package and Supply Chain Solutions on this currency-neutral basis.

Currency-neutral revenue, revenue per piece and operating profit are calculated by dividing current period reported U.S. dollar revenue, revenue per piece and operating profit by the current period average exchange rates to derive current period local currency revenue, revenue per piece and operating profit. The derived amounts are then multiplied by the average foreign currency exchange rates used to translate the comparable results for each month in the prior year period (including the period over period impact of foreign currency hedging activities). The difference between the current period reported U.S. dollar revenue, revenue per piece and operating profit and the derived current period U.S. dollar revenue, revenue per piece and operating profit is the period over period impact of currency fluctuations.

Defined Benefit Plans Mark-to-Market Impacts

We recognize changes in the fair value of plan assets and net actuarial gains and losses in excess of a 10% corridor for our pension and postretirement defined benefit plans immediately as part of *Investment income (expense) and other* within *Other Income and (Expense)*. We supplement the presentation of our income before income taxes, net income and earnings per share with non-GAAP measures that exclude the impact of these gains and losses and the related income tax effects. We believe excluding these mark-to-market impacts provides important supplemental information by removing the volatility associated with short-term changes in market interest rates, equity values and similar factors.

Investment income (expense) and other reflects the actual return on plan assets (9.11% in 2021 and 12.54% in 2020) and the discount rate used to measure the projected benefit obligation at the December 31st measurement date (3.11% in 2021 and 2.87% in 2020). *Adjusted Investment income (expense) and other* utilizes the expected return on plan assets (6.40% in 2021 and 7.70% in 2020) and the discount rate used to determine net periodic benefit cost (2.87% in 2021 and 3.55% in 2020).

The remeasurement of our pension and postretirement defined benefit plans' assets and liabilities resulted in a $3.3 billion mark-to-market gain in 2021 and $6.5 billion loss in 2020.

The table below shows the amounts associated with each component of the pre-tax mark-to-market gain (loss), as well as the weighted-average actuarial assumptions used to determine our net periodic benefit cost, for each year:

	Year Ended December 31,	
Components of mark-to-market gain (loss) (in millions):	**2021**	**2020**
Discount rates	$ 1,871	$ (6,540)
Return on assets	(269)	2,390
Demographic and other assumption changes	(97)	(381)
Coordinating benefits attributable to the Central States Pension Fund	1,767	(1,953)
Total mark-to-market gain (loss)	$ 3,272	$ (6,484)

	Year Ended December 31,	
Weighted-average actuarial assumptions:	**2021**	**2020**
Expected rate of return on plan assets	6.40 %	7.70 %
Actual rate of return on plan assets	9.11 %	12.54 %
Discount rate used for net periodic benefit cost	2.87 %	3.55 %
Discount rate at measurement date	3.11 %	2.87 %

The pre-tax mark-to-market gains and losses for the years ended December 31, 2021 and 2020 consisted of the following:

<u>2021 - $3.3 billion pre-tax mark-to-market gain:</u>

- *Discount Rates* ($1.9 billion pre-tax gain): This gain was driven by the interim remeasurement of the UPS/IBT Plan in the first quarter of 2021. The weighted-average discount rate for our UPS/IBT Plan increased from 2.98% as of December 31, 2020 to 3.70% as of March 31, 2021, primarily due to an increase in U.S. treasury yields.
- *Return on Assets* ($0.3 billion pre-tax loss): This loss was primarily driven by the interim remeasurement of the UPS/IBT Plan in the first quarter of 2021. As of March 2021, the actual rate of return on the plan assets was approximately 220 basis points lower than our expected rate of return, primarily due to weak global equity and U.S. bond market performance.
- *Demographic and Other Assumption Changes* ($0.1 billion pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.
- *Coordinating benefits attributable to the Central States Pension Fund* ($1.8 billion pre-tax gain): This represents the reduction of the liability for potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

<u>2020 - $6.5 billion pre-tax mark-to-market loss:</u>

- *Discount Rates* ($6.5 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 3.55% as of December 31, 2019 to 2.87% as of December 31, 2020, primarily due to a decline in U.S. treasury yields that was slightly offset by an increase in credit spreads on AA-rated corporate bonds.
- *Return on Assets* ($2.4 billion pre-tax gain): In 2020, the actual rate of return on plan assets was higher than our expected rate of return, primarily due to strong global equity and U.S. bond market performance.
- *Demographic and Other Assumption Changes* ($0.4 billion pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

- *Coordinating benefits attributable to the Central States Pension Fund* ($2.0 billion pre-tax loss): This represents our current best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

Expense Allocations

Certain operating expenses are allocated between our operating segments using activity-based costing methods. These activity-based costing methods require us to make estimates that impact the amount of each expense category that is attributed to each segment. Changes in these estimates would directly impact the amount of expense allocated to each segment, and therefore the operating profit of each reporting segment. Our allocation methodologies are refined periodically, as necessary, to reflect changes in our businesses.

In the first quarter of 2021, we updated our cost allocation methodology for aircraft engine maintenance expense to better align with aircraft utilization by segment. This change resulted in a reallocation of expense from our U.S. Domestic Package segment to our International Package segment of approximately $73 million for the year.

Upon the divestiture of UPS Freight, revenue and costs associated with the Ground with Freight Pricing ("GFP") product began to be reported in U.S. Domestic Package.

U.S. Domestic Package

	Year Ended December 31,		Change	
	2021	2020	$	%
Average Daily Package Volume (in thousands):				
Next Day Air	2,093	1,987		5.3 %
Deferred	1,723	1,783		(3.4)%
Ground	17,646	17,371		1.6 %
Total Average Daily Package Volume	21,462	21,141		1.5 %
Average Revenue Per Piece:				
Next Day Air	$ 18.83	$ 16.82	$ 2.01	12.0 %
Deferred	13.36	12.46	0.90	7.2 %
Ground	9.92	8.87	1.05	11.8 %
Total Average Revenue Per Piece	$ 11.06	$ 9.92	$ 1.14	11.5 %
Operating Days in Period	254	255		
Revenue (in millions):				
Next Day Air	$ 10,009	$ 8,522	$ 1,487	17.4 %
Deferred	5,846	5,665	181	3.2 %
Ground	44,462	39,312	5,150	13.1 %
Total Revenue	$ 60,317	$ 53,499	$ 6,818	12.7 %
Operating Expenses (in millions):				
Operating Expenses	$ 53,881	$ 49,608	$ 4,273	8.6 %
Transformation and Other Charges	(281)	(237)	(44)	18.6 %
Adjusted Operating Expenses	$ 53,600	$ 49,371	$ 4,229	8.6 %
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 6,436	$ 3,891	$ 2,545	65.4 %
Adjusted Operating Profit	$ 6,717	$ 4,128	$ 2,589	62.7 %
Operating Margin	10.7 %	7.3 %		
Adjusted Operating Margin	11.1 %	7.7 %		

Revenue

The change in revenue was due to the following factors:

Revenue Change Drivers:	**Volume**	**Rates / Product Mix**	**Fuel Surcharge**	**Total Revenue Change**
2021 vs. 2020	1.1 %	9.2 %	2.4 %	12.7 %

Volume

Average daily volume increased slightly, driven by SMB customer volume growth of 18% as a result of the continued execution of the *Customer First* component of our strategy, which was partially offset by a decline in Ground residential volume from our large customers. We anticipate this decline will moderate in 2022 and be offset by growth in Ground residential volume from our SMB customers. We expect overall volume growth levels in 2022 will remain consistent with 2021.

Business-to-consumer shipments represented approximately 60.7% of average daily volume compared to 63.6% in 2020. The decrease in 2021 was attributable to elevated e-commerce spending and a reduction in business-to-business activity in 2020 as a result of the COVID-19 pandemic. Business-to-business shipments increased 9.4%, primarily in our Ground commercial product, as business activity largely recovered from the impacts of the COVID-19 pandemic.

Average daily volume in our Next Day Air product increased as a result of the increase in business-to-business activity from SMBs and large customers. Higher residential demand also contributed to the growth in Next Day Air. Deferred volume decreased but remained slightly above pre-pandemic levels, with shifts in customer mix impacting product demand.

SurePost average daily volume decreased 10.7%, driven by declines in volume from large customers. Ground commercial volume increased 7.0%, with growth in all customer segments.

Rates and Product Mix

Overall revenue per piece increased in all customer segments, driven by increases in base rates and the increase in commercial volume discussed above. Revenue per piece was favorably impacted by the growth in SMB volume resulting from continued execution of our strategy, and from demand-related and fuel surcharges. Rates for ground and air services increased an average of 4.9% in December 2020, and our SurePost rates also increased at that time. We anticipate demand-related surcharges will remain largely unchanged in 2022.

Revenue per piece for our Next Day Air and Deferred products increased as a result of the factors described above. The increase was slightly offset by the impact of a reduction in average billable weight per piece. Revenue per piece for our Ground product increased due to an increase in average billable weight per piece in addition to the factors described above.

We are focused on continuing to grow revenue per piece through execution of our strategy.

Fuel Surcharges

We apply a fuel surcharge on our domestic air and ground services that is adjusted weekly. The air fuel surcharge is based on the U.S. Department of Energy's ("DOE") Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the ground fuel surcharge is based on the DOE's On-Highway Diesel Fuel Price. Based on published rates, the average fuel surcharge rates for domestic Air and Ground products were as follows:

	Year Ended December 31,		% Point Change
	2021	2020	2021 vs. 2020
Next Day Air / Deferred	8.1 %	3.9 %	4.2 %
Ground	8.6 %	6.6 %	2.0 %

While fluctuations in fuel surcharges can be significant from period to period, fuel surcharges are only one of the many individual components of our market pricing strategy that impact our overall revenue and yield. Additional components include the mix of services sold, the base price and additional charges for these services and the pricing discounts offered.

Total domestic fuel surcharge revenue increased by $1.3 billion, driven by a significant increase in fuel surcharge indices. We expect the impact of these increases will continue in 2022.

Operating Expenses

Operating expenses, and operating expenses excluding the year-over-year impact of transformation and other charges, increased, driven by a $1.7 billion increase in the cost of operating our integrated air and ground network and a $1.7 billion increase in pickup and delivery costs. In addition, the cost of package sorting increased $514 million and other indirect operating costs increased by $245 million. The increase in expense was driven by:

- Higher fuel costs, primarily attributable to increases in the price of jet fuel, diesel and gasoline, which we expect to persist.
- Higher employee benefit expense for our union workforce due to contractual contribution rate increases to multiemployer plans and additional headcount becoming eligible for health, welfare and retirement benefits.

- Additional compensation expense due to contractual rate increases for our union workforce. Cost of living and wage-rate adjustments driven by inflation and other market factors also drove higher compensation costs. Volume growth also contributed to the increase. These increases were partially offset by productivity improvements. Management payroll increased, primarily due to incentive compensation and commission payments.
- Higher third-party transportation costs as a result of our investments to improve time-in-transit within our ground network partially offset by lower third-party carrier costs for SurePost and rail due to lower volumes.
- The reallocation of expense for the GFP product following the divestiture of UPS Freight resulted in an increase of $281 million in segment operating expenses.

Total cost per piece, and adjusted cost per piece excluding the year-over-year impact of transformation and other charges, increased 7.4%. We anticipate that overall costs and cost per piece may continue to increase during 2022 as a result of contractual cost increases and market factors, including inflation and the availability and cost of labor. We expect this expense growth to moderate in 2022 due to additional operational improvements.

Operating Profit and Margin

As a result of the factors described above, operating profit increased $2.5 billion, with operating margin increasing 340 basis points to 10.7%. Excluding the year-over-year impact of transformation and other charges, adjusted operating profit increased $2.6 billion, with adjusting operating margin increasing 340 basis points to 11.1%.

International Package

	Year Ended December 31,		Change	
	2021	2020	$	%
Average Daily Package Volume (in thousands):				
Domestic	1,988	1,863		6.7 %
Export	1,800	1,672		7.7 %
Total Average Daily Package Volume	3,788	3,535		7.2 %
Average Revenue Per Piece:				
Domestic	$ 7.31	$ 6.65	$ 0.66	9.9 %
Export	32.83	28.52	4.31	15.1 %
Total Average Revenue Per Piece	$ 19.44	$ 16.99	$ 2.45	14.4 %
Operating Days in Period	254	255		
Revenue (in millions):				
Domestic	$ 3,690	$ 3,160	$ 530	16.8 %
Export	15,012	12,159	2,853	23.5 %
Cargo & Other	839	626	213	34.0 %
Total Revenue	$ 19,541	$ 15,945	$ 3,596	22.6 %
Operating Expenses (in millions):				
Operating Expenses	$ 14,895	$ 12,509	$ 2,386	19.1 %
Transformation and Other Charges	(74)	(96)	22	(22.9)%
Adjusted Operating Expenses	$ 14,821	$ 12,413	$ 2,408	19.4 %
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 4,646	$ 3,436	$ 1,210	35.2 %
Adjusted Operating Profit	$ 4,720	$ 3,532	$ 1,188	33.6 %
Operating Margin	23.8 %	21.5 %		
Adjusted Operating Margin	24.2 %	22.2 %		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ 402	
Operating Expenses			(300)	
Operating Profit			$ 102	

* Net of currency hedging; amount represents the change compared to the prior year.

Revenue

The change in revenue was due to the following:

Revenue Change Drivers:	Volume	Rates / Product Mix	Fuel Surcharges	Currency	Total Revenue Change
2021 vs. 2020	6.7 %	8.1 %	5.2 %	2.6 %	22.6 %

Volume

Average daily volume increased for both domestic and export products, with growth primarily in the first half of the year. Volume declined in the fourth quarter, largely due to the year-over-year impacts of COVID-19 on consumer behavior. For the year, we experienced growth from both SMBs and large customers, primarily in the retail, manufacturing and technology sectors. Business-to-business volume increased 10.8% as commercial activity largely returned to pre-pandemic levels. Business-to-consumer volume increased 5.1%, with growth primarily in the first quarter when COVID-19 driven volume was not present in the comparative period. We expect overall volume growth to accelerate in 2022.

Export volume increased for the year, led by Europe and the Americas, while Asia volume was largely unchanged. Volume growth was strongest on intra-Europe trade lanes, as well as from Europe and the Americas to the United States. Trade between Europe and the United Kingdom declined throughout the year as a result of Brexit, which became effective on January 1, 2021. Asia export volume grew significantly in the first quarter, but was then impacted in the second quarter by a reduction in shipments of personal protective equipment relative to 2020. Additionally, COVID-19 impacts within the region reduced the number of flights operated in the second half of the year.

Premium products saw volume growth of 14.9%, driven by Worldwide Express and Transborder Express products. Volume for non-premium products increased 6.9%, driven by growth in our Transborder Standard product. Worldwide Standard volume increased primarily as a result of Brexit, with shipments between the United Kingdom and the European Union that are now subject to duties and taxes shifting from Transborder to Worldwide products.

Domestic volume increased for the year in many markets, with the strongest growth in the United Kingdom and Western Europe, largely due to the impact of COVID-19 on business-to-consumer demand. During the fourth quarter, domestic volume declined, driven by a reduction in e-commerce resulting in fewer residential deliveries, that was slightly offset by growth in commercial volume.

Rates and Product Mix

In December 2020, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market. In response to capacity constraints resulting from the COVID-19 pandemic, we began to apply demand-related surcharges on certain lanes in the second quarter of 2020. These surcharges are expected to remain elevated in 2022.

Total revenue per piece increased 14.4%, driven by changes in base pricing, fuel and demand-related surcharges and favorable shifts in customer and product mix. Currency movements contributed to the increase in revenue per piece for the year, but had a negative impact in the fourth quarter. Excluding the impact of currency, revenue per piece increased 12.0% for the year.

Export revenue per piece increased 15.1% as a result of the factors described above. Excluding the impact of currency movements, export revenue per piece increased 13.2%.

Domestic revenue per piece increased 9.9% due to changes in base pricing, fuel surcharges and customer and product mix. Although currency movements negatively impacted revenue per piece in the fourth quarter, they contributed to the increase in revenue per piece for the year. Excluding the impact of currency movements, revenue per piece increased 5.6%.

We expect revenue per piece growth to moderate in 2022.

Fuel Surcharges

The fuel surcharge for international air services originating inside or outside the U.S. is largely indexed to the DOE's Gulf Coast spot price for a gallon of kerosene-type jet fuel. The fuel surcharges for ground services originating outside the U.S. are indexed to fuel prices in the region or country where the shipment originates.

While fluctuations can be significant from period to period, fuel surcharges represent one of the many individual components of our market pricing strategy that impact our overall revenue and yield. Additional components include the mix of services sold, the base price and extra service charges and any pricing discounts offered. Total international fuel surcharge revenue increased by $866 million, primarily due to increases in fuel surcharge indices, as well as overall volume growth and changes in customer and product mix.

Operating Expenses

Operating expenses, and operating expenses excluding the year-over-year impact of transformation and other charges, increased. The costs of operating our integrated international air and ground network increased $1.2 billion driven by the impact of higher fuel prices and volume growth. We expect these trends to continue in 2022.

In addition to variability in usage and market prices, the manner in which we purchase fuel also influences the net impact of costs on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term.

Pickup and delivery costs increased $718 million, primarily due to volume growth that drove additional third-party transportation expense. Package sorting costs increased $198 million, also as a result of overall volume growth. We anticipate that these operating expenses may continue to increase due to volume growth and external market factors, such as fuel prices and inflation.

The remaining increase in operating expenses was due to increases in other indirect operating costs.

Operating Profit and Margin

As a result of the factors described above, operating profit increased $1.2 billion, with operating margin increasing 230 basis points to 23.8%. Excluding the year-over-year impact of transformation and other charges, adjusted operating profit also increased $1.2 billion, with operating margin increasing 200 basis points to 24.2%.

Supply Chain Solutions

	Year Ended December 31,		Change	
	2021	2020	$	%
Freight Less-Than-Truckload Statistics:				
Revenue (in millions)	$ 881	$ 2,566	$ (1,685)	(65.7)%
Revenue Per Hundredweight	$ 29.93	$ 27.46	$ 2.47	9.0 %
Shipments (in thousands)	2,829	8,847		(68.0)%
Shipments Per Day (in thousands)	33.3	34.8		(4.3)%
Gross Weight Hauled (in millions of lbs)	2,944	9,343		(68.5)%
Weight Per Shipment (in lbs)	1,041	1,056		(1.4)%
Operating Days in Period	85	254		
Revenue (in millions):				
Forwarding	$ 9,872	$ 6,975	$ 2,897	41.5 %
Logistics	4,767	4,073	694	17.0 %
Freight	1,064	3,149	(2,085)	(66.2)%
Other	1,726	987	739	74.9 %
Total Revenue	$ 17,429	$ 15,184	$ 2,245	14.8 %
Operating Expenses (in millions):				
Operating Expenses	$ 15,701	$ 14,827	$ 874	5.9 %
Transformation Strategy Costs	(25)	(15)	(10)	66.7 %
Goodwill, Asset Impairment Charges and Divestitures	46	(686)	732	N/M
Adjusted Operating Expenses	$ 15,722	$ 14,126	$ 1,596	11.3 %
Operating Profit (in millions) and Operating Margins:				
Operating Profit	$ 1,728	$ 357	$ 1,371	384.0 %
Adjusted Operating Profit	$ 1,707	$ 1,058	$ 649	61.3 %
Operating Margin	9.9 %	2.4 %		
Adjusted Operating Margin	9.8 %	7.0 %		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ 96	
Operating Expenses			(132)	
Operating Profit			$ (36)	

* Amount represents the change compared to the prior year.

	Year Ended December 31,		Change	
	2021	2020	$	%
Transformation Strategy Costs (in millions):				
Forwarding	$ 8	$ 8	$ —	— %
Logistics	5	6	(1)	(16.7)%
Freight	1	1	—	— %
Other	11	—	11	N/A
Total Transformation Strategy Costs	$ 25	$ 15	$ 10	66.7 %

On April 30, 2021, we completed the divestiture of UPS Freight. For the year ended December 31, 2021, we recognized a pre-tax gain of $46 million related to this divestiture. See note 4 to the audited, consolidated financial statements for additional information.

Revenue

Total revenue for Supply Chain Solutions increased $2.2 billion.

Forwarding revenue increased for the year. In our international air freight business, revenue growth was driven by higher volume as a result of strong outbound demand globally. Demand-related surcharges and rate increases also contributed to revenue growth as demand continued to exceed capacity in the market. We expect the elevated level of demand to persist. Ocean freight forwarding revenue increased, driven by Asia-export volume and higher market rates throughout the year. We expect surcharges for ocean freight forwarding to be lower in 2022 relative to 2021 as supply and demand within the market begins to normalize. Revenue in our truckload brokerage business increased due to market rate increases and the continued execution of our strategy, slightly offset by a reduction in volume.

Within Logistics, our healthcare operations experienced strong revenue growth across a broad range of customers, including COVID-19 relief efforts. Revenue in our mail services business increased as a result of rate increases and a favorable shift in product characteristics, partially offset by lower volumes. Our other distribution operations experienced year-over-year revenue increases, driven by new business growth.

As a result of the divestiture, UPS Freight revenue decreased $2.1 billion for the year.

Revenue from the other businesses within Supply Chain Solutions increased, driven by services provided to the acquirer of UPS Freight under certain transition services agreements and by growth in our logistics consulting services, UPS Capital and additional volume from service contracts with the U.S. Postal Service.

Operating Expenses

Total operating expenses for Supply Chain Solutions, and operating expenses excluding the year-over-year impact of transformation and other charges, increased in 2021.

Forwarding operating expenses increased $2.6 billion, driven by an increase in purchased transportation of $2.5 billion. This increase was primarily due to higher market rates across all of our forwarding businesses that were driven by supply constraints and demand-related surcharges, as well as volume growth in our international air freight and ocean freight forwarding businesses. Capacity constraints are expected to persist, resulting in purchased transportation cost remaining elevated.

Logistics operating expenses increased $538 million, due to higher purchased transportation expense and operational expense growth in our healthcare operations as a result of COVID-19 relief efforts and strong demand for our healthcare logistics services. Carrier rate increases drove higher expense within mail services and business growth in our other distribution operations also resulted in additional purchased transportation expense.

UPS Freight operating expenses decreased $2.8 billion as a result of the divestiture.

Expense for the other businesses within Supply Chain Solutions increased, primarily due to higher third-party transportation expense in logistics consulting and transportation and other costs incurred under transition services agreements with the acquirer of UPS Freight.

Operating Profit and Margin

As a result of the factors described above, total operating profit increased $1.4 billion, with operating margin increasing 750 basis points to 9.9%. Excluding the year-over-year impact of transformation and other charges and other gains, adjusted operating profit increased $649 million, with adjusted operating margin increasing 280 basis points to 9.8%.

Consolidated Operating Expenses

	Year Ended December 31,		Change	
	2021	2020	$	%
Operating Expenses (in millions):				
Compensation and benefits	$ 46,707	$ 44,529	$ 2,178	4.9 %
Transformation and Other Charges	(206)	(211)	5	(2.4)%
Adjusted Compensation and benefits	46,501	44,318	2,183	4.9 %
Repairs and maintenance	2,443	2,365	78	3.3 %
Depreciation and amortization	2,953	2,698	255	9.5 %
Purchased transportation	19,058	15,631	3,427	21.9 %
Fuel	3,847	2,582	1,265	49.0 %
Other occupancy	1,698	1,539	159	10.3 %
Other expenses	7,771	7,600	171	2.3 %
Total Other expenses	37,770	32,415	5,355	16.5 %
Transformation and Other Charges	(174)	(137)	(37)	27.0 %
Goodwill, asset impairment charges and divestitures	46	(686)	732	N/M
Adjusted Total Other expenses	$ 37,642	$ 31,592	$ 6,050	19.2 %
Total Operating Expenses	$ 84,477	$ 76,944	$ 7,533	9.8 %
Adjusted Total Operating Expenses	$ 84,143	$ 75,910	$ 8,233	10.8 %
Currency (Benefit) / Cost - (in millions)*			$ 432	

*Amount represents the change in currency translation compared to the prior year.

	Year Ended December 31,		Change	
	2021	2020	$	%
Adjustments to Operating Expenses (in millions):				
Transformation Strategy Costs:				
Compensation	$ 30	$ 34	$ (4)	(11.8)%
Benefits	176	177	(1)	(0.6)%
Other occupancy	3	8	(5)	(62.5)%
Other expenses	171	129	42	32.6 %
Total Transformation Strategy Costs	$ 380	$ 348	$ 32	9.2 %
Goodwill and asset impairment charges, and divestitures:				
Other expenses	$ (46)	$ 686	$ (732)	N/M
Total Adjustments to Operating Expenses	$ 334	$ 1,034	$ (700)	(67.7)%

Compensation and Benefits

Total compensation and benefits, and total compensation and benefits excluding the year-over-year impact of transformation and other charges, increased in 2021.

Total compensation costs, and total compensation costs excluding the year-over-year impact of transformation and other charges, increased $1.0 billion or 3.8%, primarily as a result of:

- U.S. Domestic compensation increased $704 million as a result of higher direct labor costs due to contractual rate increases for our union workforce, as well as wage-rate and cost of living adjustments driven by inflation and other market factors. Volume growth drove additional headcount and an increase in average daily union hours, which was partially offset by productivity improvements.
- International cost increased $380 million, primarily due to volume growth, as well as the impacts of operational disruption last year that resulted from COVID-19 restrictions.
- Management compensation increased $416 million due to salary increases, higher incentive compensation and sales commissions and workforce growth that was primarily from additional part-time positions.
- These increases were partially offset by the impact of divesting UPS Freight, which decreased cost by $583 million.

Benefits costs increased $1.3 billion. Excluding the year-over-year impact of transformation and other charges, adjusted benefits increased $1.2 billion as a result of:

- Health and welfare costs increased $530 million, driven by increased contributions to multiemployer plans resulting from growth in the eligible workforce and contractual rate increases.
- Pension and postretirement benefits increased $374 million due to an increase in the overall size of the workforce, increased contributions to multiemployer plans as a result of contractually-mandated rate increases and higher service costs for company-sponsored plans.
- Vacation, excused absence, payroll taxes and other expenses increased $212 million, primarily driven by salary increases, increases in the overall size of the workforce and additional discretionary payments to certain employees.
- Workers' compensation expense increased $51 million due to an increase in total hours worked and higher claim counts, partially offset by improved claims trends relative to the previous year and lower activity resulting from the divestiture of UPS Freight.

Repairs and Maintenance

The increase in repairs and maintenance expense was driven by additional aircraft engine maintenance cost, primarily due to the increase in operating activity. Routine repairs and maintenance for buildings and facilities, and maintenance costs for our other transportation equipment, increased slightly.

Depreciation and Amortization

Depreciation and amortization expense increased as a result of additional operating facilities coming into service and investments in internally developed software, as well as growth in the size of our vehicle and aircraft fleets.

Purchased Transportation

The increase in purchased transportation expense charged to us by third-party air, ocean and truck carriers was primarily driven by:

- Supply Chain Solutions expense increased $2.2 billion, primarily due to market rate and volume increases in our international air freight and ocean freight businesses and rate increases in our truckload brokerage business. These increases were partially offset by the impact of the divestiture of UPS Freight, which reduced third-party transportation costs by $596 million.

- International Package expense increased $617 million, primarily due to additional volume being handled by third-party pickup and delivery services in Asia and Europe. Currency movements also negatively impacted expense, primarily in Europe.

- U.S. Domestic Package expense increased $310 million due to ongoing investments to improve time-in-transit in our U.S. ground network and overall increases in per-shipment costs. These impacts were partially offset by decreases in rail and SurePost volumes for the year.

Fuel

Higher fuel prices increased expense $1.2 billion. Increases in usage from additional aircraft block hours and miles driven were partly offset by the impact of the divestiture of UPS Freight.

Other Occupancy

The increase in other occupancy expense, and other occupancy expense excluding the year-over-year impact of transformation and other charges, was due to higher utilities costs, rent and property tax increases and ongoing facility maintenance.

Other Expenses

Other expenses, and other expenses excluding the year-over-year impact of transformation strategy costs and goodwill, asset impairment charges and divestitures, increased as a result of:

- Other operational expenses, including vehicle and equipment rentals, increased $214 million, primarily driven by business growth.
- The cost of business services that support our operating segments increased $129 million, driven by business growth and the expansion of services provided.
- Customer claims increased $108 million, driven by changes to our claims policy, which resulted in higher claims for lost packages.
- Other increases included the cost of goods provided under transitional service agreements to the acquirer of UPS Freight, information technology expenses, payment processing fees and the write down of certain construction in progress activities.

These increases were partially offset by reductions in self-insured automobile liability claims due to improvements in claims experience, a reduction in our allowance for credit losses and a reduction in purchases of COVID-related safety and cleaning supplies.

Other Income and (Expense)

The following table sets forth investment income (expense) and other and interest expense for the years ended December 31, 2021 and 2020 (in millions):

	Year Ended December 31,		Change	
	2021	2020	$	%
Investment Income (Expense) and Other	$ 4,479	$ (5,139)	$ 9,618	N/M
Defined Benefit Plans Mark-to-Market (Gain) Loss	(3,272)	6,484	(9,756)	N/M
Adjusted Investment Income (Expense) and Other	$ 1,207	$ 1,345	$ (138)	(10.3)%
Interest Expense	(694)	(701)	7	(1.0)%
Total Other Income and (Expense)	$ 3,785	$ (5,840)	$ 9,625	N/M
Adjusted Other Income and (Expense)	$ 513	$ 644	$ (131)	(20.3)%

Investment Income (Expense) and Other

Investment and other income increased $9.6 billion, primarily due to a net $3.3 billion mark-to-market gain from remeasurements of our defined benefit plans in 2021 compared to a $6.5 billion loss in 2020. Excluding the impact of these mark-to-market gains and losses, adjusted investment and other income decreased $138 million, driven by a decrease in other pension income which includes expected returns on pension assets, net of interest cost on projected benefit obligations and prior service costs.

- Expected returns on pension assets decreased due to a reduction in our expected rate of return assumption. This was partially offset by a higher asset base due to discretionary contributions and positive asset returns in 2020.
- Pension interest cost decreased, driven by a reduction in projected benefit obligations following interim plan remeasurements. The interim plan remeasurements were triggered by the signing into law of the ARPA in March 2021 and by the divestiture of UPS Freight in April 2021. We also experienced a reduction in prior service cost.

The remaining items in other income decreased due to foreign currency losses, partially offset by net gains from certain non-current investments.

Interest Expense

Interest expense for the year decreased due to lower average outstanding debt balances and lower effective interest rates on floating rate debt and commercial paper, partially offset by a reduction in capitalization of interest.

Income Tax Expense

The following table sets forth income tax expense and our effective tax rate for the years ended December 31, 2021 and 2020 (in millions):

	Year Ended December 31,		Change	
	2021	2020	$	%
Income Tax Expense:	$ 3,705	$ 501	$ 3,204	639.5 %
Income Tax Impact of:				
Defined Benefit Plans Mark-to-Market	(784)	1,555	(2,339)	N/M
Transformation Strategy Costs	95	83	12	14.5 %
Goodwill, Asset Impairment Charges and Divestitures	(11)	57	(68)	N/M
Adjusted Income Tax Expense	$ 3,005	$ 2,196	$ 809	36.8 %
Effective Tax Rate	22.3 %	27.2 %		
Adjusted Effective Tax Rate	22.0 %	23.5 %		

For additional information on income tax expense and our effective tax rate, see note 16 to the audited, consolidated financial statements.

Liquidity and Capital Resources

As of December 31, 2021, we had $10.6 billion in cash, cash equivalents and marketable securities. We believe that these positions, expected cash from operations, access to commercial paper programs and capital markets and other available liquidity options will be adequate to fund our material short- and long-term cash requirements, including our business operations, planned capital expenditures and pension contributions, transformation strategy costs, debt obligations and planned shareowner returns. We regularly evaluate opportunities to optimize our capital structure, including through issuances of debt to refinance existing debt and to fund operations. We deploy a disciplined and balanced approach to capital allocation, including returns to shareowners through dividends and share repurchases.

Cash Flows From Operating Activities

The following is a summary of the significant sources (uses) of cash from operating activities (in millions):

	2021	2020
Net income	$ 12,890	$ 1,343
Non-cash operating activities[(a)]	3,335	11,181
Pension and postretirement benefit plan contributions (company-sponsored plans)	(576)	(3,125)
Hedge margin receivables and payables	272	(507)
Income tax receivables and payables	170	205
Changes in working capital and other non-current assets and liabilities	(1,106)	1,383
Other operating activities	22	(21)
Net cash from operating activities	$ 15,007	$ 10,459

(a) Represents depreciation and amortization, gains and losses on derivative transactions and foreign currency exchange, deferred income taxes, allowances for expected credit losses, amortization of operating lease assets, pension and postretirement benefit plan (income) expense, stock compensation expense, changes in casualty self-insurance reserves, goodwill and other asset impairment charges and other non-cash items.

Net cash from operating activities increased $4.5 billion year to date, primarily due to improved performance. Additional impacts included:

- Contributions to our company-sponsored pension and U.S. postretirement medical benefit plans totaled $576 million and $3.1 billion in 2021 and 2020, respectively. This included discretionary contributions of $200 million and $2.8 billion, respectively.
- Our net hedge margin collateral position increased by $779 million due to changes in the fair value of derivative contracts used in our currency and interest rate hedging programs.
- Cash payments for income taxes were $1.9 billion and $1.1 billion for 2021 and 2020, respectively, with changes primarily driven by an increase in income.
- During 2020, our working capital benefited from a one-time deferral of employer payroll taxes of approximately $1.1 billion under the CARES Act. During the fourth quarter of 2021, we paid $577 million of these deferred employer payroll taxes. Other changes in working capital were driven by business growth and the timing of duty and tax settlements.

As part of our ongoing efforts to improve our working capital efficiency, certain financial institutions offer a Supply Chain Finance ("SCF") program to certain of our suppliers. We agree to commercial terms with our suppliers, including prices, quantities and payment terms, regardless of whether the supplier elects to participate in the SCF program. Suppliers issue invoices to us based on the agreed-upon contractual terms. If they participate in the SCF program, our suppliers, at their sole discretion, determine which invoices, if any, to sell to the financial institutions. Our suppliers' voluntary inclusion of invoices in the SCF program has no bearing on our payment terms. No guarantees are provided by us under the SCF program. We have no economic interest in a supplier's decision to participate, and we have no direct financial relationship with the financial institutions, as it relates to the SCF program.

Amounts due to our suppliers that participate in the SCF program are included in *Accounts payable* in our consolidated balance sheets. We have been informed by the participating financial institutions that as of December 31, 2021 and 2020, suppliers sold them $545 and $639 million, respectively, of our outstanding payment obligations. Amounts due to suppliers that participate in the SCF program may be reflected in cash flows from operating activities or cash flows from investing activities in our consolidated statements of cash flows. The amounts settled through the SCF program were approximately $1.7 and $1.8 billion for the years ended December 31, 2021 and 2020, respectively.

As of December 31, 2021, approximately $3.1 billion of our total worldwide holdings of cash, cash equivalents and marketable securities were held by foreign subsidiaries. The amount of cash, cash equivalents and marketable securities held by our U.S. and foreign subsidiaries fluctuates throughout the year due to a variety of factors, including the timing of cash receipts and disbursements in the normal course of business. Cash provided by operating activities in the U.S. continues to be our primary source of funds to finance domestic operating needs, capital expenditures, share repurchases, pension contributions and dividend payments to shareowners. All cash, cash equivalents and marketable securities held by foreign subsidiaries are generally available for distribution to the U.S. without any U.S. federal income taxes. Any such distributions may be subject to foreign withholding and U.S. state taxes. When amounts earned by foreign subsidiaries are expected to be indefinitely reinvested, no accrual for taxes is provided.

Cash Flows From Investing Activities

Our primary sources (uses) of cash from investing activities for the years ended December 31, 2021 and 2020 were as follows (in millions):

	2021	2020
Net cash used in investing activities	$ (3,818)	$ (5,283)
Capital Expenditures:		
Buildings, facilities and plant equipment	$ (1,635)	$ (2,460)
Aircraft and parts	(1,185)	(1,145)
Vehicles	(807)	(1,002)
Information technology	(567)	(805)
Total Capital Expenditures[1]:	$ (4,194)	$ (5,412)
Capital Expenditures as a % of revenue	4.3 %	6.4 %
Other Investing Activities:		
Proceeds from disposals of businesses, property, plant and equipment	$ 872	$ 40
Net change in finance receivables	$ 34	$ 44
Net (purchases), sales and maturities of marketable securities	$ 54	$ 106
Cash paid for business acquisitions, net of cash and cash equivalents acquired	$ (602)	$ (20)
Other investing activities	$ 18	$ (41)

[1] In addition to capital expenditures of $4.2 and $5.4 billion in 2021 and 2020, respectively, there were capital expenditures relating to principal repayments of finance lease obligations of $208 and $192 million, respectively. These are included in cash flows from financing activities.

We have commitments for the purchase of aircraft, vehicles, equipment and real estate to provide for the replacement of existing capacity and anticipated future growth. Future capital spending for anticipated growth and replacement assets will depend on a variety of factors, including economic and industry conditions. Our current investment program anticipates investments in technology initiatives and enhanced network capabilities, including over $1 billion of projects to support our environmental sustainability goals. It also provides for maintenance of buildings, facilities and plant equipment and replacement of certain aircraft within our fleet. We currently expect that our capital expenditures will be approximately $5.5 billion in 2022, of which approximately 60 percent will be allocated to expansion projects.

In 2021, capital expenditures on buildings, facilities and operating equipment decreased in our global small package business, as we reduced spending on facility expansion projects. Capital spending on aircraft increased slightly as final payments associated with the delivery of aircraft were largely offset by reductions in contract deposits on open aircraft orders. Capital expenditures on information technology decreased due to the timing of projects.

Proceeds from the disposal of businesses, property, plant and equipment increased as we completed the divestiture of UPS Freight for cash proceeds of $848 million in the second quarter. The proceeds were used to reduce outstanding indebtedness.

The net change in finance receivables was primarily due to reductions in outstanding balances within our finance portfolios. Purchases and sales of marketable securities are largely determined by liquidity needs and the periodic rebalancing of investment types, and will fluctuate from period to period.

Cash paid for business acquisitions in 2021 was primarily attributable to the acquisition of Roadie and the purchase of development areas for The UPS Store. Cash paid for business acquisitions in 2020 related to the purchase of development areas for The UPS Store. Other investing activities were impacted by changes in our non-current investments, purchase contract deposits and various other items.

Cash Flows From Financing Activities

Our primary sources (uses) of cash for financing activities were as follows (amounts in millions, except per share data):

	2021	2020
Net cash used in financing activities	$ (6,823)	$ (4,517)
Share Repurchases:		
Cash paid to repurchase shares	$ (500)	$ (224)
Number of shares repurchased	(2.6)	(2.1)
Shares outstanding at period end	870	865
Percent increase (decrease) in shares outstanding	0.6 %	0.9 %
Dividends:		
Dividends declared per share	$ 4.08	$ 4.04
Cash paid for dividends	$ (3,437)	$ (3,374)
Borrowings:		
Net borrowings (repayments) of debt principal	$ (2,773)	$ (851)
Other Financing Activities:		
Cash received for common stock issuances	$ 251	$ 285
Other financing activities	$ (364)	$ (353)
Capitalization:		
Total debt outstanding at year end	$ 21,915	$ 24,654
Total shareowners’ equity at year end	14,269	669
Total capitalization	$ 36,184	$ 25,323

We repurchased 2.6 million shares of class B common stock for $500 million under our stock repurchase program in 2021. We repurchased 2.1 million shares of class A and class B common stock for $217 million in 2020 ($224 million in repurchases is reported on the statement of cash flows for 2020 due to the timing of settlements). For additional information on our share repurchase activities, see note 13 to the audited, consolidated financial statements.

For the years ended December 31, 2021 and 2020, dividends reported within shareowners' equity include $167 and $178 million, respectively, of non-cash dividends that were settled in shares of class A common stock.

The declaration of dividends is subject to the discretion of the Board and depends on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors. In the first quarter of 2022, we increased our quarterly dividend from $1.02 to $1.52 per share.

Issuances of debt in 2021 consisted of short-term borrowings under our commercial paper program, of which none remained outstanding as of December 31, 2021. Issuances of debt in 2020 consisted of borrowings under our commercial paper program and issuances of fixed-rate senior notes as follows (in millions):

	Principal Amount in USD
2020	
Fixed-rate senior notes:	
3.900% senior notes	$ 1,000
4.450% senior notes	750
5.200% senior notes	500
5.300% senior notes	1,250
Total	$ 3,500

Repayments of debt in 2021 included our $1.5 billion 3.125% senior notes, our $700 million 2.050% senior notes and our $350 million floating rate senior notes. We also reduced our commercial paper balances and made scheduled principal payments on our finance lease obligations. Repayments of debt in 2020 included our $424 million 8.375% debentures and our €500 million floating rate senior notes. We also paid down commercial paper balances and made scheduled principal payments on our finance lease obligations.

We have $2.0 billion of fixed and floating rate notes that mature in 2022. We may repay these amounts when due with cash generated from operations or other borrowings, depending on various factors. We consider the overall fixed and floating interest rate mix of our portfolio and the related overall cost of borrowing when planning for future issuances and non-scheduled repayments of debt.

The amount of commercial paper outstanding fluctuates throughout the year based on daily liquidity needs. The following is a summary of our commercial paper program (in millions):

	Functional currency outstanding balance at year end	Outstanding balance at year end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
2021					
USD	$ —	$ —	$ 151	$ 151	0.05 %
Total		$ —			

	Functional currency outstanding balance at year end	Outstanding balance at year end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
2020					
USD	$ 15	$ 15	$ 1,426	$ 1,426	0.78 %
EUR	€ —	$ —	€ 432	$ 493	(0.39)%
Total		$ 15			

As of December 31, 2021, we had no outstanding balances under our U.S. and European commercial paper program.

Except as disclosed in note 10 to the audited, consolidated financial statements, we do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, which we believe could have a material impact on our financial condition or liquidity.

The variation in cash received from common stock issuances was driven by the number of stock options exercised by employees and movements in other employee-related plans in 2021 and 2020.

Other financing activities includes cash used to repurchase shares to satisfy tax withholding obligations on vested stock awards of $358 and $340 million in 2021 and 2020, respectively. The increase in cash used was driven by changes in payment levels for certain of our awards.

Sources of Credit

See note 10 to the audited, consolidated financial statements for a discussion of our available credit and debt covenants.

Contractual Commitments

We have material cash requirements for known contractual obligations and commitments in the form of finance leases, operating leases, debt obligations, purchase commitments and certain other liabilities that are disclosed in the notes to the audited, consolidated financial statements and discussed below. We expect to fund these obligations and other discretionary payments, including expected returns to shareowners, primarily through cash from operations.

We anticipate making discretionary contributions to our company-sponsored U.S. pension and postretirement benefit plans of approximately $1.9 billion in 2022, which are included within *Expected employer contributions to plan trusts* shown in note 6 to the audited, consolidated financial statements. There are currently no anticipated required minimum cash contributions to our qualified U.S. pension plans. The amount of any minimum funding requirement, as applicable, for these plans could change significantly in future periods depending on many factors, including plan asset returns, discount rates, other actuarial assumptions, changes to pension plan funding regulations and the discretionary contributions that we make. Actual contributions made in future years could materially differ and consequently required minimum contributions beyond 2022 cannot be reasonably estimated.

As discussed in note 7 to the audited, consolidated financial statements, we are not currently subject to any minimum contributions or surcharges with respect to the multiemployer pension and health and welfare plans in which we participate. Contribution rates to these multiemployer pension and health and welfare plans are established through the collective bargaining process.

We have outstanding letters of credit and surety bonds that are discussed in note 10 to the audited, consolidated financial statements. Additionally, we have $2.0 billion of fixed- and floating-rate senior notes that mature in 2022. We may repay these amounts when due with cash generated from operations or other borrowings, depending on various factors. Annual principal payments on our long-term debt, estimated debt interest obligations and purchase commitments are also set out in note 10.

Included within purchase commitments as disclosed in note 10, we have firm commitments to purchase two new Boeing 747-8F aircraft to be delivered in 2022 and 19 new Boeing 767-300 aircraft to be delivered between 2023 and 2025. We have an option to purchase an additional 8 new Boeing 767-300 aircraft for delivery in 2025 and 2026 which are not reflected in our purchase commitments.

Our finance lease obligations, including purchase options that are reasonably certain to be exercised, relate primarily to leases on aircraft and real estate. These obligations, together with our obligations under operating leases are set out in note 12 to the audited, consolidated financial statements.

Under provisions of the Tax Cuts and Jobs Act (the "Tax Act"), we elected to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries over eight years through 2025. Additionally, we have uncertain tax positions that are further discussed in note 16 to the audited, consolidated financial statements.

In 2022, we will pay $558 million of employer payroll taxes that we deferred under the CARES Act.

Contingencies

See note 6 to the audited, consolidated financial statements for a discussion of pension related matters and note 11 to the audited, consolidated financial statements for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Collective Bargaining Agreements

Status of Collective Bargaining Agreements

See note 7 to the audited, consolidated financial statements for a discussion of the status of collective bargaining agreements.

Multiemployer Benefit Plans

We contribute to a number of multiemployer pension and health and welfare plans under the terms of collective bargaining agreements that cover our union represented employees. These agreements set forth the annual contribution rate increases for the plans that we participate in.

New Accounting Pronouncements

Recently Adopted Accounting Standards

See note 1 to the audited, consolidated financial statements for a discussion of recently adopted accounting standards.

Accounting Standards Issued But Not Yet Effective

See note 1 to the audited, consolidated financial statements for a discussion of accounting standards issued, but not yet effective.

Rate Adjustments

From time to time we adjust published rates applicable to our services. These rates, when published, are made available on our website at *www.ups.com*. We provide the address to our internet site solely for information. We do not intend for this address to be an active link or to otherwise incorporate the contents of any website into this or any other report we file with the Securities and Exchange Commission.

Critical Accounting Estimates

The amounts of assets, liabilities, revenue and expenses reported in our financial statements are affected by estimates and judgments that are necessary to comply with GAAP. We base our estimates on prior experience, current trends, various other assumptions and third-party input that we consider reasonable to our circumstances. Actual results could differ materially from our estimates, which would affect the related amounts reported in our consolidated financial statements. While estimates and judgments are applied in arriving at many reported amounts, we believe that the following critical accounting estimates involve a higher degree of judgment and complexity.

Contingencies

From time to time, we are involved in various legal proceedings and have exposure to various other contingent obligations. The events that may impact our contingent liabilities are often unique and generally are not predictable. At the time a contingency is identified, we consider all relevant facts as part of our evaluation. We apply judgment when establishing a range of reasonably possible losses for our contingencies. Our judgment is influenced by our understanding of information currently available for legal actions and potential outcomes of these actions, including the advice from our internal counsel, external counsel and senior management.

We record a liability for a loss when the loss is probable of occurring and reasonably estimable. For such accruals, we record the amount we consider to be the best estimate within a range of potential losses; however, when there appears to be a range of equally possible losses, our accrual is based on the low-end of this range. The likelihood of a loss with respect to a particular contingency is often difficult to predict and determining a reasonable estimate of the loss or a range of loss may not be practicable based on the information available. Additionally, events may arise that were not anticipated and, as a result, the outcome of a contingency may result in a loss that differs materially from our previously estimated liability. Except as disclosed in note 11 to the audited, consolidated financial statements, contingent losses that were probable and estimable were not material to our financial position or results of operations as of, or for the year ended, December 31, 2021. In addition, we have certain contingent liabilities that have not been recognized as of, or for the year ended, December 31, 2021, because a loss was not reasonably estimable. Obligations relating to income taxes and self-insurance are discussed below.

Goodwill and Intangible Asset Impairments

We assess goodwill for impairment at the reporting unit level. The determination of reporting units requires judgment, and if we changed the definition of our reporting units, it is possible that we would have reached different conclusions when performing our impairment tests.

We initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive, we quantitatively assess the fair value of a reporting unit to test goodwill for impairment. This assessment uses a combination of income and market approaches:

- The income approach uses a discounted cash flow (“DCF”) model, which requires us to make a number of significant assumptions to produce an estimate of future cash flows. These assumptions include projections of future revenue, costs, capital expenditures, working capital and the cost of capital. We are also required to make assumptions relating to our overall business and operating strategy, and the regulatory and market environment. Changes in any of these assumptions could significantly impact the fair value of any one of our reporting units. The projections that we use in our DCF model are updated annually and will change over time based on the historical performance and changing business conditions for each of our reporting units.
- The market approach uses observable market data of comparable public companies to estimate fair value utilizing financial metrics (such as enterprise value to net sales). We apply judgment to select appropriate comparison companies based on the business operations, size and operating results of our reporting units. Changes to our selection of comparable companies may result in changes to the estimates of fair value of our reporting units.

For reporting units tested using a quantitative model during 2021, we concluded the fair value of each reporting unit exceeded its carrying value by more than 10 percent. Our truckload brokerage reporting unit was most sensitive to changes in valuation assumptions. The ratio of excess fair value of this reporting unit to its carrying value would decrease by approximately one percentage point if the cost of capital increased by ten basis points.

Goodwill impairment charges could have a material impact on our results of operations. None of our reporting units incurred any goodwill impairment charges in 2021. During 2020, we recognized a goodwill impairment charge of $494 million in our UPS Freight reporting unit in conjunction with our evaluation of assets held for sale, which is discussed in note 4 to the audited, consolidated financial statements.

We evaluate the indefinite-lived trade name associated with our truckload brokerage business for impairment using the relief from royalty method. This valuation approach requires that we make a number of assumptions to estimate fair value, including projections of future revenues, market royalty rates, tax rates, discount rates and other relevant variables. The projections we use in the model are updated annually and will change over time based on the historical performance and changing business conditions. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge would be recognized for the excess amount.

Our annual impairment test for the current year indicated that the fair value of the indefinite-lived trade name remained greater than its carrying value, although this excess was less than 10 percent. Our valuation estimate was most sensitive to changes in royalty rates and the cost of capital. The ratio of excess fair value to carrying value would decrease by approximately one percentage point if the royalty rate decreased by five basis points or the cost of capital increased by ten basis points. Our truckload brokerage business has been negatively impacted by increases in the market rates at which it purchases transportation, which has in turn negatively impacted its operating margins. Business performance below current forecasts or unfavorable changes in valuation assumptions, such as a lower royalty rate or higher cost of capital, could result in an impairment of the trade name in the future.

Our finite-lived intangible assets are amortized over their estimated useful lives. Impairment tests for these assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable based on its undiscounted future cash flows. If the carrying amount of the intangible is determined not to be recoverable, a write-down to fair value is recorded. Fair values are estimated using a DCF model. If impairment indicators are present, the resulting impairment charges could have a material impact on our results of operations. See note 8 to the audited, consolidated financial statements for details of finite-lived intangible asset impairments.

Self-Insurance Accruals

We base self-insurance reserves on actuarial estimates, which are determined, with the assistance of third-party actuaries, through a complex process that includes the application of various actuarial methods and assumptions. The process incorporates actual loss experience and judgments about expected future development based on historical experience, recent and projected trends in claim frequency and severity, and changes in claims handling practices, among other factors.

Workers' compensation, automobile liability and general liability insurance claims may take several years to resolve. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to resolve a claim. Several factors can affect the actual cost, or severity, of a claim, including the length of time the claim remains open, trends in healthcare costs, the results of any related litigation and changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior policy period at a rate that differs from actuarial projections. All these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. We increased our total reserves related to prior year claims by $34 million and $169 million in 2021 and 2020, respectively.

Due to the complexity and inherent uncertainty associated with the estimation of our workers' compensation, automobile and general liability claims, the third-party actuary develops a range of expected losses. We believe our estimated reserves for such claims are adequate; however, actual experience in claim frequency and/or severity of a claim could materially differ from our estimates and affect our results of operations.

We also sponsor several health and welfare insurance plans for our employees. Liabilities and expenses related to these plans are based on estimates of the number of employees and eligible dependents covered under the plans, global health events, anticipated utilization by participants and overall trends in medical costs and inflation. We believe our estimates are reasonable and appropriate. Actual experience may differ materially from these estimates and, therefore, produce a material difference between estimated and actual operating results.

Self-insurance reserves as of December 31, 2021 and 2020 were as follows (in millions):

	2021	2020
Current self-insurance reserves	$ 1,048	$ 1,085
Non-current self-insurance reserves[1]	1,855	1,619
Total self-insurance reserves	**$ 2,903**	**$ 2,704**

[1] Included within Other Non-Current Liabilities in the consolidated balance sheets.

A five percent reduction or improvement in the assumed claim severity and claim frequency rates used to estimate our self-insurance reserves would result in an increase or decrease of approximately $290 million, respectively, in our reserves and expenses as of, and for the year ended, December 31, 2021.

Pension and Other Postretirement Medical Benefits

Our pension and other postretirement medical benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, healthcare cost trend rates, inflation, compensation increases, expected returns on plan assets, mortality rates, regulatory requirements and other factors. The assumptions utilized in recording the obligations under our plans represent our best estimates, and we believe that they are reasonable, based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Differences in actual experience or changes in assumptions may affect our pension and other postretirement obligations and future expenses. The primary factors contributing to actuarial gains and losses each year are:

- Changes in the discount rate used to value pension and postretirement benefit obligations as of the measurement date;
- Differences between expected and the actual return on plan assets;
- Changes in demographic assumptions including mortality;
- Differences in participant experience from demographic assumptions; and
- Changes in coordinating benefits with plans not sponsored by UPS.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense upon remeasurement of a plan. The remaining components of pension expense (referred to as "ongoing net periodic benefit cost"), primarily service and interest costs and the expected return on plan assets, are reported on a quarterly basis.

The following sensitivity analysis shows the impact of a 25 basis point change in the assumed discount rate and return on assets for our pension and postretirement benefit plans, and the resulting increase (decrease) in our obligations and expense as of, and for the year ended, December 31, 2021 (in millions):

Pension Plans	**25 Basis Point Increase**	**25 Basis Point Decrease**
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ (41)	$ 41
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(210)	447
Effect on projected benefit obligation	(2,498)	2,662
Return on Assets:		
Effect on ongoing net periodic benefit cost[1]	(134)	134
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor[2]	$ —	$ —
Postretirement Medical Plans		
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ 4	$ (4)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(32)	58
Effect on accumulated postretirement benefit obligation	(54)	64
Healthcare Cost Trend Rate:		
Effect on ongoing net periodic benefit cost	—	—
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	11	(12)
Effect on accumulated postretirement benefit obligation	$ 12	$ (14)

(1) Amount calculated based on 25 basis point increase / decrease in the expected return on assets.
(2) Amount calculated based on 25 basis point increase / decrease in the actual return on assets.

Refer to note 6 to the audited, consolidated financial statements for information on our potential liability for coordinating benefits related to the Central States Pension Fund.

Depreciation, Residual Value and Impairment of Fixed Assets

As of December 31, 2021, we had $33.5 billion of net fixed assets, the most significant category of which was aircraft. In accounting for fixed assets, we make estimates of the expected useful lives and residual values. We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. Our accounting policy for long-lived assets is set out in note 1 to the audited, consolidated financial statements.

In estimating the useful lives and expected residual values of aircraft, we consider actual experience with the same or similar aircraft types and future volume projections for our air products. Adverse changes in volume forecasts, or a shortfall in our actual volume compared with our projections, could result in our current aircraft capacity exceeding current or projected demand. This situation could lead to an excess of a particular aircraft, resulting in an impairment charge or a reduction of the expected useful life of an aircraft that may result in increased depreciation expense. Revisions to estimates of useful lives and residual values could also be caused by changes to our maintenance programs, governmental regulations on aging aircraft and changing market prices of new and used aircraft of the same or similar types. We periodically evaluate these estimates and assumptions, and adjust them as necessary. Adjustments are accounted for on a prospective basis through depreciation expense.

We monitor our long-lived assets for indicators of impairment which may include, but are not limited to, a significant change in the extent to which an asset is utilized and operating or cash flow losses associated with the use of the asset. If circumstances are present that indicate the carrying value of our long-lived assets may not be recoverable, we then perform impairment testing at the asset group level.

Asset groups represent the lowest level at which independent cash flows can be identified. Determining the asset group requires judgment and changes in the way asset groups are defined could have material impact to the results of impairment testing. We perform recoverability testing by comparing the undiscounted cash flows of the asset group to the carrying value of the asset group. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. Details of long-lived asset impairments are included in note 5 to the audited, consolidated financial statements.

Fair Value Measurements

In the normal course of business, we hold and issue financial instruments that contain elements of market risk, including derivatives, marketable securities, finance receivables, pension assets, other investments and debt. Certain of these financial instruments are required to be recorded at fair value, principally derivatives, marketable securities, pension assets and certain other investments. These financial instruments are measured and reported at fair value on a recurring basis based upon a fair value hierarchy (Levels 1, 2 and 3). Fair values are based on listed market prices (Level 1), when such prices are available. To the extent that listed market prices are not available, fair value is determined based on other relevant factors, including dealer price quotations (Level 2). If listed market prices or other relevant factors are not available, inputs are developed from unobservable data reflecting our own assumptions and include situations where there is little or no market activity for the asset or liability (Level 3). Certain financial instruments, including over-the-counter derivative instruments, are valued using pricing models that consider, among other factors, contractual and market prices, correlations, time value, credit spreads and yield curve volatility factors. Changes in the fixed income, foreign currency exchange and commodity markets will impact our estimates of fair value in the future, potentially affecting our results of operations. Further information on our accounting polices relating to fair value measurements can be found in note 1 to the audited, consolidated financial statements.

As of December 31, 2021, the majority of our financial instruments were categorized as either Level 1 or Level 2. Refer to notes 3, 10 and 18 to the audited, consolidated financial statements for further information on these instruments. A quantitative sensitivity analysis of our exposure to changes in commodity prices, foreign currency exchange rates and interest rates is presented in the *Quantitative and Qualitative Disclosures about Market Risk* section of this report.

Within our pension assets, we hold investments in hedge, risk parity, private debt, private equity and real estate funds which are primarily measured using net asset value ("NAV") as a practical expedient for fair value, as appropriate. These investments were valued at $9.6 billion as of December 31, 2021. In order to estimate NAV, we evaluate audited and unaudited financial reports from fund managers and make adjustments for investment activity between the date of the financial reports and December 31st. These investments are not actively traded, and their values can only be estimated using these assumptions. If our estimates of activity changed, this could have a material impact on the reported value of these investments and on the return on assets that we report. Refer to note 6 to the audited, consolidated financial statements for further information on our pension assets.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment or when an asset or disposal group is classified as held for sale.

In accounting for business acquisitions, we allocate the fair value of purchase consideration to the assets acquired and liabilities assumed based on their estimated fair values. Estimating the fair value of assets acquired and liabilities assumed requires judgment, especially with respect to identified intangible assets as there may be limited or no observable transactions within the market, requiring us to develop internal models to estimate fair value. For example, estimating the fair value of identified intangible assets may require us to develop valuation assumptions, including but not limited to, future expected cash flows from identified intangible assets, synergies and the cost of capital. Certain inputs require us to determine assumptions that are reflective of a market participant view of fair value. Changes in any of these assumptions may materially impact the amount we recognize for identifiable assets and liabilities, in addition to the residual amount allocated to goodwill.

Income Taxes

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of income by legal entity and jurisdiction, tax credits, benefits and deductions, and in the calculation of deferred tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes, as well as tax, interest and penalties related to uncertain tax positions. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover a substantial majority of the deferred tax assets recorded on our consolidated balance sheets. However, should there be a change in our ability to recover our deferred tax assets, our tax provision would increase in the period in which we determined that the recovery was not likely.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk*

We are exposed to market risk from changes in certain commodity prices, foreign currency exchange rates, interest rates and equity prices. All of these market risks arise in the normal course of business, as we do not engage in speculative trading activities. In order to manage the risk arising from these exposures, we may utilize a variety of commodity, foreign currency exchange rate and interest rate forward contracts, options and swaps. A discussion of our accounting policy for derivative instruments is provided in note 1 to the audited, consolidated financial statements.

Commodity Price Risk

We are exposed to changes in the prices of refined fuels, principally jet-A, diesel and unleaded gasoline, as well as changes in the price of natural gas and other alternative fuels. Currently, the fuel surcharges that we apply to our domestic and international package services are the primary means of reducing the risk of adverse fuel price changes. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage services. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our results either positively or negatively in the short-term. As of December 31, 2021 and 2020, we had no commodity contracts outstanding.

Foreign Currency Exchange Rate Risk

We have foreign currency risks related to our revenue, operating expenses and financing transactions in currencies other than the local currencies in which we operate. We are exposed to currency risk from the potential changes in functional currency values of our foreign currency-denominated assets, liabilities and cash flows. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We may use forward contracts as well as a combination of purchased and written options to hedge forecasted cash flow currency exposures. These derivative instruments generally cover forecasted foreign currency exposures for periods of 12 to 48 months. We also utilize forward contracts to hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement.

Interest Rate Risk

We have issued debt instruments and debt associated with finance leases that accrue expense at fixed and floating rates of interest. We use interest rate swaps as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment and maturity dates of the swaps match the terms of the associated debt. We may also utilize forward starting swaps and similar instruments to lock in all or a portion of the borrowing cost of anticipated debt issuances. Our floating-rate debt and interest rate swaps subject us to risk resulting from changes in short-term interest rates.

We also are subject to interest rate risk with respect to our pension and postretirement benefit obligations, as changes in interest rates will effectively increase or decrease our liabilities associated with these benefit plans, which also results in changes to the amount of pension and postretirement benefit expense recognized in future periods.

We have investments in debt securities, as well as cash-equivalent instruments, some of which accrue income at variable rates of interest. Additionally, we hold a portfolio of finance receivables that accrue income at fixed and floating rates of interest.

Sensitivity Analysis

The following analysis provides quantitative information regarding our exposure to foreign currency exchange rate risk, interest rate risk and equity price risk embedded in our existing financial instruments. We utilize valuation models to evaluate the sensitivity of the fair value of financial instruments with exposure to market risk that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves and commodity and equity prices. For options and instruments with non-linear returns, models appropriate to the instrument are utilized to determine the impact of market shifts.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that foreign currency exchange rates change in a parallel fashion and that interest rates change instantaneously. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is our best estimate of the impact of the specified interest rate scenarios, these estimates should not be viewed as forecasts. We adjust the fixed and floating interest rate mix of our interest rate sensitive assets and liabilities in response to changes in market conditions. Additionally, changes in the fair value of foreign currency derivatives and commodity derivatives are offset by changes in the cash flows of the underlying hedged foreign currency and commodity transactions.

	Shock-Test Result As of December 31,	
(in millions)	**2021**	**2020**
Change in Fair Value:		
Currency Derivatives[1]	$ (766)	$ (809)
Change in Annual Interest Expense:		
Variable Rate Debt[2]	$ 22	$ 26
Interest Rate Derivatives[2]	$ 10	$ 33

(1) The potential change in fair value from a hypothetical 10% weakening of the U.S. Dollar against local currency exchange rates across all maturities.

(2) The potential change in annual interest expense resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate debt and swap instruments (excluding hedges of anticipated debt issuances).

The sensitivity of our pension and postretirement benefit obligations to changes in interest rates is quantified in *Critical Accounting Estimates*. The sensitivity in the fair value and interest income of our finance receivables and marketable securities due to changes in interest rates was not material as of December 31, 2021 or 2020.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, and cash flows, for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2022, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Valuation of U.S. hedge fund, risk parity, private debt, private equity and real estate investments — Refer to Note 6, Company-Sponsored Employee Benefit Plans (Fair Value Measurements), to the financial statements

Critical Audit Matter Description

The Company's U.S. pension and postretirement medical benefit plans (the "U.S. Plans") held hedge fund, risk parity, private debt, private equity and real estate investments valued at $9.6 billion as of December 31, 2021.

The Company determines the reported values of the U.S. Plans' investments in hedge, risk parity, private debt, private equity and real estate funds primarily based on the estimated net asset value ("NAV") of the fund. In order to estimate NAV, the Company evaluates audited and unaudited financial reports from fund managers, and makes adjustments, as appropriate, for investment activity between the date of the financial reports and December 31st. These investments are not actively traded, and their values can only be estimated using these subjective assumptions.

Auditing the estimated NAV of these hedge fund, risk parity, private debt, private equity and real estate investments requires a high degree of auditor judgment and subjectivity to evaluate the completeness, reliability and relevance of the inputs used by management.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the inputs used by management to estimate the NAV of the U.S. Plans' hedge fund, risk parity, private debt, private equity and real estate investments included the following, among others:

- We tested the effectiveness of controls, including those related to the reliability of values reported by fund managers, the relevance of asset class benchmark returns, and the completeness and accuracy of unobservable inputs related to the underlying assets of the funds.
- For certain investments, we confirmed directly with the respective fund manager its preliminary estimate of the fund's NAV as of December 31, 2021.
- For certain investments, we inquired of management to understand year-over-year changes in the fund manager's estimate of NAV and compared the fund's return on investment to other available qualitative and quantitative information relevant to the fund.
- We evaluated the Company's historical ability to accurately estimate NAV for these funds by comparing each fund's recorded valuation as of its prior fiscal year end to the NAV per the audited fund financial statements (which are received in arrears of the Company's reporting timetable).

Revenue — Refer to Note 2, Revenue Recognition, to the financial statements

Critical Audit Matter Description

Approximately 82 percent of the Company's revenues are from its global small package operations that provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. The Company's global small package revenues are comprised of a significant volume of low-dollar transactions sourced from systems that were primarily developed by the Company. The processing of transactions, including the recording of them, is highly automated and based on contractual terms with the Company's customers.

Auditing global small package revenue required a significant extent of effort and the involvement of professionals with expertise in information technology ("IT") necessary for us to identify, test, and evaluate the Company's systems, software applications and automated controls.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company’s systems to process global small package revenue transactions included the following, among others:

- With the assistance of our IT specialists, we:
  - Identified the significant systems used to process global small package revenue transactions and tested the effectiveness of the general IT controls over each of these systems, including testing of user access controls, change management controls, and IT operations controls.
  - Tested the effectiveness of system interface controls and automated controls within the global small package revenue stream, as well as the controls designed to ensure the accuracy and completeness of revenue.
- We tested the effectiveness of controls over the relevant global small package revenue business processes, including those in place to reconcile the various systems to the Company’s general ledger.
- We performed analytical procedures to evaluate the Company’s recorded revenue and evaluate trends.
- For a sample of customers, we read the Company’s contract with the customer and evaluated the Company’s pattern of revenue recognition for the customer. In addition, we evaluated the accuracy of the Company’s recorded global small package revenue for a sample of customer invoices.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2022

We have served as the Company's auditor since 1969.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In millions)

	December 31, 2021	December 31, 2020
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 10,255	$ 5,910
Marketable securities	338	406
Accounts receivable	12,669	10,888
Less: Allowance for credit losses	(128)	(138)
Accounts receivable, net	12,541	10,750
Assets held for sale	—	1,197
Other current assets	1,800	1,953
Total Current Assets	24,934	20,216
Property, Plant and Equipment, Net	33,475	32,254
Operating Lease Right-Of-Use Assets	3,562	3,073
Goodwill	3,692	3,367
Intangible Assets, Net	2,486	2,274
Investments and Restricted Cash	26	25
Deferred Income Tax Assets	176	527
Other Non-Current Assets	1,054	672
Total Assets	$ 69,405	$ 62,408
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Current maturities of long-term debt, commercial paper and finance leases	$ 2,131	$ 2,623
Current maturities of operating leases	580	560
Accounts payable	7,523	6,455
Accrued wages and withholdings	3,819	3,569
Self-insurance reserves	1,048	1,085
Accrued group welfare and retirement plan contributions	1,038	927
Liabilities to be disposed of	—	347
Other current liabilities	1,430	1,450
Total Current Liabilities	17,569	17,016
Long-Term Debt and Finance Leases	19,784	22,031
Non-Current Operating Leases	3,033	2,540
Pension and Postretirement Benefit Obligations	8,047	15,817
Deferred Income Tax Liabilities	3,125	488
Other Non-Current Liabilities	3,578	3,847
Shareowners' Equity:		
Class A common stock (138 and 147 shares issued in 2021 and 2020)	2	2
Class B common stock (732 and 718 shares issued in 2021 and 2020)	7	7
Additional paid-in capital	1,343	865
Retained earnings	16,179	6,896
Accumulated other comprehensive loss	(3,278)	(7,113)
Deferred compensation obligations	16	20
Less: Treasury stock (0.3 shares in 2021 and 0.4 shares in 2020)	(16)	(20)
Total Equity for Controlling Interests	14,253	657
Noncontrolling Interests	16	12
Total Shareowners' Equity	14,269	669
Total Liabilities and Shareowners' Equity	$ 69,405	$ 62,408

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED INCOME
(In millions, except per share amounts)

	Years Ended December 31,		
	2021	2020	2019
Revenue	$ 97,287	$ 84,628	$ 74,094
Operating Expenses:			
Compensation and benefits	46,707	44,529	38,908
Repairs and maintenance	2,443	2,365	1,838
Depreciation and amortization	2,953	2,698	2,360
Purchased transportation	19,058	15,631	12,590
Fuel	3,847	2,582	3,289
Other occupancy	1,698	1,539	1,392
Other expenses	7,771	7,600	5,919
Total Operating Expenses	84,477	76,944	66,296
Operating Profit	12,810	7,684	7,798
Other Income and (Expense):			
Investment income (expense) and other	4,479	(5,139)	(1,493)
Interest expense	(694)	(701)	(653)
Total Other Income and (Expense)	3,785	(5,840)	(2,146)
Income Before Income Taxes	16,595	1,844	5,652
Income Tax Expense	3,705	501	1,212
Net Income	$ 12,890	$ 1,343	$ 4,440
Basic Earnings Per Share	$ 14.75	$ 1.55	$ 5.14
Diluted Earnings Per Share	$ 14.68	$ 1.54	$ 5.11

STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)
(In millions)

	Years Ended December 31,		
	2021	2020	2019
Net Income	$ 12,890	$ 1,343	$ 4,440
Change in foreign currency translation adjustment, net of tax	(181)	97	48
Change in unrealized gain (loss) on marketable securities, net of tax	(7)	2	6
Change in unrealized gain (loss) on cash flow hedges, net of tax	206	(335)	72
Change in unrecognized pension and postretirement benefit costs, net of tax	3,817	(880)	(1,129)
Comprehensive Income (Loss)	$ 16,725	$ 227	$ 3,437

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED CASH FLOWS
(In millions)

	Years Ended December 31,		
	2021	2020	2019
Cash Flows From Operating Activities:			
Net income	$ 12,890	$ 1,343	$ 4,440
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	2,953	2,698	2,360
Pension and postretirement benefit (income) expense	(2,456)	7,125	3,141
Pension and postretirement benefit contributions	(576)	(3,125)	(2,362)
Self-insurance reserves	178	503	(185)
Deferred tax (benefit) expense	1,645	(858)	100
Stock compensation expense	878	796	915
Other (gains) losses	137	917	74
Changes in assets and liabilities, net of effects of business acquisitions:			
Accounts receivable	(2,147)	(1,562)	(717)
Other assets	312	218	698
Accounts payable	1,265	904	419
Accrued wages and withholdings	(245)	1,631	(446)
Other liabilities	151	(110)	182
Other operating activities	22	(21)	20
Net cash from operating activities	15,007	10,459	8,639
Cash Flows From Investing Activities:			
Capital expenditures	(4,194)	(5,412)	(6,380)
Proceeds from disposal of businesses, property, plant and equipment	872	40	65
Purchases of marketable securities	(312)	(254)	(561)
Sales and maturities of marketable securities	366	360	883
Net change in finance receivables	34	44	13
Cash paid for business acquisitions, net of cash and cash equivalents acquired	(602)	(20)	(6)
Other investing activities	18	(41)	(75)
Net cash used in investing activities	(3,818)	(5,283)	(6,061)
Cash Flows From Financing Activities:			
Net change in short-term debt	—	(2,462)	310
Proceeds from long-term borrowings	—	5,003	5,205
Repayments of long-term borrowings	(2,773)	(3,392)	(3,096)
Purchases of common stock	(500)	(224)	(1,004)
Issuances of common stock	251	285	218
Dividends	(3,437)	(3,374)	(3,194)
Other financing activities	(364)	(353)	(166)
Net cash used in financing activities	(6,823)	(4,517)	(1,727)
Effect Of Exchange Rate Changes On Cash, Cash Equivalents and Restricted Cash	(21)	13	20
Net Increase (Decrease) In Cash, Cash Equivalents and Restricted Cash	4,345	672	871
Cash, Cash Equivalents and Restricted Cash:			
Beginning of period	5,910	5,238	4,367
End of period	$ 10,255	$ 5,910	$ 5,238
Cash Paid During The Period For:			
Interest (net of amount capitalized)	$ 697	$ 691	$ 628
Income taxes (net of refunds)	$ 1,869	$ 1,138	$ 514

See notes to audited, consolidated financial statements.

NOTE 1. SUMMARY OF ACCOUNTING POLICIES

Basis of Financial Statements and Business Activities

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"), and include the accounts of United Parcel Service, Inc., and all of its consolidated subsidiaries (collectively "UPS" or the "Company"). All intercompany balances and transactions have been eliminated.

We provide transportation services, primarily domestic and international letter and package delivery. Through our Supply Chain Solutions subsidiaries, we are also a global provider of transportation, logistics and related services.

Use of Estimates

The preparation of our consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingencies. Estimates have been prepared on the basis of the most current and best information, and actual results could differ materially from those estimates. In particular, a number of estimates have been and will continue to be affected by the ongoing COVID-19 pandemic. The pandemic and its economic consequences remain uncertain, are changing and are difficult to predict. As a result, our accounting estimates and assumptions may change over time.

Revenue Recognition

United States ("U.S.") Domestic and International Package Operations: Revenue is recognized over time as we perform the services in the contract.

Forwarding: Freight forwarding revenue and the expense related to the transportation of freight are recognized over time as we perform the services. Truckload brokerage revenue and related transportation costs are recognized over time as we perform the services. Customs brokerage revenue is recognized upon completing documents necessary for customs entry purposes.

Logistics & Distribution: In our Logistics & Distribution business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

UPS Freight: Prior to divestiture, revenue was recognized over time as we performed the services in the contract. Refer to note 4 for discussion of the divestiture.

Financial Services: Income on loans and direct finance leases is recognized on the effective interest method. Accrual of interest income is suspended at the earlier of the time at which collection of an account becomes doubtful or the account becomes 90 days delinquent. Income on operating leases is recognized on the straight-line method over the terms of the underlying leases.

Refer to note 2 for further discussion of our revenue recognition policies.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments that are readily convertible into cash. We consider securities with maturities of three months or less, when purchased, to be cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

Investments

Debt securities are either classified as trading or available-for-sale securities and are carried at fair value. Unrealized gains and losses on trading securities are reported as *Investment income (expense) and other* on the statements of consolidated income. Unrealized gains and losses on available-for-sale securities are reported as other comprehensive income, a separate component of shareowners' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in *Investment income (expense) and other*, along with interest and dividends. The cost of securities sold is based on the specific identification method; realized gains and losses resulting from such sales are included in *Investment income (expense) and other*.

We periodically review our available-for-sale investments for indications of other-than-temporary impairment considering many factors, including the extent and duration to which a security's fair value has been less than its cost, overall economic and market conditions and the financial condition and specific prospects for the issuer. Impairment of available-for-sale securities results in a charge to income when a market decline below cost is other-than-temporary.

Inventories

Fuel and other materials and supplies inventories are recognized as inventory when purchased, and then charged to expense when used in our operations. Jet fuel, diesel and unleaded gasoline inventories are valued at the lower of average cost or net realizable value. Total inventories were $717 and $620 million as of December 31, 2021 and 2020, respectively, and are included in *Other current assets* in the consolidated balance sheets.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets.

Depreciation and amortization are provided by the straight-line method over the estimated useful lives of the assets, which are as follows:

- Aircraft: 7 to 40 years, based on aircraft type and original aircraft manufacture date
- Buildings: 10 to 40 years
- Leasehold Improvements: lesser of asset useful life or lease term
- Plant Equipment: 3 to 20 years
- Technology Equipment: 3 to 10 years
- Vehicles: 5 to 15 years

For substantially all of our aircraft, the costs of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred.

Interest incurred during the construction period of certain property, plant and equipment is capitalized until the underlying assets are placed in service, at which time amortization of the capitalized interest begins, straight-line, over the estimated useful lives of the related assets. Capitalized interest was $58 and $87 million for the years ended December 31, 2021 and 2020, respectively.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on its undiscounted future cash flows. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We test long-lived assets for impairment at the asset group level, which is the lowest level at which independent cash flows can be identified. Refer to note 5 for a discussion of impairments of property, plant and equipment recognized during the year.

Leased Assets

For a discussion of our accounting policies related to leased assets, refer to note 12.

Goodwill and Intangible Assets

Costs of purchased businesses in excess of net identifiable assets acquired (goodwill) and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. We are required to test goodwill on a reporting unit basis and we complete our annual goodwill impairment evaluation as of July 1st.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We consider several factors, including macroeconomic conditions, industry and market conditions, overall financial performance of the reporting unit, changes in management, strategy or customers and relevant reporting unit-specific events such as a change in the carrying amount of net assets, a more likely than not expectation of selling or disposing of all, or a portion of, a reporting unit, and the testing for recoverability of a significant asset group within a reporting unit. If this qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed for that reporting unit.

If the qualitative assessment is not conclusive, we quantitatively assess the fair value of a reporting unit to test goodwill for impairment. We assess the fair value of a reporting unit using a combination of discounted cash flow modeling and observable valuation multiples for comparable companies. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we record the excess amount as goodwill impairment, not to exceed the total amount of goodwill allocated to the reporting unit.

When performing impairment tests of indefinite-lived intangible assets, the estimated fair value is compared to the carrying value of the asset. If the carrying value of the asset exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value.

Finite-lived intangible assets, including trademarks, licenses, patents, customer lists, non-compete agreements and franchise rights are amortized on a straight-line basis over the estimated useful lives of the assets, which range from 2 to 22 years. Capitalized software is generally amortized over 7 years.

Assets Held for Sale

We classify long-lived assets or disposal groups as held for sale in the period when all of the following conditions have been met:

- we have approved and committed to a plan to sell the assets or disposal group;
- the asset or disposal group is available for immediate sale in its present condition;
- an active program to locate a buyer and other actions required to complete the sale have been initiated;
- the sale of the asset or disposal group is probable and expected to be completed within one year;
- the asset or disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and
- it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

We initially measure a long-lived asset or disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell and recognize any loss in the period in which the held for sale criteria are met. Gains are not recognized until the date of sale. We cease depreciation and amortization of a long-lived asset, or assets within a disposal group, upon their designation as held for sale and subsequently assess fair value less any costs to sell at each reporting period until the asset or disposal group is no longer classified as held for sale.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Self-insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. The expected ultimate cost for claims incurred is estimated based upon historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of our reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely resolve. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve a claim. Several factors can affect the actual cost, or severity, of a claim, including the length of time the claim remains open, trends in healthcare costs, the results of any related litigation and changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior year at a rate that differs from actuarial projections. All these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. We believe our estimated reserves for such claims are adequate, but actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations.

We also sponsor a number of health and welfare insurance plans for our employees. Liabilities and expenses related to these plans are based on estimates of the number of employees and eligible dependents covered under the plans, global health events, anticipated medical usage by participants and overall trends in medical costs and inflation.

Pension and Postretirement Benefits

We incur certain employment-related expenses associated with pension and postretirement medical benefits. These pension and postretirement medical benefit costs for company-sponsored defined benefit plans are calculated using various actuarial assumptions and methodologies, including discount rates, expected returns on plan assets, healthcare cost trend rates, inflation, compensation increase rates, mortality rates and coordination of benefits with plans not sponsored by UPS. Actuarial assumptions are reviewed on an annual basis, unless circumstances require an interim remeasurement of any of our plans.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plan's projected benefit obligation) in *Investment income (expense) and other* upon remeasurement of a plan. The remaining components of pension expense, primarily service and interest costs and the expected return on plan assets, are recorded ratably on a quarterly basis.

We recognize expense for required contributions to defined contribution plans quarterly, and we recognize a liability for any contributions due and unpaid within *Accrued group welfare and retirement plan contributions*.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. Our contributions to these plans are determined in accordance with the respective collective bargaining agreements. We recognize expense for the contractually required contribution for each period, and we recognize a liability for any contributions due and unpaid within *Accrued group welfare and retirement plan contributions*.

Income Taxes

Income taxes are accounted for on an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than proposed changes in the tax law or rates. Valuation allowances are provided if it is more likely than not that a deferred tax asset will not be realized. Our current accounting policy for releasing income tax effects from other comprehensive income is based on a portfolio approach.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

Foreign Currency Translation and Remeasurement

We translate the results of operations of our foreign subsidiaries using average exchange rates during each period, whereas balance sheet accounts are translated using exchange rates at the end of each period. Balance sheet currency translation adjustments are recorded in other comprehensive income. Pre-tax foreign currency transaction gains (losses) from remeasurement, net of hedging, included in *Investment income (expense) and other* were $(36), $9 and $(6) million in 2021, 2020 and 2019, respectively.

Stock-Based Compensation

All share-based awards to employees are measured based on their fair values and expensed over the period during which an employee is required to provide service in exchange for the award (the vesting period), less estimated forfeitures. We have issued employee share-based awards under various incentive compensation plans that contain vesting conditions, including service conditions, where the awards cliff vest or vest ratably over a one, three, or five year period (the "nominal vesting period") or at the date the employee retires (as defined by the plan), if earlier. Compensation cost is generally recognized immediately for awards granted to retirement-eligible employees, or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. We estimate forfeiture rates based on historical rates of forfeitures for awards with similar characteristics, historical and projected rates of employee turnover and the nature and terms of the vesting conditions of the awards. We reevaluate our forfeiture rates on an annual basis.

Fair Value Measurements

Our financial assets and liabilities measured at fair value on a recurring basis have been categorized based upon a fair value hierarchy. Level 1 inputs utilize quoted prices in active markets for identical assets or liabilities. Level 2 inputs are based on other observable market data, such as quoted prices for similar assets and liabilities, and inputs other than quoted prices that are observable, such as interest rates and yield curves. Level 3 inputs are developed from unobservable data reflecting our own assumptions, and include situations where there is little or no market activity for the asset or liability.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment. A general description of the valuation methodologies used for assets and liabilities measured at fair value, including the general classification of such assets and liabilities pursuant to the valuation hierarchy, is included in each footnote with fair value measurements present.

For business acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Following the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Derivative Instruments

We recognize all derivative instruments as assets or liabilities in the consolidated balance sheets at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, we designate the derivative as a cash flow hedge, a fair value hedge or a hedge of a net investment in a foreign operation based upon the exposure being hedged.

A cash flow hedge refers to hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. For derivative instruments that are designated and qualify as cash flow hedges, the gain or loss on the derivative instrument is reported as a component of other comprehensive income, and reclassified into earnings in the period during which the hedged transaction affects earnings.

A fair value hedge refers to hedging the exposure to changes in the fair value of an existing asset or liability that is attributable to a particular risk. For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative instrument is recognized during the current period, as well as the offsetting gain or loss on the hedged item.

A net investment hedge refers to the use of cross currency swaps, forward contracts or foreign currency denominated debt to hedge portions of net investments in foreign operations. For instruments that meet the hedge accounting requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in the foreign currency translation adjustment within other comprehensive income, and are recorded in the income statement when the hedged item affects earnings.

Adoption of New Accounting Standards

In June 2016, the FASB issued an ASU introducing an expected credit loss methodology for the measurement of financial assets not accounted for at fair value. The methodology replaced the probable, incurred loss model for those assets. We adopted this standard on January 1, 2020 by updating our process for calculating our allowance for credit losses to include reasonable and supportable forecasts that could affect expected collectability. As of December 31, 2021, we decreased our allowance for credit losses by $10 million, primarily based upon improvements in customer collections.

In January 2017, the FASB issued an ASU to simplify the accounting for goodwill impairment by eliminating the requirement to calculate the implied fair value of goodwill using a hypothetical purchase price allocation. Under this ASU, goodwill impairment is the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. We adopted this standard on January 1, 2020, applying the simplified approach to calculate the goodwill impairment charge of $494 million that we recorded in 2020 in conjunction with the divestiture of UPS Freight.

In December 2019, the FASB issued an ASU to simplify the accounting for income taxes. The update removes certain exceptions to the general income tax principles. Effective October 1, 2020, we early adopted this ASU. It did not have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2020, the FASB issued ASU 2020-04, Reference Rate Reform (Topic 848), to temporarily ease the potential burden in accounting for reference rate reform. The standard provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform. The guidance was effective upon issuance and at present can generally be applied through December 31, 2022. We are evaluating the potential impacts of reference rate reform on our various contractual positions to determine whether we may apply any of the practical expedients set forth in this standard; however, we do not expect reference rate reform to have a material impact on our consolidated financial position, results of operations or cash flows.

Other accounting pronouncements adopted during the periods covered by the consolidated financial statements did not have a material impact on our consolidated financial position, results of operations or cash flows.

Accounting Standards Issued But Not Yet Effective

Accounting pronouncements issued, but not effective until after December 31, 2021, are not expected to have a material impact on our consolidated financial position, results of operations or cash flows.

NOTE 2. REVENUE RECOGNITION

Revenue Recognition

Substantially all of our revenues are from contracts associated with the pickup, transportation and delivery of packages and freight ("transportation services") domestically and internationally. These services may be carried out by or arranged by us and generally occur over a short period of time. Additionally, we provide value-added logistics services to customers, both domestically and internationally, through our global network of company-owned and leased distribution centers and field stocking locations.

Disaggregation of Revenue

	Year Ended December 31,		
	2021	2020	2019
Revenue:			
Next Day Air	$ 10,009	$ 8,522	$ 8,479
Deferred	5,846	5,665	5,180
Ground	44,462	39,312	32,834
U.S. Domestic Package	$ 60,317	$ 53,499	$ 46,493
Domestic	$ 3,690	$ 3,160	$ 2,836
Export	15,012	12,159	10,837
Cargo & Other	839	626	547
International Package	$ 19,541	$ 15,945	$ 14,220
Forwarding	$ 9,872	$ 6,975	$ 5,867
Logistics	4,767	4,073	3,435
Freight	1,064	3,149	3,265
Other	1,726	987	814
Supply Chain Solutions	$ 17,429	$ 15,184	$ 13,381
Consolidated revenue	$ 97,287	$ 84,628	$ 74,094

We account for a contract when both parties have approved the contract and are committed to perform their obligations, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the basis of revenue recognition in accordance with GAAP. To determine the proper revenue recognition method for contracts, we evaluate whether two or more contracts should be combined and accounted for as a single contract, and whether the combined or single contract should be accounted for as more than one performance obligation. This evaluation requires judgment, and the decision to combine a group of contracts or separate the combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period. Within most of our contracts, the customer contracts with us to provide distinct services, such as transportation services. The vast majority of our contracts with customers for transportation services include only one performance obligation; the transportation services themselves. However, if a contract is separated into more than one performance obligation, we allocate the total transaction price to each performance obligation based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. We frequently sell standard transportation services with observable standalone sales prices. In these instances, the observable standalone sales are used to determine the standalone selling price.

In certain business units, such as Logistics, we sell customized, customer-specific solutions in which we integrate a complex set of tasks and components into a single capability (even if that single capability results in the delivery of multiple units). Hence, the entire contract is accounted for as one performance obligation. In these cases we typically use the expected cost plus a margin approach to estimate the standalone selling price of each performance obligation.

Satisfaction of Performance Obligations

We generally recognize revenue over time as we perform the services in the contract because of the continuous transfer of control to the customer. Our customers receive the benefit of our services as the goods are transported from one location to another. Further, if we were unable to complete delivery to the final location, another entity would not need to reperform the transportation service already performed.

As control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. We use the cost-to-cost measure of progress for our package delivery contracts because it best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including ancillary or accessorial fees and reductions for estimated customer incentives, are recorded proportionally as costs are incurred. Costs to fulfill include labor and other direct costs and an allocation of indirect costs. For our freight forwarding contracts, an output method of progress based on time-in-transit is utilized as the timing of costs incurred does not best depict the transfer of control to the customer. In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date; therefore we recognize revenue in the amount to which we have a right to invoice the customer.

Variable Consideration

It is common for our contracts to contain customer incentives, guaranteed service refunds or other provisions that can either increase or decrease the transaction price. These variable amounts are generally dependent upon achievement of certain incentive tiers or performance metrics. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts of revenue, which may be reduced by incentives or other contract provisions, in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of anticipated customer spending and all information (historical, current and forecasted) that is reasonably available to us.

Contract Modifications

Contracts are often modified to account for changes in the rates we charge our customers or to add additional, distinct services. We consider contract modifications to exist when the modification either creates new, or changes the existing, enforceable rights and obligations. Contract modifications that add distinct goods or services are treated as separate contracts. Contract modifications that do not add distinct goods or services typically change the price of existing services. These contract modifications are accounted for prospectively as the remaining performance obligations are distinct.

Payment Terms

Under the typical payment terms of our customer contracts, the customer pays at periodic intervals, which are generally seven days within our U.S. Domestic Package business, for shipments included on invoices received.

Invoices are generated each week on the week-ending day, which is Saturday for the majority of our U.S. Domestic Package business, but could be another day depending on the business unit or the specific agreement with the customer. It is not customary business practice to extend payment terms past 90 days, and as such, we do not have a practice of including a significant financing component within our contracts with customers.

Principal vs. Agent Considerations

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. GAAP requires us to evaluate, using a control model, whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as an agent). Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than an agent within their revenue arrangements. Revenue and the associated purchased transportation costs are both reported on a gross basis within our statements of consolidated income.

Accounts Receivable, Net

Accounts receivable, net, include amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. Losses on accounts receivable are recognized when reasonable and supportable forecasts affect the expected collectability. This requires us to make our best estimate of the current expected losses inherent in our accounts receivable at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, forward-looking indicators, trends in customer payment frequency, and judgments about the probable effects of relevant observable data, including present and future economic conditions and the financial health of specific customers and market sectors. Our risk management process includes standards and policies for reviewing major account exposures and concentrations of risk.

We decreased our allowance for expected credit losses by $10 million during 2021 based upon current forecasts that reflect changes in the economic outlook. Our allowance for credit losses as of December 31, 2021 and 2020 was $128 and $138 million, respectively. Amounts for credit losses charged to expense before recoveries during the twelve months ended December 31, 2021 and 2020 were $175 and $254 million, respectively.

Contract Assets and Liabilities

Contract assets include billed and unbilled amounts resulting from in-transit packages, as we have an unconditional right to payment only once all performance obligations have been completed (i.e., packages have been delivered) and our right to payment is not solely based on the passage of time. Amounts may not exceed their net realizable value. Contract assets are generally classified as current and the full balance is converted each quarter based on the short-term nature of the transactions.

Contract liabilities consist of advance payments and billings in excess of revenue as well as deferred revenue. Advance payments and billings in excess of revenue represent payments received from our customers that will be earned over the contract term. Deferred revenue represents the amount of consideration due from customers related to in-transit shipments that has not yet been recognized as revenue based on our selected measure of progress. We classify advance payments and billings in excess of revenue as either current or long-term, depending on the period over which the advance payment will be earned. We classify deferred revenue as current based on the timing of when we expect to recognize revenue, which typically occurs within a short window after period-end. The full balance of deferred revenue is converted each quarter based on the short-term nature of the transactions. Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. In order to determine revenue recognized in the period from contract liabilities, we first allocate revenue to the individual contract liability balance outstanding at the beginning of the period until the revenue exceeds that deferred revenue balance.

Contract assets related to in-transit packages were $304 and $279 million as of December 31, 2021 and 2020, respectively, net of deferred revenue related to in-transit packages of $314 and $279 million as of December 31, 2021 and 2020, respectively. Contract assets are included within *Other current assets* in the consolidated balance sheets. Short-term contract liabilities related to advance payments from customers were $27 and $21 million as of December 31, 2021 and 2020, respectively. Short-term contract liabilities are included within *Other current liabilities* in the consolidated balance sheets. Long-term contract liabilities related to advance payments from customers were $25 and

$26 million as of December 31, 2021 and 2020, respectively. Long-term contract liabilities are included within *Other Non-Current Liabilities* in the consolidated balance sheets.

NOTE 3. INVESTMENTS AND RESTRICTED CASH

The following is a summary of marketable securities classified as trading and available-for-sale as of December 31, 2021 and 2020 (in millions):

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2021				
Current trading marketable securities:				
Corporate debt securities	$ —	$ —	$ —	$ —
Equity securities	2	—	—	2
Total trading marketable securities	2	—	—	2
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	199	2	(1)	200
Mortgage and asset-backed debt securities	7	—	—	7
Corporate debt securities	121	—	—	121
U.S. state and local municipal debt securities	5	—	—	5
Non-U.S. government debt securities	3	—	—	3
Total available-for-sale marketable securities	335	2	(1)	336
Total current marketable securities	$ 337	$ 2	$ (1)	$ 338

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2020				
Current trading marketable securities:				
Corporate debt securities	$ —	$ —	$ —	$ —
Equity securities	2	—	—	2
Total trading marketable securities	2	—	—	2
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	181	3	—	184
Mortgage and asset-backed debt securities	30	1	—	31
Corporate debt securities	174	4	—	178
Non-U.S. government debt securities	11	—	—	11
Total available-for-sale marketable securities	396	8	—	404
Total current marketable securities	$ 398	$ 8	$ —	$ 406

Total current marketable securities that were pledged as collateral for our self-insurance requirements had an estimated fair value of $336 and $404 million as of December 31, 2021 and 2020, respectively.

The gross realized gains on sales of available-for-sale marketable securities totaled $7, $5 and $8 million in 2021, 2020 and 2019, respectively. The gross realized losses on sales of available-for-sale marketable securities totaled $2, $0 and $2 million in 2021, 2020 and 2019, respectively.

There were no material impairment losses recognized on marketable securities during 2021, 2020 or 2019.

Investment Impairments

We have concluded that no material impairment losses existed as of December 31, 2021. In making this determination, we considered the financial condition and prospects of each issuer, the magnitude of the losses compared with the cost, the probability that we will be unable to collect all amounts due according to the contractual terms of the security, the credit rating of the security and our ability and intent to hold these investments until the anticipated recovery in market value occurs.

Unrealized Losses

The following table presents the age of gross unrealized losses and fair value by investment category for all securities in a loss position as of December 31, 2021 (in millions):

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. government and agency debt securities	$ 145	$ (1)	$ 55	$ —	$ 200	$ (1)
Mortgage and asset-backed debt securities	6	—	—	—	6	—
Corporate debt securities	44	—	20	—	64	—
U.S. state and local municipal debt securities	5	—	—	—	5	—
Total marketable securities	$ 200	$ (1)	$ 75	$ —	$ 275	$ (1)

The unrealized losses for the U.S. government and agency debt securities are primarily due to changes in market interest rates. We have both the intent and ability to hold these securities for the time necessary to recover the cost basis.

Maturity Information

The amortized cost and estimated fair value of marketable securities as of December 31, 2021, by contractual maturity, are shown below (in millions). Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations with or without prepayment penalties.

	Cost	Estimated Fair Value
Due in one year or less	$ 31	$ 31
Due after one year through three years	304	305
Due after three years through five years	—	—
Due after five years	—	—
	335	336
Equity securities	2	2
	$ 337	$ 338

Non-Current Investments and Restricted Cash

We hold an investment in a variable life insurance policy to fund benefits for the UPS Excess Coordinating Benefit Plan. The investment had a fair market value of $23 million as of both December 31, 2021 and 2020. Changes in investment fair value are recognized in *Investment income (expense) and other* in the statements of consolidated income. Additionally, we held cash in escrow related to the acquisition and disposition of certain assets of $3 and $2 million as of December 31, 2021 and 2020, respectively. These amounts are classified as *Investments and Restricted Cash* in the consolidated balance sheets.

A reconciliation of cash and cash equivalents and restricted cash from the consolidated balance sheets to the statements of consolidated cash flows is shown below (in millions):

	December 31, 2021	December 31, 2020	December 31, 2019
Cash and cash equivalents	$ 10,255	$ 5,910	$ 5,238
Restricted cash	—	—	—
Total cash, cash equivalents and restricted cash	$ 10,255	$ 5,910	$ 5,238

Fair Value Measurements

Marketable securities valued utilizing Level 1 inputs include active exchange-traded equity securities and equity index funds, and most U.S. government debt securities, as these securities all have quoted prices in active markets. Marketable securities valued utilizing Level 2 inputs include asset-backed securities, corporate bonds and municipal bonds. These securities are valued using market corroborated pricing, matrix pricing or other models that utilize observable inputs such as yield curves.

The following table presents information about our investments measured at fair value on a recurring basis as of December 31, 2021 and 2020, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Total**
2021				
Marketable Securities:				
U.S. government and agency debt securities	$ 200	$ —	$ —	$ 200
Mortgage and asset-backed debt securities	—	7	—	7
Corporate debt securities	—	121	—	121
U.S. state and local municipal debt securities		5	—	5
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	3	—	3
Total marketable securities	200	138	—	338
Other non-current investments	23	—	—	23
Total	$ 223	$ 138	$ —	$ 361

	Quoted Prices in Active Markets for Identical Assets (Level 1)	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**	**Total**
2020				
Marketable Securities:				
U.S. government and agency debt securities	$ 184	$ —	$ —	$ 184
Mortgage and asset-backed debt securities	—	31	—	31
Corporate debt securities	—	178	—	178
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	11	—	11
Total marketable securities	184	222	—	406
Other non-current investments	23	—	—	23
Total	$ 207	$ 222	$ —	$ 429

There were no material transfers of investments between Level 1 and Level 2 during 2021 or 2020.

NOTE 4. ASSETS HELD FOR SALE

As previously disclosed, on January 24, 2021, we entered into an agreement to divest our UPS Freight business to TFI International Inc. for $800 million, subject to working capital and other adjustments.

As of December 31, 2020, we classified UPS Freight as held for sale and, as a result, recognized a total pre-tax impairment charge of $686 million ($629 million after tax), comprised of a goodwill impairment charge of $494 million and a valuation allowance of $192 million to adjust the carrying value of the disposal group to fair value less cost to sell. As of March 31, 2021, we increased the valuation allowance by $66 million ($50 million after tax) to adjust the carrying value of the disposal group to our revised estimate of fair value less cost to sell.

On April 30, 2021, we completed the divestiture for cash proceeds of $848 million, which included our estimate of working capital and other adjustments. Self-insurance reserves for UPS Freight and obligations for benefits earned within UPS-sponsored pension and postretirement medical benefit plans were retained by us. In connection with the completion of the divestiture, we remeasured and amended certain of our company-sponsored U.S. pension and postretirement medical benefit plans, resulting in a $2.1 billion reduction in the obligations included in our consolidated balance sheet. Also in connection with the completion of the divestiture, we recorded a pre-tax gain of $101 million ($77 million after tax), which included the impact of the plan remeasurements and plan amendments.

For the twelve months ended December 31, 2021, we recorded a net pre-tax gain of $46 million ($35 million after tax). The activity was recognized within *Other expenses* in the statements of consolidated income.

UPS and TFI also entered into an agreement for UPS Freight to continue to utilize our U.S. Domestic Package network to fulfill shipments for an initial period of five years. UPS also agreed to provide certain other services to TFI for a transitional period. We recognize our performance under commercial agreements as revenue in the statements of consolidated income, with the associated expenses presented in the respective line items of operating expenses.

The following table summarizes the carrying values of the assets and liabilities classified as held for sale in our consolidated balance sheets as of December 31, 2021 and 2020 (in millions):

	2021	2020
Assets:		
Accounts receivable, net	$ —	$ 263
Other current assets	—	62
Property, plant and equipment, net	—	940
Other non-current assets	—	124
Total assets	—	1,389
Valuation allowance	—	(192)
Total assets held for sale	$ —	$ 1,197
Liabilities:		
Accounts payable	$ —	$ 50
Other current liabilities	—	112
Other non-current liabilities	—	185
Total liabilities to be disposed of	$ —	$ 347
Net assets held for sale	$ —	$ 850

NOTE 5. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including both owned assets as well as assets subject to finance leases, consists of the following as of December 31, 2021 and 2020 (in millions):

	2021	2020
Vehicles	$ 10,018	$ 9,786
Aircraft	21,973	20,549
Land	2,140	2,052
Buildings	5,802	5,425
Building and leasehold improvements	5,010	4,921
Plant equipment	15,650	14,684
Technology equipment	2,798	2,626
Construction-in-progress	1,418	2,048
	64,809	62,091
Less: Accumulated depreciation and amortization	(31,334)	(29,837)
Property, Plant and Equipment, Net	$ 33,475	$ 32,254

Property, plant and equipment purchased on account was $248 and $319 million as of December 31, 2021 and 2020, respectively.

We continually monitor our aircraft fleet utilization in light of current and projected volume levels, aviation fuel prices and other factors. Additionally, we monitor all other property, plant and equipment categories for any indicators that the carrying value of the assets may not be recoverable. We recognized impairment charges of $71 million during the year ended December 31, 2021, due to the reevaluation of certain facility projects. There were no material impairment charges during the year ended December 31, 2020.

NOTE 6. COMPANY-SPONSORED EMPLOYEE BENEFIT PLANS

We sponsor various retirement and pension plans, including defined benefit and defined contribution plans which cover our employees worldwide.

U.S. Pension Benefits

In the U.S. we maintain the following single-employer defined benefit pension plans: the UPS Retirement Plan, the UPS Pension Plan, the UPS/IBT Full-Time Employee Pension Plan and the UPS Excess Coordinating Benefit Plan, a non-qualified plan.

The UPS Retirement Plan is noncontributory and includes substantially all eligible employees of participating domestic subsidiaries hired prior to July 1, 2016 who are not members of a collective bargaining unit, as well as certain employees covered by a collective bargaining agreement. This plan generally provides for retirement benefits based on average compensation earned by employees prior to retirement. Benefits payable under this plan are subject to maximum compensation limits and the annual benefit limits for a tax-qualified defined benefit plan as prescribed by the Internal Revenue Service (“IRS”).

The UPS Pension Plan is noncontributory and includes certain eligible employees of participating domestic subsidiaries and members of collective bargaining units that elect to participate in the plan. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS/IBT Full-Time Employee Pension Plan is noncontributory and includes employees that were previously members of the Central States Pension Fund ("CSPF"), a multiemployer pension plan, in addition to other eligible employees who are covered under certain collective bargaining agreements. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS Excess Coordinating Benefit Plan is a non-qualified plan that provides benefits to certain participants in the UPS Retirement Plan, hired prior to July 1, 2016, for amounts that exceed the benefit limits described above.

The UPS Retirement Plan and the UPS Excess Coordinating Benefit Plan will cease accruals of additional benefits for future service and compensation for non-union participants effective January 1, 2023.

During the fourth quarter of 2019, certain former U.S. employees were offered the option to receive a one-time payment of their vested pension benefit. Approximately 18,800 former employees accepted this option, accelerating $820 million in benefit payments during 2019 while reducing the number of participants who are due future payments from U.S. pension plans. As the cost of these settlements did not exceed the plans' service cost and interest cost for the year, the impact of the settlement was not recognized in earnings.

On April 30, 2021, we completed the divestiture of UPS Freight as discussed in note 4. The divestiture triggered an interim remeasurement of certain UPS-sponsored pension and postretirement medical benefit plans under Accounting Standards Codification Topic 715- Compensation- Retirement Benefits (“ASC 715”). Accordingly, we remeasured the plan assets and benefit obligations of the UPS Pension Plan, UPS Retirement Plan and UPS Retired Employee Health Care Plan as of April 30, 2021.

The interim remeasurement resulted in an actuarial gain of $2.1 billion. The actuarial gain reflects a $3.7 billion benefit from a 49 basis point increase in the discount rate compared to December 31, 2020 and a $0.1 billion benefit related to workforce reductions associated with the divestiture, offset by a $1.7 billion loss resulting from actual returns being approximately 430 basis points below expected returns. The $2.1 billion actuarial gain was recorded in accumulated other comprehensive income ("AOCI") within the equity section of the consolidated balance sheet. A pre-tax actuarial gain of $69 million ($52 million after tax) was immediately recognized for a prior service credit related to the divested group in the statement of consolidated income for the second quarter. We also amended certain benefit terms within these plans as of April 30, 2021. The amendment to the UPS Pension Plan resulted in the immediate recognition of a $66 million ($50 million after tax) loss in the statement of consolidated income for the second quarter.

The impacts of the plan remeasurements and plan amendments are included within *Other expenses* in the statements of consolidated income as components of the divestiture of UPS Freight.

International Pension Benefits

We also sponsor various defined benefit plans covering certain of our international employees. The majority of our international obligations are for defined benefit plans in Canada and the United Kingdom. In addition, many of our international employees are covered by government-sponsored retirement and pension plans. We are not directly responsible for providing benefits to participants of government-sponsored plans.

U.S. Postretirement Medical Benefits

We also sponsor postretirement medical plans in the U.S. that provide healthcare benefits to our non-union retirees, as well as select union retirees who meet certain eligibility requirements and who are not otherwise covered by multiemployer plans. Generally, this includes employees with at least 10 years of service who have reached age 55 and employees who are eligible for postretirement medical benefits from a Company-sponsored plan pursuant to collective bargaining agreements. We have the right to modify or terminate certain of these plans. These benefits have been provided to certain retirees on a noncontributory basis; however, in many cases, retirees are required to contribute all or a portion of the total cost of the coverage.

Defined Contribution Plans

We sponsor a defined contribution plan for employees not covered under collective bargaining agreements, and several smaller defined contribution plans for certain employees covered under collective bargaining agreements. We match, in shares of UPS common stock or cash, a portion of the participating employees' contributions. Matching contributions charged to expense were $153, $139 and $130 million for 2021, 2020 and 2019, respectively.

In addition to current benefits under the UPS 401(k) Savings Plan, non-union employees hired after July 1, 2016, receive a retirement contribution. UPS contributes 3% to 8% of eligible pay to the UPS 401(k) Savings Plan based on years of vesting service and business unit. Contributions under this plan are subject to maximum compensation and contribution limits for a tax-qualified defined contribution plan as prescribed by the IRS. The UPS Restoration Savings Plan is a non-qualified plan that provides benefits to certain participants in the UPS 401(k) Savings Plan for amounts that exceed the benefit limits described above. Contributions charged to expense were $107, $84 and $67 million for 2021, 2020 and 2019 respectively.

On June 23, 2017, the Company amended the UPS 401(k) Savings Plan so that non-union employees who currently participate in the UPS Retirement Plan will, in addition to current benefits under the UPS 401(k) Savings Plan, earn a retirement contribution beginning January 1, 2023. UPS will contribute 5% to 8% of eligible compensation to the UPS 401(k) Savings Plan based on years of vesting service. The amendment also provides for transition contributions for certain participants. There was no impact to the statements of consolidated income for 2021, 2020 and 2019 as a result of this change.

Contributions are also made to defined contribution money purchase plans under certain collective bargaining agreements. Amounts charged to expense were $112, $107 and $97 million for 2021, 2020 and 2019, respectively.

Net Periodic Benefit Cost

Information about net periodic benefit cost for the company-sponsored pension and postretirement defined benefit plans is as follows (in millions):

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Net Periodic Benefit Cost:									
Service cost	$ 1,897	$ 1,853	$ 1,439	$ 28	$ 29	$ 23	$ 76	$ 67	$ 57
Interest cost	1,948	1,977	2,067	81	91	108	38	40	47
Expected return on plan assets	(3,327)	(3,549)	(3,130)	(5)	(8)	(8)	(68)	(86)	(76)
Amortization of prior service cost	139	218	218	7	7	7	2	2	2
Actuarial (gain) loss	(3,284)	6,211	2,296	24	246	37	(12)	27	54
Net periodic benefit cost	$ (2,627)	$ 6,710	$ 2,890	$ 135	$ 365	$ 167	$ 36	$ 50	$ 84

Actuarial Assumptions

The table below provides the weighted-average actuarial assumptions used to determine the net periodic benefit cost:

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2021	**2020**	**2019**	**2021**	**2020**	**2019**	**2021**	**2020**	**2019**
Service cost discount rate	2.90 %	3.60 %	4.50 %	2.88 %	3.59 %	4.51 %	2.38 %	3.01 %	3.58 %
Interest cost discount rate	2.90 %	3.60 %	4.50 %	2.88 %	3.59 %	4.51 %	2.22 %	2.67 %	3.25 %
Rate of compensation increase	4.50 %	4.22 %	4.25 %	N/A	N/A	N/A	2.93 %	3.00 %	3.24 %
Expected return on plan assets	6.50 %	7.77 %	7.75 %	3.65 %	7.20 %	7.20 %	3.68 %	5.55 %	5.69 %
Cash balance interest credit rate	2.50 %	2.50 %	2.98 %	N/A	N/A	N/A	2.74 %	2.59 %	3.17 %

The table below provides the weighted-average actuarial assumptions used to determine the benefit obligations of our plans:

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**
Discount rate	3.13 %	2.90 %	3.28 %	2.88 %	2.33 %	1.94 %
Rate of compensation increase	4.29 %	4.21 %	N/A	N/A	3.17 %	2.93 %
Cash balance interest credit rate	2.50 %	2.50 %	N/A	N/A	2.94 %	2.74 %

A discount rate is used to determine the present value of our future benefit obligations. To determine the discount rate for our U.S. pension and postretirement benefit plans, we use a bond matching approach to select specific bonds that would satisfy our projected benefit payments. We believe the bond matching approach reflects the process we would employ to settle our pension and postretirement benefit obligations. For our international plans, the discount rate is determined by matching the expected cash flows of the plan, where available, or of a sample plan of similar duration, to a yield curve based on long-term, high quality fixed income debt instruments available as of the measurement date. These assumptions are updated each measurement date, which is typically annually.

As of December 31, 2021, the impact of each basis point change in the discount rate on the projected benefit obligation of our pension and postretirement medical benefit plans is as follows (in millions):

	Increase (Decrease) in the	
	Pension Benefits	
One basis point increase in discount rate	$	(100)
One basis point decrease in discount rate	$	106

The Society of Actuaries ("SOA") published mortality tables and improvement scales are used in developing the best estimate of mortality for our U.S. plans. In October 2021, the SOA published an updated improvement scale which slightly increased expected mortality improvements from previously published improvement scales. Based on our perspective of future longevity, we updated the mortality assumptions to incorporate the improvement scale for purposes of measuring pension and other postretirement benefit obligations.

Assumptions for the expected return on plan assets are used to determine a component of net periodic benefit cost for the year. The assumption for our U.S. plans is developed using a long-term projection of returns for each asset class. Our asset allocation targets are reviewed and, if necessary, updated taking into consideration plan changes, funded status and actual performance. The expected return for each asset class is a function of passive, long-term capital market assumptions and excess returns generated from active management. The capital market assumptions used are provided by independent investment advisors, while excess return assumptions are supported by historical performance, fund mandates and investment expectations.

For plans outside the U.S., consideration is given to local market expectations of long-term returns. Strategic asset allocations are determined by plan, based on the nature of liabilities and considering the demographic composition of the plan participants.

Actuarial Assumptions - Central States Pension Fund

UPS was a contributing employer to the CSPF until 2007 at which time UPS withdrew from the CSPF and paid a $6.1 billion withdrawal liability to satisfy our allocable share of unfunded vested benefits. Under a collective bargaining agreement with the International Brotherhood of Teamsters ("IBT"), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 ("the UPS Transfer Group") in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF.

Under this withdrawal agreement, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law. The financial crisis of 2008 created extensive asset losses at the CSPF, contributing to the plan's projected insolvency, at which time benefits would be reduced to the legally permitted Pension Benefit Guaranty Corporation ("PBGC") limits, triggering the coordination of benefits provision in the collective bargaining agreement.

In 2014, Congress passed the Multiemployer Pension Reform Act ("MPRA"). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury ("Treasury"). In 2016, Treasury rejected the proposed plan submitted by the CSPF.

In light of its financial difficulties, the CSPF stated that it believed a legislative solution to its funded status would be necessary or that it would become insolvent in 2025, at which time benefits would be reduced to the applicable PBGC benefit levels.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under ASC 715, which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date and at interim periods when a significant event occurs. ASC 715 does not permit anticipation of changes in law when developing a best estimate.

At the December 31, 2020 measurement date, we developed our best estimate for the potential obligation to pay coordinating benefits to the UPS Transfer Group using a deterministic cash flow projection that reflected estimated CSPF cash flows and investment earnings, the lack of legislative action having been taken, the expectation of payment of guaranteed benefits by the PBGC and the lack of a benefit reduction plan under MPRA having been filed by the CSPF. As a result, our best estimate at that time of the obligation for coordinating benefits that may have been required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group was $5.5 billion.

In March 2021, the American Rescue Plan Act ("ARPA") was enacted into law. The ARPA contains provisions that allow for qualifying financially distressed multiemployer pension plans to apply for special financial assistance ("SFA") from the PBGC, which will be funded by Treasury. Following approval of an application, a qualifying multiemployer pension plan will receive a lump sum payment to enable it to continue paying unreduced benefits through 2051. The multiemployer plan is not obligated to repay the SFA. The ARPA is intended to prevent both the PBGC and certain financially distressed multiemployer pension plans, including the CSPF, from becoming insolvent through 2051. On July 9, 2021, the PBGC issued interim final regulations implementing the SFA program established under the ARPA. We believe the CSPF will meet the eligibility requirements and will be allowed to apply for SFA beginning April 1, 2022. We expect that the CSPF will apply for SFA during 2022 in order to continue payment of unreduced benefits through 2051.

The passage of the ARPA and the expected receipt of SFA by the CSPF currently eliminates our obligation to provide additional coordinating benefits to the UPS Transfer Group through 2051. These matters also triggered a remeasurement under ASC 715. Accordingly, we remeasured the plan assets and pension benefit obligation of the UPS/IBT Plan as of March 31, 2021.

The March 31, 2021 interim remeasurement resulted in an actuarial gain of $6.4 billion, reflecting reduction of the liability for coordinating benefits of $5.1 billion and a gain from other updated actuarial assumptions of $1.3 billion. The assumption gain reflects a $1.6 billion benefit from a 72 basis point increase in the discount rate compared to December 31, 2020, offset by $0.3 billion asset loss resulting from actual asset returns approximately 220 basis points below our expected return. As a result, $3.1 billion of the actuarial gain was recorded in AOCI within the equity section of the consolidated balance sheet. The remaining pre-tax actuarial gain of $3.3 billion ($2.5 billion after tax) that exceeded the corridor (defined as 10% of the greater of the fair value of plan assets and the plan's projected benefit obligation) was recognized as a mark-to-market gain in the statement of consolidated income.

The future value of this estimate will continue to be influenced by a number of factors, including interpretations of the ARPA, future legislative actions, actuarial assumptions and the ability of the PBGC to sustain its commitments. Actual events may result in a change in our best estimate of the projected benefit obligation. We will continue to assess the impact of these uncertainties in accordance with ASC 715.

Other Actuarial Assumptions

Healthcare cost trends are used to project future postretirement medical benefits payable from our plans. For purposes of measuring our U.S. plan obligations as of December 31, 2021, a 6.25% annual rate of increase in the postretirement medical benefit costs was assumed; the rate was assumed to decrease gradually to 4.5% by the year 2029 and to remain at that level thereafter.

Funded Status

The following table discloses the funded status of our plans and the amounts recognized in our consolidated balance sheets as of December 31 (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2021	2020	2021	2020	2021	2020
Funded Status:						
Fair value of plan assets	$ 55,954	$ 52,997	$ 115	$ 49	$ 2,106	$ 1,835
Benefit obligation	(61,378)	(65,922)	(2,592)	(2,759)	(2,106)	(2,177)
Funded status	$ (5,424)	$ (12,925)	$ (2,477)	$ (2,710)	$ —	$ (342)
Funded Status Recognized in our Balance Sheet:						
Other non-current assets	$ —	$ —	$ —	$ —	$ 295	$ 51
Other current liabilities	(24)	(22)	(118)	(184)	(7)	(5)
Pension and postretirement benefit obligations	(5,400)	(12,903)	(2,359)	(2,526)	(288)	(388)
Net liability	$ (5,424)	$ (12,925)	$ (2,477)	$ (2,710)	$ —	$ (342)
Amounts Recognized in AOCI:						
Unrecognized net prior service cost	$ (682)	$ (753)	$ (3)	$ (9)	$ (9)	$ (11)
Unrecognized net actuarial gain (loss)	(1,949)	(6,592)	(232)	(276)	107	(151)
Gross unrecognized cost	(2,631)	(7,345)	(235)	(285)	98	(162)
Deferred tax assets (liabilities)	642	1,770	55	69	(27)	38
Net unrecognized cost	$ (1,989)	$ (5,575)	$ (180)	$ (216)	$ 71	$ (124)

The accumulated benefit obligation for our pension plans as of the measurement dates in 2021 and 2020 was $62.7 and $66.9 billion, respectively. The accumulated benefit obligation for our postretirement medical benefit plans as of the measurement dates in 2021 and 2020 was $2.6 and $2.8 billion, respectively.

Benefit payments under the pension plans include $29 and $26 million paid from employer assets in 2021 and 2020, respectively. Benefit payments (net of participant contributions) under the postretirement medical benefit plans include $63 and $77 million paid from employer assets in 2021 and 2020, respectively. Such benefit payments from employer assets are also categorized as employer contributions.

As of December 31, 2021 and 2020, the projected benefit obligation, the accumulated benefit obligation and the fair value of plan assets for pension plans with benefit obligations in excess of plan assets were as follows (in millions):

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	
	2021	**2020**	**2021**	**2020**
U.S. Pension Benefits:				
Projected benefit obligation	$ 61,378	$ 65,922	$ 61,378	$ 65,922
Accumulated benefit obligation	60,769	64,937	60,769	64,937
Fair value of plan assets	55,954	52,997	55,954	52,997
International Pension Benefits:				
Projected benefit obligation	$ 798	$ 845	$ 408	$ 845
Accumulated benefit obligation	696	728	357	728
Fair value of plan assets	503	452	132	452

The accumulated postretirement benefit obligation presented in the funded status table exceeds plan assets for all U.S. postretirement medical benefit plans.

Benefit Obligations and Fair Value of Plan Assets

The following tables provide a reconciliation of the changes in the plans' benefit obligations and fair value of plan assets as of the respective measurement dates in each year (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**
Benefit Obligations:						
Projected benefit obligation at beginning of year	$ 65,922	$ 54,039	$ 2,759	$ 2,616	$ 2,177	$ 1,906
Service cost	1,897	1,853	28	29	76	67
Interest cost	1,948	1,977	81	91	38	40
Gross benefits paid	(1,906)	(1,846)	(278)	(274)	(46)	(38)
Plan participants' contributions	—	—	35	32	3	3
Plan amendments	66	171	—	—	—	1
Actuarial (gain)/loss	(6,390)	9,728	(26)	265	(111)	123
Foreign currency exchange rate changes	—	—	—	—	(32)	80
Curtailments and settlements	(159)	—	(7)	—	(3)	(6)
Other	—	—	—	—	4	1
Projected benefit obligation at end of year	$ 61,378	$ 65,922	$ 2,592	$ 2,759	$ 2,106	$ 2,177

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2021	**2020**	**2021**	**2020**	**2021**	**2020**
Fair Value of Plan Assets:						
Fair value of plan assets at beginning of year	$ 52,997	$ 46,172	$ 49	$ 37	$ 1,835	$ 1,558
Actual return on plan assets	4,706	5,878	(8)	(9)	230	184
Employer contributions	157	2,793	317	263	102	69
Plan participants' contributions	—	—	35	32	3	3
Gross benefits paid	(1,906)	(1,846)	(278)	(274)	(46)	(38)
Foreign currency exchange rate changes	—	—	—	—	(15)	62
Curtailments and settlements	—	—	—	—	(3)	(3)
Other	—	—	—	—	—	—
Fair value of plan assets at end of year	$ 55,954	$ 52,997	$ 115	$ 49	$ 2,106	$ 1,835

2021 - $6.5 billion pre-tax actuarial gain related to benefit obligation:

- *Discount Rates* ($2.4 billion pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 2.87% as of December 31, 2020 to 3.11% as of December 31, 2021, primarily due to an increase in U.S. treasury yields, slightly offset by a decrease in credit spreads on AA-rated corporate bonds.
- *Coordinating benefits attributable to the Central States Pension Fund* ($5.1 billion pre-tax gain): This represents the reduction in our best estimate of additional potential coordinating benefits that may be required to be paid related to the CSPF before taking into account the impact of the change in discount rates.

- *Demographic and Assumption Changes* ($973 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation changes, rates of termination, retirement, mortality and other changes.

2020 - $10.1 billion pre-tax actuarial loss related to benefit obligation:

- *Discount Rates* ($7.3 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 3.55% as of December 31, 2019 to 2.87% as of December 31, 2020, primarily due to a decline in U.S. treasury yields that was slightly offset by an increase in credit spreads on AA-rated corporate bonds.
- *Coordinating benefits attributable to the Central States Pension Fund* ($2.3 billion pre-tax loss): This represents our current best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund before taking into account the impact of the change in discount rates.
- *Demographic and Assumption Changes* ($513 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation changes, rates of termination, retirement, mortality and other changes.

Pension and Postretirement Plan Assets

Pension assets are invested in accordance with applicable laws and regulations, as well as investment guidelines established by plan trustees. The strategic asset mixes are specifically tailored for each plan given distinct factors, including liability and liquidity needs. Equities, alternative investments, and other higher yielding assets are utilized to generate returns and promote growth. Derivatives, repurchase/reverse repurchase agreements and fixed income securities are utilized as tools for duration management, mitigating interest rate risk, and minimizing funded status volatility.

The primary long-term investment objectives for pension assets are to provide for a reasonable amount of long-term growth of capital to meet future obligations while minimizing risk exposures and reducing funded status volatility. To meet these objectives, investment managers are engaged to actively manage assets within the guidelines and strategies set forth by the Investment Committee. Active managers are monitored regularly and their performance is compared to applicable benchmarks. As a result of our long-term U.S. investment objectives for pension assets, the weighted-average long-term expected rate of return on assets decreased from 7.77% during 2020 to 6.50% in 2021.

Fair Value Measurements

Plan assets valued utilizing Level 1 inputs include equity investments, corporate debt instruments and U.S. government securities. Fair values were determined by closing prices for those securities traded on national stock exchanges, while securities traded in the over-the-counter market and listed securities for which no sale was reported on the valuation date are valued at the mean between the last reported bid and ask prices.

Level 2 assets include fixed income securities that are valued based on yields currently available on comparable securities of other issues with similar credit ratings; mortgage-backed securities that are valued based on cash flow and yield models using acceptable modeling and pricing conventions; and certain investments that are pooled with other investments in a commingled fund. We value our investments in commingled funds by taking the percentage ownership of the underlying assets, each of which has a readily determinable fair value.

Fair value estimates for certain investments are based on unobservable inputs that are not corroborated by observable market data and are thus classified as Level 3.

Investments that do not have a readily determinable fair value, and which provide a net asset value ("NAV") or its equivalent developed consistent with FASB measurement principles, are valued using NAV as a practical expedient. These investments are not classified in Levels 1, 2, or 3 of the fair value hierarchy but instead included within the subtotals by asset category. Such investments include hedge funds, risk parity funds, real estate investments, private debt and private equity funds. Investments in hedge funds and risk parity funds are valued using the reported NAV as of December 31st. Real estate investments, private debt and private equity funds are valued at NAV per the most recent partnership audited financial reports, and adjusted, as appropriate, for investment activity between the date of the financial reports and December 31st. Due to the inherent limitations in obtaining a readily determinable fair value measurement for alternative investments, the fair values reported may differ from the values that would have been used had readily available market information for the alternative investments existed. These investments are described further below:

- Hedge Funds: Plan assets are invested in hedge funds that pursue multiple strategies to diversify risk and reduce volatility. Most of these hedge funds allow redemptions either quarterly or semi-annually after a two to three month notice period, while others allow for redemption after only a brief notification period with no restriction on redemption frequency. No unfunded commitments existed with respect to hedge funds as of December 31, 2021.

- Risk Parity Funds: Plan assets are invested in risk parity strategies in order to provide diversification and balance risk/return objectives. These strategies reflect a multi-asset class balanced risk approach generally consisting of equity, interest rates, credit and commodities. These funds allow for monthly redemptions with only a brief notification period. No unfunded commitments existed with respect to risk parity funds as of December 31, 2021.
- Real Estate, Private Debt and Private Equity Funds: Plan assets are invested in limited partnership interests in various private equity, private debt and real estate funds. Limited provision exists for the redemption of these interests by the limited partners that invest in these funds until the end of the term of the partnerships, typically ranging between 10 and 15 years from the date of inception. An active secondary market exists for similar partnership interests, although no particular value (discount or premium) can be guaranteed. As of December 31, 2021, unfunded commitments to such limited partnerships totaling approximately $3.0 billion are expected to be contributed over the remaining investment period, typically ranging between three and six years.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2021 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations:

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 2,671	$ 2,564	$ 107	$ —	4.8 %	1-7
Equity Securities:						
U.S. Large Cap	12,840	8,948	3,892	—		
U.S. Small Cap	484	484	—	—		
Emerging Markets	2,077	1,483	594	—		
Global Equity	3,054	2,901	153	—		
International Equity	4,199	1,972	2,227	—		
Total Equity Securities	22,654	15,788	6,866	—	40.4	20-45
Fixed Income Securities:						
U.S. Government Securities[2]	12,083	25,358	(13,275)	—		
Corporate Bonds	6,156	—	6,142	14		
Global Bonds	23	—	23	—		
Municipal Bonds	19	—	19	—		
Total Fixed Income Securities	18,281	25,358	(7,091)	14	32.6	30-70
Other Investments:						
Hedge Funds	4,121	—	2,303	—	7.3	5-10
Private Equity	4,822	—	—	—	8.6	1-10
Private Debt	763	—	—	—	1.4	1-10
Real Estate	2,285	313	106	—	4.1	1-10
Structured Products[3]	177	—	177	—	0.3	1-5
Risk Parity Funds	295	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 56,069	$ 44,023	$ 2,468	$ 14	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 184	$ 135	$ 49	$ —	8.7 %	1-10
Equity Securities:						
Local Markets Equity	193	—	193	—		
U.S. Equity	53	53	—	—		
Emerging Markets	35	35	—	—		
International / Global Equity	513	195	318	—		
Total Equity Securities	794	283	511	—	37.7	20-50
Fixed Income Securities:						
Local Government Bonds	61	—	61	—		
Corporate Bonds	438	21	417	—		
Global Bonds	136	134	2	—		
Total Fixed Income Securities	635	155	480	—	30.2	30-50
Other Investments:						
Real Estate	172	—	90	24	8.2	5-10
Other	321	—	247	50	15.2	1-20
Total International Plan Assets	$ 2,106	$ 573	$ 1,377	$ 74	100.0 %	
Total Plan Assets	$ 58,175	$ 44,596	$ 3,845	$ 88		

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

(2) Level 2 U.S. Government Securities includes repurchase and reverse repurchase agreements.

(3) Represents mortgage and asset-backed securities.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2020 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations:

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 1,593	$ 1,510	$ 83	$ —	3.0 %	1-5
Equity Securities:						
U.S. Large Cap	8,294	4,272	4,022	—		
U.S. Small Cap	370	370	—	—		
Emerging Markets	2,106	1,503	603	—		
Global Equity	3,940	3,624	316	—		
International Equity	4,335	2,043	2,292	—		
Total Equity Securities	19,045	11,812	7,233	—	35.9	25-55
Fixed Income Securities:						
U.S. Government Securities	16,145	14,646	1,499	—		
Corporate Bonds	6,146	—	6,143	3		
Global Bonds	42	—	42	—		
Municipal Bonds	27	—	27	—		
Total Fixed Income Securities	22,360	14,646	7,711	3	42.2	35-55
Other Investments:						
Hedge Funds	3,518	—	1,652	—	6.6	5-15
Private Equity	3,424	—	—	—	6.5	1-10
Private Debt	695	—	—	—	1.3	1-10
Real Estate	1,986	244	82	—	3.7	1-10
Structured Products[2]	161	—	161	—	0.3	1-5
Risk Parity Funds	264	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 53,046	$ 28,212	$ 16,922	$ 3	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 84	$ 45	$ 39	$ —	4.6 %	1-10
Equity Securities:						
Local Markets Equity	214	—	214	—		
U.S. Equity	59	—	59	—		
Emerging Markets	55	41	14	—		
International / Global Equity	534	210	324	—		
Total Equity Securities	862	251	611	—	47.0	25-55
Fixed Income Securities:						
Local Government Bonds	102	—	102	—		
Corporate Bonds	215	22	193	—		
Global Bonds	125	125	—	—		
Total Fixed Income Securities	442	147	295	—	24.1	20-40
Other Investments:						
Real Estate	154	—	80	21	8.3	5-10
Other	293	—	236	41	16.0	1-20
Total International Plan Assets	1,835	$ 443	$ 1,261	$ 62	100.0 %	
Total Plan Assets	$ 54,881	$ 28,655	$ 18,183	$ 65		

[1] Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

[2] Represents mortgage and asset-backed securities.

The following table presents the changes in the Level 3 instruments measured on a recurring basis for the years ended December 31, 2021 and 2020 (in millions):

	Corporate Bonds	Other	Total
Balance on January 1, 2020	$ —	$ 12	$ 12
Actual Return on Assets:			
Assets Held at End of Year	—	3	3
Assets Sold During the Year	(5)	—	(5)
Purchases	10	51	61
Sales	(2)	(4)	(6)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2020	$ 3	$ 62	$ 65
Actual Return on Assets:			
Assets Held at End of Year	—	5	5
Assets Sold During the Year	(16)	—	(16)
Purchases	33	10	43
Sales	(6)	(3)	(9)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2021	$ 14	$ 74	$ 88

There were no shares of UPS class A or B common stock directly held in plan assets as of December 31, 2021 or December 31, 2020.

Expected Cash Flows

Information about expected cash flows for the pension and postretirement medical benefit plans is as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Expected Employer Contributions:			
2022 to plan trusts	$ 1,887	$ 177	$ 96
2022 to plan participants	25	49	7
Expected Benefit Payments:			
2022	$ 1,927	$ 229	$ 44
2023	2,054	219	49
2024	2,188	208	55
2025	2,323	199	61
2026	2,458	189	68
2027 - 2031	14,160	813	425

Our current funding policy guideline for U.S. plans is to contribute amounts annually that are at least equal to the amounts required by applicable laws and regulations. International plans will be funded in accordance with local regulations. Additional discretionary contributions may be made when deemed appropriate to meet the long-term obligations of the plans. Expected benefit payments for pensions will be primarily paid from plan trusts. Expected benefit payments for postretirement medical benefits will be paid from plan trusts and corporate assets.

NOTE 7. MULTIEMPLOYER EMPLOYEE BENEFIT PLANS

We contribute to a number of multiemployer defined benefit plans under the terms of collective bargaining agreements that cover our union-represented employees. These plans generally provide for retirement, death and/or termination benefits for eligible employees within the applicable collective bargaining units, based on specific eligibility and participation requirements, vesting periods and benefit formulas. The risks of participating in multiemployer plans are different from single-employer plans in the following respects:

- Assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If we negotiate to cease participating in a multiemployer plan, we may be required to pay that plan an amount based on our allocable share of its underfunded status, referred to as a "withdrawal liability". However, cessation of participation in a multiemployer plan and subsequent payment of any withdrawal liability is subject to the collective bargaining process.
- If any of the multiemployer pension plans in which we participate enter critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule, we could be required under the Pension Protection Act of 2006 to make additional surcharge contributions to the multiemployer pension plan in the amount of five to ten percent of the existing contributions required by our labor agreement. Such surcharges would cease upon the ratification of a new collective bargaining agreement and could not recur unless a plan re-entered critical status at a later date.

The discussion that follows sets forth the financial impact on our results of operations and cash flows for December 31, 2021, 2020 and 2019, from our participation in multiemployer benefit plans. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contributions to multiemployer benefit plans are determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 described above).

The number of employees covered by our multiemployer pension plans has increased with the growth in our business. There have been no other significant changes that affect the comparability of 2021, 2020 and 2019 contributions. We recognize expense for the contractually-required contribution for each period, and we recognize a liability for any contributions due and unpaid at the end of a reporting period.

Status of Collective Bargaining Agreements

As of December 31, 2021, we had approximately 327,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements run through July 31, 2023.

We have approximately 3,200 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"). This collective bargaining agreement becomes amendable September 1, 2023.

We have approximately 1,700 airline mechanics who are covered by a collective bargaining agreement with Teamsters Local 2727 which becomes amendable November 1, 2023. In addition, approximately 3,300 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers ("IAM"). The collective bargaining agreement with the IAM runs through July 31, 2024.

Multiemployer Pension Plans

The following table outlines our participation in multiemployer pension plans for December 31, 2021, 2020 and 2019, and sets forth our calendar year contributions and accruals for each plan. The “EIN/Pension Plan Number” column provides the Employer Identification Number (“EIN”) and the three-digit plan number. The most recent Pension Protection Act zone status available in 2021 and 2020 relates to the plans’ two most recent fiscal year ends. The zone status is based on information that we received from the plans’ administrators and is certified by each plan’s actuary. Plans certified in the red zone are generally less than 65% funded; plans certified in the orange zone are both less than 80% funded and have an accumulated funding deficiency, or are expected to have a deficiency in any of the next six plan years; plans certified in the yellow zone are less than 80% funded; and plans certified in the green zone are at least 80% funded. The “FIP / RP Status Pending / Implemented” column indicates whether a financial improvement plan (“FIP”) for yellow/orange zone plans, or a rehabilitation plan (“RP”) for red zone plans, is either pending or has been implemented. As of December 31, 2021, all plans that have either a FIP or RP requirement have had the respective plan implemented.

Our collectively-bargained contributions satisfy the requirements of all implemented FIPs and RPs and do not currently require the payment of any surcharges. In addition, minimum contributions outside of the agreed upon contractual rates are not required. For the plans detailed in the following table, the expiration date of the associated collective bargaining agreements is July 31, 2023, with the exception of the IAM National Pension Fund / National Pension Plan, which has a July 31, 2024 expiration date. For all plans detailed in the following table, we provided more than 5% of the total plan contributions from all employers for 2021, 2020 and 2019 (as disclosed in the annual filing with the Department of Labor for each respective plan).

Certain plans have been aggregated in the “All Other Multiemployer Pension Plans” line in the following table, as contributions to each of these individual plans are not material.

Pension Fund	EIN / Pension Plan Number	Pension Protection Act Zone Status 2021	2020	FIP / RP Status Pending / Implemented		(in millions) UPS Contributions and Accruals 2021	2020	2019	Surcharge Imposed
Central Pennsylvania Teamsters Defined Benefit Plan	23-6262789-001	Green	Green	No	NA	$ 65	$ 57	$ 48	No
Employer-Teamsters Local Nos. 175 & 505 Pension Trust Fund	55-6021850-001	Red	Red	Yes	Implemented	18	16	14	No
Hagerstown Motor Carriers and Teamsters Pension Fund	52-6045424-001	Red	Red	Yes	Implemented	12	11	10	No
I.A.M. National Pension Fund / National Pension Plan	51-6031295-002	Red	Red	Yes	Implemented	48	44	41	No
International Brotherhood of Teamsters Union Local No. 710 Pension Fund	36-2377656-001	Green	Green	No	NA	180	161	142	No
Local 705, International Brotherhood of Teamsters Pension Plan	36-6492502-001	Yellow	Yellow	Yes	Implemented	131	120	113	No
Local 804 I.B.T. & Local 447 I.A.M.—UPS Multiemployer Retirement Plan	51-6117726-001	Green	Yellow	No	NA	135	124	112	No
Milwaukee Drivers Pension Trust Fund	39-6045229-001	Green	Green	No	NA	58	53	48	No
New England Teamsters & Trucking Industry Pension Fund	04-6372430-001	Red	Red	Yes	Implemented	145	140	120	No
New York State Teamsters Conference Pension and Retirement Fund	16-6063585-074	Red	Red	Yes	Implemented	147	135	119	No
Teamster Pension Fund of Philadelphia and Vicinity	23-1511735-001	Yellow	Yellow	Yes	Implemented	94	85	74	No
Teamsters Joint Council No. 83 of Virginia Pension Fund	54-6097996-001	Green	Green	No	NA	89	82	75	No
Teamsters Local 639—Employers Pension Trust	53-0237142-001	Green	Green	No	NA	80	74	68	No
Teamsters Negotiated Pension Plan	43-6196083-001	Green	Green	No	NA	45	40	37	No
Truck Drivers and Helpers Local Union No. 355 Retirement Pension Plan	52-6043608-001	Green	Green	No	NA	29	27	24	No
United Parcel Service, Inc.—Local 177, I.B.T. Multiemployer Retirement Plan	13-1426500-419	Yellow	Red	Yes	Implemented	116	107	100	No
Western Conference of Teamsters Pension Plan	91-6145047-001	Green	Green	No	NA	1,260	1,138	939	No
Western Pennsylvania Teamsters and Employers Pension Fund	25-6029946-001	Red	Red	Yes	Implemented	40	37	34	No
All Other Multiemployer Pension Plans						95	104	102	
					Total Contributions	$2,787	$2,555	$2,220	

Agreement with the New England Teamsters and Trucking Industry Pension Fund

In 2012, we reached an agreement with the New England Teamsters and Trucking Industry Pension Fund ("NETTI Fund"), a multiemployer pension plan in which UPS is a participant, to restructure the pension liabilities for approximately 10,200 UPS employees represented by the Teamsters. As of December 31, 2021 and 2020, we had $830 and $837 million, respectively, recognized in Other Non-Current Liabilities as well as $8 and $7 million as of December 31, 2021 and 2020, respectively, recorded in *Other current liabilities* in our consolidated balance sheets, representing the remaining balance of the NETTI Fund withdrawal liability. This liability is payable in equal monthly installments over a remaining term of approximately 41 years. Based on the borrowing rates currently available to us for long-term financing of a similar maturity, the fair value of the NETTI Fund withdrawal liability as of December 31, 2021 and 2020 was $963 million and $1.0 billion, respectively. We utilized Level 2 inputs in the fair value hierarchy to determine the fair value of this liability.

Multiemployer Health and Welfare Plans

We also contribute to a number of multiemployer health and welfare plans covering both active and retired employees. Healthcare benefits are provided to participants who meet certain eligibility requirements as covered under the applicable collective bargaining unit. The following table sets forth our calendar year plan contributions and accruals. Certain plans have been aggregated in the "All Other Multiemployer Health and Welfare Plans" line, as the contributions to each of these individual plans are not material.

	(in millions) UPS Contributions and Accruals		
Health and Welfare Fund	**2021**	**2020**	**2019**
Bay Area Delivery Drivers	$ 41	$ 39	$ 37
Central Pennsylvania Teamsters Health & Pension Fund	39	35	31
Central States, South East & South West Areas Health and Welfare Fund	3,374	3,202	2,899
Delta Health Systems—East Bay Drayage Drivers	39	37	30
Joint Council #83 Health & Welfare Fund	56	50	45
Local 804 Welfare Trust Fund	123	110	101
Milwaukee Drivers Pension Trust Fund—Milwaukee Drivers Health and Welfare Trust Fund	59	53	48
New York State Teamsters Health & Hospital Fund	91	84	71
Northern California General Teamsters (DELTA)	209	188	157
Northern New England Benefit Trust	81	72	59
Oregon / Teamster Employers Trust	66	59	51
Teamsters 170 Health & Welfare Fund	24	22	19
Teamsters Benefit Trust	60	57	47
Teamsters Local 251 Health & Insurance Plan	26	23	18
Teamsters Local 638 Health Fund	66	60	53
Teamsters Local 639—Employers Health & Pension Trust Funds	40	39	32
Teamsters Local 671 Health Services & Insurance Plan	24	23	20
Teamsters Union 25 Health Services & Insurance Plan	74	69	59
Teamsters Western Region & Local 177 Health Care Plan	980	859	769
Truck Drivers and Helpers Local 355 Baltimore Area Health & Welfare Fund	23	22	19
Utah-Idaho Teamsters Security Fund	52	45	37
Washington Teamsters Welfare Trust	83	76	67
All Other Multiemployer Health and Welfare Plans	183	175	141
Total Contributions	$ 5,813	$ 5,399	$ 4,810

NOTE 8. GOODWILL AND INTANGIBLE ASSETS

The following table indicates the allocation of goodwill (in millions):

	U.S. Domestic Package	International Package	Supply Chain Solutions	Consolidated
Balance on January 1, 2020	$ 715	$ 416	$ 2,682	$ 3,813
Acquired	—	—	—	—
Impairments	—	—	(494)	(494)
Currency / Other	—	6	42	48
Balance on December 31, 2020	$ 715	$ 422	$ 2,230	$ 3,367
Acquired	132	—	243	375
Currency / Other	—	(19)	(31)	(50)
Balance on December 31, 2021	$ 847	$ 403	$ 2,442	$ 3,692

2021 Goodwill Activity

The goodwill acquired in U.S. Domestic Package and Supply Chain Solutions related to our October 2021 acquisition of Roadie. The purchase price allocation for acquired businesses may be modified for up to one year from the date of acquisition if additional facts or circumstances lead to changes in our preliminary purchase accounting estimates. See note 9 for further discussion of business acquisitions.

The remaining change in goodwill for both Supply Chain Solutions and International Package was attributable to the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

2020 Goodwill Activity

As of December 31, 2020 we classified our UPS Freight reporting unit as held for sale, which resulted in a goodwill impairment charge of $494 million within Supply Chain Solutions.

The remaining change in goodwill for both Supply Chain Solutions and International Package was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

Goodwill Impairment

We did not record any impairments of goodwill during 2021. In the fourth quarter of 2020, we determined that our UPS Freight reporting unit should be classified as held for sale. Accordingly, we tested goodwill for impairment as of December 31, 2020, and determined that the fair value of the reporting unit had decreased. For the year ended December 31, 2020, a goodwill impairment charge of $494 million, representing the remaining goodwill balance for UPS Freight, is included within *Other expenses* in the statements of consolidated income. We did not record any goodwill impairments during 2019. Cumulatively, we have recorded $1.1 billion of goodwill impairment charges in Supply Chain Solutions, while our International and U.S. Domestic Package segments have not recorded any goodwill impairment charges.

Intangible Assets

The following is a summary of intangible assets as of December 31, 2021 and 2020 (in millions):

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted-Average Amortization Period (in years)
December 31, 2021				
Capitalized software	$ 4,910	$ (3,275)	$ 1,635	6.9
Licenses	58	(27)	31	3.7
Franchise rights	119	(37)	82	20.0
Customer relationships	733	(408)	325	10.6
Trade name	67	(1)	66	10.3
Trademarks, patents and other	158	(15)	143	8.4
Amortizable intangible assets	$ 6,045	$ (3,763)	$ 2,282	7.6
Indefinite lived intangible assets	204	—	204	
Total Intangible Assets	$ 6,249	$ (3,763)	$ 2,486	
December 31, 2020				
Capitalized software	$ 4,531	$ (2,962)	$ 1,569	
Licenses	95	(37)	58	
Franchise rights	165	(113)	52	
Customer relationships	729	(344)	385	
Trademarks, patents and other	18	(13)	5	
Amortizable intangible assets	$ 5,538	$ (3,469)	$ 2,069	
Indefinite lived intangible assets	205	—	205	
Total Intangible Assets	$ 5,743	$ (3,469)	$ 2,274	

A trade name and licenses with carrying values of $200 and $4 million, respectively, as of December 31, 2021 are deemed to be indefinite-lived intangible assets, and therefore are not amortized. Impairment tests for indefinite-lived intangible assets are performed annually. Our annual impairment test as of July 1, 2021 indicated that the fair value of the trade name, which is associated with our truckload brokerage business, remained greater than its carrying value, but that the excess was less than 10 percent. There were no events or changes in circumstances that would indicate the carrying amount of our indefinite-lived intangible assets may have been impaired as of December 31, 2021.

All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that may indicate that the carrying value of the intangible may not be recoverable. Impairments of finite-lived intangible assets were $19, $13, and $2 million in 2021, 2020, and 2019, respectively.

Amortization of intangible assets was $475, $416 and $377 million in each of 2021, 2020 and 2019, respectively. Expected amortization of finite-lived intangible assets recorded as of December 31, 2021 for the next five years is as follows (in millions): 2022—$540; 2023—$472; 2024—$392; 2025—$314; 2026—$222. Amortization expense in future periods will be affected by business acquisitions and divestitures, software development, licensing agreements, purchase of development areas or similar franchise rights and other factors.

NOTE 9. BUSINESS ACQUISITIONS

In October 2021, we acquired Roadie, Inc. ("Roadie"), a technology platform that provides local same-day delivery with operations throughout the United States. The Roadie technology platform is purpose-built to connect merchants and consumers with contract drivers to enable efficient and scalable same-day local delivery services for items that are not compatible with the UPS network. The acquisition was funded using cash from operations. We report Roadie within Supply Chain Solutions. The financial results of the acquired business were not material to our results of operations for the fourth quarter or the year.

The estimated fair value of assets acquired and liabilities assumed are subject to change based on completion of our purchase accounting. The purchase price allocation for acquired companies can be modified for up to one year from the date of acquisition. The following table summarizes the estimated fair values of the assets acquired and liabilities assumed as of the acquisition date (in millions):

	October 1, 2021
Cash and cash equivalents	$ 12
Accounts receivable	15
Goodwill	375
Intangible assets	231
Deferred tax liability	(47)
Total purchase price	$ 586

Goodwill recognized of approximately $375 million is attributable to expected synergies from future growth, including synergies to our U.S. Domestic Package segment. We have allocated $243 and $132 million of the recognized goodwill to Supply Chain Solutions and the U.S. Domestic Package segment, respectively. None of the goodwill is expected to be deductible for income tax purposes.

The intangible assets acquired of approximately $231 million primarily consist of $145 million of technology (amortized over 8 years), $67 million of trade name (amortized over 10 years), and an additional $19 million in other intangibles (amortized over an average of 8 years). The carrying value of accounts receivable approximates fair value.

Acquisition related costs were not material, and were expensed as incurred and included in *Other expenses* within the statements of consolidated income.

NOTE 10. DEBT AND FINANCING ARRANGEMENTS

The carrying value of our outstanding debt obligations, as of December 31, 2021 and 2020 consists of the following (in millions):

	Principal		Carrying Value	
	Amount	Maturity	2021	2020
Commercial paper	$ —	2021	$ —	$ 15
Fixed-rate senior notes:				
3.125% senior notes	—	2021	—	1,507
2.050% senior notes	—	2021	—	700
2.450% senior notes	1,000	2022	1,010	1,028
2.350% senior notes	600	2022	600	599
2.500% senior notes	1,000	2023	998	997
2.800% senior notes	500	2024	498	498
2.200% senior notes	400	2024	399	398
3.900% senior notes	1,000	2025	996	995
2.400% senior notes	500	2026	498	498
3.050% senior notes	1,000	2027	994	993
3.400% senior notes	750	2029	746	746
2.500% senior notes	400	2029	397	397
4.450% senior notes	750	2030	744	743
6.200% senior notes	1,500	2038	1,484	1,483
5.200% senior notes	500	2040	494	493
4.875% senior notes	500	2040	491	490
3.625% senior notes	375	2042	368	368
3.400% senior notes	500	2046	492	491
3.750% senior notes	1,150	2047	1,137	1,137
4.250% senior notes	750	2049	743	742
3.400% senior notes	700	2049	688	688
5.300% senior notes	1,250	2050	1,231	1,231
Floating-rate senior notes:				
Floating-rate senior notes	—	2021	—	350
Floating-rate senior notes	400	2022	400	399
Floating-rate senior notes	500	2023	500	499
Floating-rate senior notes	1,039	2049-2067	1,027	1,027
Debentures:				
7.620% debentures[(1)]	276	2030	280	281
Pound Sterling Notes:				
5.500% notes	90	2031	89	90
5.125% notes	614	2050	583	586
Euro Senior Notes:				
0.375% senior notes	793	2023	791	857
1.625% senior notes	793	2025	791	856
1.000% senior notes	567	2028	564	611
1.500% senior notes	567	2032	564	611
Canadian senior notes:				
2.125% senior notes	586	2024	585	583
Finance lease obligations	408	2022 – 2046	408	342
Facility notes and bonds	320	2029 – 2045	320	320
Other debt	5	2022 – 2025	5	5
Total debt	$ 22,083		21,915	24,654
Less: current maturities			(2,131)	(2,623)
Long-term debt			$ 19,784	$ 22,031

[(1)] On April 1, 2020, the interest rate on these debentures decreased from 8.375% to 7.620% for the remaining 10 years until maturity.

Commercial Paper

We are authorized to borrow up to $10.0 billion under a U.S. commercial paper program and €5.0 billion (in a variety of currencies) under a European commercial paper program. As of December 31, 2021 we had no outstanding balances under these commercial paper programs. The amount of commercial paper outstanding under these programs in 2022 is expected to fluctuate.

Debt Repayments

On January 15, 2021, our 3.125% senior notes with a principal balance of $1.5 billion matured and were repaid in full. On April 1, 2021, our 2.050% fixed-rate senior notes with a principal balance of $700 million and our floating rate senior notes with a principal balance of $350 million matured and were both repaid in full.

Fixed-Rate Senior Notes

All of our fixed-rate notes pay interest semi-annually, and allow for redemption by UPS at any time by paying the greater of the principal amount or a “make-whole” amount, plus accrued interest. We subsequently entered into interest rate swaps on certain of these notes, which effectively converted the fixed interest rates on the notes to variable interest rates. The average interest rates payable on the notes where fixed interest rates were swapped to variable interest rates, including the impact of the interest rate swaps, for 2021 and 2020 were as follows:

	Principal Value	Maturity	Average Effective Interest Rate 2021	Average Effective Interest Rate 2020
3.125% senior notes	$ 1,500	2021	1.07 %	1.60 %
2.450% senior notes	1,000	2022	0.76 %	1.55 %

7.620% Debentures

The $276 million debentures have a maturity of April 1, 2030. These debentures had an interest rate of 8.375% until April 1, 2020, at which time the interest rate decreased to 7.620% for the remaining term. These debentures are redeemable in whole or in part at our option at any time. The redemption price is equal to the greater of the principal amount plus accrued interest, or the present value of remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark treasury yield plus five basis points, plus accrued interest. Interest is payable semi-annually in April and October, and the debentures are not subject to sinking fund requirements.

Floating-Rate Senior Notes

Our floating-rate senior notes bear interest at rates that reference the London Interbank Offer Rate ("LIBOR") for U.S. Dollars. As part of a broader program of reference rate reform, it is expected that U.S. Dollar LIBOR rates will cease to be published after June 2023.

We have floating-rate senior notes in the principal amounts of $400 and $500 million that bear interest at three-month LIBOR, plus a spread of 38 and 45 basis points, respectively. These notes are not callable. The $400 million notes mature in 2022 and the $500 million notes mature in 2023, prior to the expected discontinuance of U.S. Dollar LIBOR. The average interest rate for 2021 and 2020, including interest on the $350 million floating-rate senior notes that matured on April 1, 2021, was 0.58% and 1.29%, respectively.

The remaining floating-rate senior notes, with principal amounts totaling $1.0 billion, bear interest at either one or three-month LIBOR, less a spread ranging from 30 to 45 basis points. These notes have maturities ranging from 2049 through 2067 and will be impacted by the discontinuance of U.S. Dollar LIBOR rates in June 2023. We are currently working to transition these notes to an alternative reference rate. We anticipate that the Secured Overnight

Financing Rate ("SOFR") will be adopted in accordance with recommendations of the Alternative Reference Rates Committee.

The average interest rate on the remaining floating-rate senior notes for 2021 and 2020 was 0.00% and 0.40%, respectively. These notes are callable at various times after 30 years at a stated percentage of par value, and redeemable at the option of the note holders at various times after one year at a stated percentage of par value. We have classified these floating-rate senior notes as long-term liabilities in our consolidated balance sheets, due to our intent and ability to refinance the debt if the put option is exercised.

Finance Lease Obligations

We have certain property, plant and equipment subject to finance leases. For additional information on finance lease obligations, see note 12.

Facility Notes and Bonds

We have entered into agreements with certain municipalities or related entities to finance the construction of, or improvements to, facilities that support our operations in the United States. These facilities are located around airport properties in Louisville, Kentucky; Dallas, Texas; and Philadelphia, Pennsylvania. Under these arrangements, we enter into a lease or loan agreement that covers the debt service obligations on the bonds issued by these entities, as follows:

- Bonds with a principal balance of $149 million issued by the Louisville Regional Airport Authority associated with our Worldport facility in Louisville, Kentucky. The bonds, which are due in January 2029, bear interest at a variable rate, and the average interest rates for 2021 and 2020 were 0.05% and 0.50%, respectively.
- Bonds with a principal balance of $42 million and due in November 2036 issued by the Louisville Regional Airport Authority associated with our air freight facility in Louisville, Kentucky. The bonds bear interest at a variable rate, and the average interest rates for 2021 and 2020 were 0.07% and 0.56%, respectively.
- Bonds with a principal balance of $29 million issued by the Dallas / Fort Worth International Airport Facility Improvement Corporation associated with our Dallas, Texas airport facilities. The bonds are due in May 2032 and bear interest at a variable rate, however the variable cash flows on the obligation have been swapped to a fixed rate of 5.11%.
- Bonds with a principal balance of $100 million issued by the Delaware County, Pennsylvania Industrial Development Authority associated with our Philadelphia, Pennsylvania airport facilities. These bonds, which are due September 2045, bear interest at a variable rate. The average interest rate for 2021 and 2020 was 0.05% and 0.62%, respectively.

Pound Sterling Notes

The Pound Sterling notes consist of two separate tranches, as follows:

- Notes with a principal amount of £66 million accrue interest at a 5.50% fixed rate, and are due in February 2031. These notes are not callable.
- Notes with a principal amount of £455 million accrue interest at a 5.125% fixed rate, and are due in February 2050. These notes are callable at our option at a redemption price equal to the greater of the principal amount plus accrued interest, or the present value of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark U.K. government bond yield plus 15 basis points, plus accrued interest.

Canadian Dollar Senior Notes

The Canadian Dollar notes consist of a single series, as follows:

- Notes in the principal amount of C$750 million, which bear interest at a 2.125% fixed rate and mature in May 2024. Interest on the notes is payable semi-annually. The notes are callable at our option, in whole or in part, at the Government of Canada yield plus 21.5 basis points, and on or after the par call date at par value.

Euro Senior Notes

The Euro notes consist of three separate issuances, as follows:

- Notes in the principal amount of €500 million accrue interest at a 1.00% fixed rate and are due in November 2028. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of the principal amount, or the present value of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable German government bond yield plus 15 basis points, plus accrued interest.

- Notes with a principal amount of €700 million accrue interest at a 1.625% fixed rate and are due in November 2025. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of the principal amount, or the present value of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark German government bond yield plus 20 basis points, plus accrued interest.
- Notes with principal amounts of €700 million and €500 million accrue interest at 0.375% and 1.50% fixed rates, respectively, and are due in November 2023 and November 2032, respectively. Interest on these notes is payable annually. The notes are callable at our option at a redemption price equal to the greater of the principal amount, or the present value of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable government bond yield plus 10 and 20 basis points, respectively, plus accrued interest.

Contractual Commitments

The following table sets forth the aggregate annual principal and anticipated interest payments on our long-term debt and our projected aggregate annual purchase commitments (in millions):

Year	Debt Principal	Debt Interest [1]	Purchase Commitments [1]
2022	$ 2,003	$ 722	$ 2,454
2023	2,295	668	1,467
2024	1,487	630	939
2025	1,794	636	363
2026	500	523	81
After 2026	13,598	7167	69
Total	$ 21,677	$ 10,346	$ 5,373

[1] Debt interest and purchase commitments include estimates of future amounts yet to be recognized in our financial statements.

The amount of interest on our debt was calculated as the contractual interest payments due on our fixed-rate debt and variable-rate debt based on interest rates as of December 31, 2021, taking into account the effect of any interest rate swap agreements. For debt denominated in a foreign currency, the U.S. Dollar equivalent principal amount of the debt at the end of the year was used as the basis to project future interest payments.

Purchase commitments represent contractual agreements to purchase assets, goods or services that are legally binding, including contracts for aircraft, construction of new or expanded facilities and orders for technology equipment and vehicles.

As of December 31, 2021, we had outstanding letters of credit totaling approximately $1.7 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2021, we had $1.5 billion of surety bonds written.

Sources of Credit

We maintain two credit agreements with a consortium of banks. The first of these agreements provides revolving credit facilities of $1.0 billion and expires on December 6, 2022. Amounts outstanding under this agreement bear interest at a periodic fixed rate equal to the term SOFR rate, plus 0.10% per annum and an applicable margin based on our then-current credit rating. The applicable margin from the credit pricing grid as of December 31, 2021 was 0.875%. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; or (3) the Adjusted Term SOFR Rate for a one month interest period plus 1%, may be used at our discretion.

The second agreement provides revolving credit facilities of $2.0 billion and expires on December 7, 2026. Amounts outstanding under this facility bear interest at a periodic fixed rate equal to the term SOFR rate plus 0.10% per annum and an applicable margin based on our then-current credit rating. The applicable margin from the credit pricing grid as of December 31, 2021 was 0.875%. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; and (3) the Adjusted Term SOFR Rate for a one-month interest period plus 1.00%, plus an applicable margin, may be used at our discretion.

If the credit ratings established by S&P and Moody's differ, the higher rating will be used, except in cases where the lower rating is two or more levels lower. In these circumstances, the rating one step below the higher rating will be used. We are also able to request advances under these facilities based on competitive bids for the applicable interest rate. There were no amounts outstanding under these facilities as of December 31, 2021.

Debt Covenants

Our existing debt instruments and credit facilities subject us to certain financial covenants. As of December 31, 2021 and for all prior periods presented, we have satisfied these financial covenants. These covenants limit the amount of secured indebtedness that we may incur, and limit the amount of attributable debt in sale-leaseback transactions, to 10% of net tangible assets. As of December 31, 2021, 10% of net tangible assets is equivalent to $4.6 billion; however, we have no covered sale-leaseback transactions or secured indebtedness outstanding. We do not expect these covenants to have a material impact on our financial condition or liquidity.

Fair Value of Debt

Based on the borrowing rates currently available to us for long-term debt with similar terms and maturities, the fair value of long-term debt, including current maturities, was approximately $25.1 billion and $28.3 billion as of December 31, 2021 and 2020, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of all of our debt instruments.

NOTE 11. LEGAL PROCEEDINGS AND CONTINGENCIES

We are involved in a number of judicial proceedings and other matters arising from the conduct of our business.

Although there can be no assurance as to the ultimate outcome, we have generally denied, or believe we have meritorious defenses and will deny, liability in all pending matters, including (except as otherwise noted herein) the matters described below, and we intend to vigorously defend each matter. We accrue amounts associated with legal proceedings when and to the extent a loss becomes probable and can be reasonably estimated. The actual costs of resolving legal proceedings may be substantially higher or lower than the amounts accrued on those claims.

For matters as to which we are not able to estimate a possible loss or range of losses, we are not able to determine whether any such loss will have a material impact on our operations or financial condition. For these matters, we have described the reasons that we are unable to estimate a possible loss or range of losses.

Judicial Proceedings

We are a defendant in a number of lawsuits filed in state and federal courts containing various class action allegations under state wage-and-hour laws. At this time, we do not believe that any loss associated with any such matter will have a material impact on our operations or financial condition. One of these matters, Hughes v. UPS Supply Chain Solutions, Inc. and United Parcel Service, Inc. had previously been certified as a class action in Kentucky state court. In the second quarter of 2019, the court granted our motion for judgment on the pleadings related to the wage-and-hour claims. The plaintiffs appealed this decision. The appeal was denied; however, plaintiffs have sought discretionary review by the Kentucky Supreme Court.

Other Matters

In October 2015, the Department of Justice ("DOJ") informed us of an industry-wide inquiry into the transportation of mail under the United States Postal Service ("USPS") International Commercial Air contracts. In October 2017, we received a Civil Investigative Demand seeking certain information relating to our contracts. The DOJ has indicated it is investigating potential violations of the False Claims Act or other statutes. We are cooperating with the DOJ. An immaterial accrual with respect to this matter is included in our consolidated balance sheets. We do not believe that any loss from this matter would have a material impact on our operations or financial condition, although we are unable to predict what action, if any, might be taken in the future by any government authorities as a result of their investigation.

In August 2016, Spain's National Markets and Competition Commission ("CNMC") announced an investigation into 10 companies in the commercial delivery and parcel industry, including UPS, related to alleged nonaggression agreements to allocate customers. In May 2017, UPS received a Statement of Objections issued by the CNMC. In July 2017, UPS received a Proposed Decision from the CNMC. On March 8, 2018, the CNMC adopted a final decision, finding an infringement and imposing an immaterial fine on UPS. UPS appealed the decision and, in September 2018, obtained a suspension of the implementation of the decision (including payment of the fine). The appeal is pending. We do not believe that any loss from this matter would have a material impact on our operations or financial condition. We are vigorously defending ourselves and believe that we have a number of meritorious legal defenses. There are also unresolved questions of law and fact that could be important to the ultimate resolution of this matter.

In November 2021, the Environmental Protection Agency (the "EPA") sent us an information request related to hazardous waste regulatory compliance at certain of our facilities. The EPA has indicated that it is investigating potential recordkeeping violations of the Resource Conservation and Recovery Act at those facilities. We are cooperating with the EPA. An immaterial accrual with respect to this matter is included in our consolidated balance sheets. We do not believe that any loss from this matter would have a material impact on our operations or financial condition, although we are unable to predict what action, if any, might be taken in the future by the EPA as a result of this request.

We are a party in various other matters that arose in the normal course of business. We do not believe that the eventual resolution of these other matters (either individually or in the aggregate), including any reasonably possible losses in excess of current accruals, will have a material impact on our operations or financial condition.

NOTE 12. LEASES

We have finance and operating leases for package centers, airport facilities, warehouses, office space, aircraft, aircraft engines, information technology equipment (primarily mainframes, servers and copiers), vehicles and various other equipment used in operating our business. Certain leases for real estate and aircraft contain options to purchase, extend or terminate the lease.

We recognize a right-of-use ("ROU") asset and lease obligation for all leases greater than twelve months. Some of our leases contain both lease and non-lease components, which we have elected to treat as a single lease component. We have also elected not to recognize leases that have an original lease term, including reasonably certain renewal or purchase options, of twelve months or less in our consolidated balance sheets for all classes of underlying assets. Lease costs for short-term leases are recognized on a straight-line basis over the lease term.

Determining the lease term and amount of lease payments to include in the calculation of the ROU asset and lease obligation for leases containing options requires the use of judgment to determine whether the exercise of an option is reasonably certain and whether the optional period and payments should be included in the calculation of the associated ROU asset and lease obligation. In making this determination, we consider all relevant economic factors that would compel us to exercise or not exercise an option.

When our leases contain future payments that are dependent on an index or rate, such as the consumer price index, we initially measure the lease obligation and ROU asset using the index or rate at the commencement date. In subsequent periods, lease payments dependent on an index or rate are not remeasured. Rather, changes to payments due to a change in an index or rate are recognized in our statements of consolidated income in the period of the change.

When available, we use the rate implicit in the lease to discount lease payments; however, the rate implicit in the lease is not readily determinable for substantially all of our leases. For these leases, we use an estimate of our incremental borrowing rate to discount lease payments based on information available at lease commencement. The incremental borrowing rate is derived using multiple inputs including our credit rating, the impact of full collateralization, lease term and denominated currency. The remaining lease terms vary from 1 month to 139 years.

Aircraft

In addition to the aircraft that we own, we have leases for 329 aircraft. Of these leased aircraft, 22 are classified as finance leases, 18 are classified as operating leases and the remaining 289 are classified as short-term leases. A majority of the obligations associated with the aircraft classified as finance leases have been legally defeased. A majority of our long-term aircraft operating leases are operated by a third party to handle package and cargo volume in geographic regions where, due to government regulations, we are restricted from operating an airline.

In order to meet customers' needs, we charter aircraft to handle package and cargo volume on certain international trade lanes and domestic routes. Due to the nature of these agreements, primarily being that either party can cancel the agreement with short notice, we have classified these as short-term leases. Additionally, the lease payments associated with these charter agreements are variable in nature based on the number of hours flown.

Real Estate

We have operating and finance leases for package centers, airport facilities, warehouses, office space and expansion facilities utilized during peak shipping periods. Many of our leases contain charges for common area maintenance or other expenses that are updated based on landlord estimates. Due to this variability, the cash flows associated with these charges are not included in the minimum lease payments used in determining the ROU asset and associated lease obligation.

Some of our real estate leases contain options to renew or extend the lease or terminate the lease before the expiration date. These options are factored into the determination of the lease term and lease payments when their exercise is considered to be reasonably certain.

We also enter into real estate leases that contain lease incentives, such as tenant improvement allowances or move-in allowances, that are received or receivable at lease commencement. These incentives reduce lease payments for classification purposes and reduce the initial ROU asset. When lease incentives are receivable at lease commencement, they also reduce the initial lease obligation.

From time to time, we enter into leases with the intention of purchasing the property, either through purchase options with a fixed price or a purchase agreement negotiated contemporaneously with the lease agreement. We classify these leases as finance leases and include the purchase date and purchase price in the determination of the lease term and lease payments, respectively, when the option to exercise or purchase is reasonably certain.

Transportation equipment and other equipment

We enter into both long-term and short-term leases for transportation equipment to supplement our capacity or meet contractual demands. Some of these assets are leased on a month-to-month basis and the leases can be terminated without penalty. The lease term for these types of leases is determined by the length of the underlying customer contract or based on the judgment of the business unit. We also enter into multi-year leases for trailers to increase capacity during periods of high demand, which are typically only used for 90-120 days during the year. These leases are treated as short-term as the cumulative right of use is less than 12 months over the term of the contract.

The remainder of our leases are primarily related to equipment used in our air operations, vehicles required to meet capacity needs during periods of higher demand for our shipping services, technology equipment and office equipment used in our facilities.

Some of our transportation and technology equipment leases require us to make additional lease payments based on the underlying usage of the assets. Due to the variable nature of these costs, these are expensed as incurred and are not included in the ROU asset and associated lease obligation.

The components of lease expense for the years ended December 31, 2021, 2020 and 2019 were as follows (in millions):

	2021	2020	2019
Operating lease costs	$ 729	$ 711	$ 643
Finance lease costs:			
Amortization of assets	$ 97	$ 79	$ 73
Interest on lease liabilities	14	18	19
Total finance lease costs	111	97	92
Variable lease costs	246	247	206
Short-term lease costs	1,510	1,299	1,122
Total lease costs	$ 2,596	$ 2,354	$ 2,063

In addition to the lease costs disclosed in the table above, we monitor all lease categories for any indicators that the carrying value of the assets may not be recoverable. We recognized impairment charges of $17 million for the year ended December 31, 2020. There were no impairments recognized for the years ended December 31, 2021 and 2019.

Supplemental information related to leases and location within our consolidated balance sheets as of December 31, 2021 and 2020 are as follows (in millions, except lease term and discount rate):

	2021	2020
Operating Leases:		
Operating lease right-of-use assets	$ 3,562	$ 3,073
Current maturities of operating leases	$ 580	$ 560
Non-current operating leases	3,033	2,540
Total operating lease obligations	$ 3,613	$ 3,100
Finance Leases:		
Property, plant and equipment, net	$ 1,125	$ 1,225
Current maturities of long-term debt, commercial paper and finance leases	$ 129	$ 56
Long-term debt and finance leases	279	286
Total finance lease obligations	$ 408	$ 342
Weighted average remaining lease term (in years):		
Operating leases	11.7	11.2
Finance leases	8.0	9.3
Weighted average discount rate:		
Operating leases	1.94 %	2.28 %
Finance leases	2.79 %	4.14 %

Supplemental cash flow information related to leases for the years ended December 31, 2021 and 2020 is as follows (in millions):

	2021	2020
Cash paid for amounts included in measurement of obligations:		
Operating cash flows from operating leases	$ 731	$ 686
Operating cash flows from finance leases	4	18
Financing cash flows from finance leases	208	192
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 1,247	$ 787
Finance leases	$ 280	$ 66

Maturities of lease obligations as of December 31, 2021 are as follows (in millions):

	Finance Leases	Operating Leases
2022	$ 142	$ 644
2023	61	574
2024	37	477
2025	32	424
2026	29	379
Thereafter	190	1,622
Total lease payments	491	4,120
Less: Imputed interest	(83)	(507)
Total lease obligations	408	3,613
Less: Current obligations	(129)	(580)
Long-term lease obligations	$ 279	$ 3,033

As of December 31, 2021, we have additional leases which have not commenced of $348 million. These leases will commence in 2022 and 2023 when we are granted access to the property, such as when leasehold improvements are completed by the lessor or a certificate of occupancy is obtained.

NOTE 13. SHAREOWNERS' EQUITY

Capital Stock, Additional Paid-In Capital, Retained Earnings and Non-Controlling Minority Interests

We are authorized to issue two classes of common stock, which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange ("NYSE") under the symbol "UPS". Class A and B shares both have a $0.01 par value, and as of December 31, 2021, there were 4.6 billion class A shares and 5.6 billion class B shares authorized to be issued. Additionally, there are 200 million preferred shares authorized to be issued, with a par value of $0.01 per share. As of December 31, 2021, no preferred shares had been issued.

The following is a rollforward of our common stock, additional paid-in capital, retained earnings and non-controlling minority interests accounts for the years ended December 31, 2021, 2020 and 2019 (in millions, except per share amounts):

	2021		2020		2019	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Class A Common Stock:						
Balance at beginning of year	147	$ 2	156	$ 2	163	$ 2
Common stock purchases	—	—	—	—	(3)	—
Stock award plans	6	—	6	—	5	—
Common stock issuances	2	—	4	—	3	—
Conversions of class A to class B common stock	(17)	—	(19)	—	(12)	—
Class A shares issued at end of year	138	$ 2	147	$ 2	156	$ 2
Class B Common Stock:						
Balance at beginning of year	718	$ 7	701	$ 7	696	$ 7
Common stock purchases	(3)	—	(2)	—	(7)	—
Conversions of class A to class B common stock	17	—	19	—	12	—
Class B shares issued at end of year	732	$ 7	718	$ 7	701	$ 7
Additional Paid-In Capital:						
Balance at beginning of year		$ 865		$ 150		$ —
Stock award plans		574		498		778
Common stock purchases		(500)		(217)		(1,005)
Common stock issuances		404		434		356
Option premiums received (paid)		—		—		21
Balance at end of year		$ 1,343		$ 865		$ 150
Retained Earnings:						
Balance at beginning of year		$ 6,896		$ 9,105		$ 8,006
Net income attributable to controlling interests		12,890		1,343		4,440
Dividends ($4.08, $4.04, and $3.84 per share) [(1)]		(3,604)		(3,552)		(3,341)
Other		(3)		—		—
Balance at end of year		$ 16,179		$ 6,896		$ 9,105
Non-Controlling Interests:						
Balance at beginning of year		$ 12		$ 16		$ 16
Change in non-controlling interests		4		(4)		—
Balance at end of year		$ 16		$ 12		$ 16

[(1)] The dividend per share amount is the same for both class A and class B common stock. Dividends include $167, $178 and $147 million for 2021, 2020 and 2019, respectively, that were settled in shares of class A common stock.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion of class A and class B common stock. For the years ended December 31, 2020 and 2019, we repurchased a total of 2.1 and 9.1 million shares of class A and class B common stock for $217 million and $1.0 billion, respectively under this program ($224 million and $1.0 billion in repurchases for 2020 and 2019, respectively, are reported on the statements of consolidated cash flows due to the timing of settlements). We did not repurchase any shares under this program during 2021.

In August 2021, the Board of Directors terminated this authorization and approved a new share repurchase authorization of $5.0 billion for class A and class B common stock. We repurchased 2.6 million shares of class B common stock for $500 million under an accelerated stock repurchase transaction pursuant to this authorization during the year ended December 31, 2021. As of December 31, 2021, we had $4.5 billion of this share repurchase authorization available. Unless terminated earlier by the Board of Directors, this program will expire when we have purchased all shares authorized for repurchase under the program.

Share repurchases may be in the form of accelerated share repurchase programs, open market purchases or other methods we deem appropriate. The timing of share repurchases will depend upon market conditions. In order to lower the average cost of acquiring shares in our ongoing share repurchase program, we periodically enter into structured repurchase agreements involving the use of capped call options for the purchase of UPS class B shares. We pay a fixed sum of cash upon execution of each agreement in exchange for the right to receive either a predetermined amount of cash or stock. Upon expiration of each agreement, if the closing market price of our common stock is above the predetermined price, we will have our initial investment returned with a premium in either cash or shares (at our election). If the closing market price of our common stock is at or below the pre-determined price, we will receive the number of shares specified in the agreement. We received net premiums of $21 million during the year ended December 31, 2019 related to entering into and settling capped call options for the purchase of class B shares. We had no capped call options outstanding, nor did we enter into any of these structured repurchase agreements, during the years ended December 31, 2021 or 2020.

Movements in additional paid-in capital in respect of stock award plans comprise accruals for unvested awards, offset by adjustments for awards that vest during the period. The movement year over year was driven by changes in award payouts and by the acceleration of vesting for certain of our awards in 2020.

Accumulated Other Comprehensive Income (Loss)

We recognize activity in AOCI for foreign currency translation adjustments, unrealized holding gains and losses on available-for-sale securities, unrealized gains and losses from derivatives that qualify as hedges of cash flows and unrecognized pension and postretirement benefit costs. The activity in AOCI for the years ended December 31, 2021, 2020 and 2019 is as follows (in millions):

	2021	2020	2019
Foreign Currency Translation Gain (Loss), Net of Tax:			
Balance at beginning of year	$ (981)	$ (1,078)	$ (1,126)
Translation adjustment (net of tax effect of $42, $(36) and $10)	(181)	97	48
Balance at end of year	$ (1,162)	$ (981)	$ (1,078)
Unrealized Gain (Loss) on Marketable Securities, Net of Tax:			
Balance at beginning of year	$ 6	$ 4	$ (2)
Current period changes in fair value (net of tax effect of $0, $1 and $4)	(2)	6	11
Reclassification to earnings (net of tax effect of $0, $(1) and $(1))	(5)	(4)	(5)
Balance at end of year	$ (1)	$ 6	$ 4
Unrealized Gain (Loss) on Cash Flow Hedges, Net of Tax:			
Balance at beginning of year	$ (223)	$ 112	$ 40
Current period changes in fair value (net of tax effect of $82, $(61) and $61)	261	(192)	195
Reclassification to earnings (net of tax effect of $(17), $(45) and $(39))	(55)	(143)	(123)
Balance at end of year	$ (17)	$ (223)	$ 112
Unrecognized Pension and Postretirement Benefit Costs, Net of Tax:			
Balance at beginning of year	$ (5,915)	$ (5,035)	$ (3,906)
Net actuarial gain (loss) resulting from remeasurements of plan assets and liabilities (net of tax effect of $1,956, $(1,885) and $(979))	6,195	(5,984)	(3,117)
Reclassification to earnings (net of tax effect of $(749), $1,607 and $626)	(2,378)	5,104	1,988
Balance at end of year	$ (2,098)	$ (5,915)	$ (5,035)
Accumulated other comprehensive income (loss) at end of year	$ (3,278)	$ (7,113)	$ (5,997)

Detail of the gains (losses) reclassified from AOCI to the statements of consolidated income for the years ended December 31, 2021, 2020 and 2019 is as follows (in millions):

	Amount Reclassified from AOCI			Affected Line Item in the Income Statement
	2021	**2020**	**2019**	
Unrealized Gain (Loss) on Marketable Securities:				
Realized gain (loss) on sale of securities	$ 5	$ 5	$ 6	Investment income (expense) and other
Income tax (expense) benefit	—	(1)	(1)	Income tax expense
Impact on net income	5	4	5	Net income
Unrealized Gain (Loss) on Cash Flow Hedges:				
Interest rate contracts	(11)	(8)	(15)	Interest expense
Foreign currency exchange contracts	83	196	177	Revenue
Income tax (expense) benefit	(17)	(45)	(39)	Income tax expense
Impact on net income	55	143	123	Net income
Unrecognized Pension and Postretirement Benefit Costs:				
Prior service costs	(148)	(227)	(227)	Investment income (expense) and other
Prior service credit for divested business	69	—	—	Other expenses
Plan amendments for divested business	(66)	—	—	Other expenses
Remeasurement of benefit obligation	3,272	(6,484)	(2,387)	Investment income (expense) and other
Income tax (expense) benefit	(749)	1,607	626	Income tax expense
Impact on net income	2,378	(5,104)	(1,988)	Net income
Total amount reclassified for the year	$ 2,438	$ (4,957)	$ (1,860)	Net income

Deferred Compensation Obligations and Treasury Stock

We maintain a deferred compensation plan whereby certain employees were previously able to elect to defer the gains on stock option exercises by deferring the shares received upon exercise into a rabbi trust. The shares held in this trust are classified as treasury stock, and the liability to participating employees is classified as *Deferred compensation obligations* in the shareowners' equity section of the consolidated balance sheets. The number of shares needed to settle the liability for deferred compensation obligations is included in the denominator in both the basic and diluted earnings per share calculations. Employees are generally not able to defer the gains from stock options exercised subsequent to December 31, 2004.

Activity in the deferred compensation program for the years ended December 31, 2021, 2020 and 2019 was as follows (in millions):

	2021		2020		2019	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Deferred Compensation Obligations:						
Balance at beginning of year		$ 20		$ 26		$ 32
Reinvested dividends		1		1		2
Benefit payments		(5)		(7)		(8)
Balance at end of year		$ 16		$ 20		$ 26
Treasury Stock:						
Balance at beginning of year	—	$ (20)	—	$ (26)	(1)	$ (32)
Reinvested dividends	—	(1)	—	(1)	—	(2)
Benefit payments	—	5	—	7	1	8
Balance at end of year	—	$ (16)	—	$ (20)	—	$ (26)

NOTE 14. STOCK - BASED COMPENSATION

Our various incentive compensation plans permit the grant of non-qualified and incentive stock options, stock appreciation rights, restricted stock and stock units ("RSUs"), and restricted performance shares and performance units ("RPUs", collectively with RSUs, "Restricted Units"). On May 13, 2021, our shareholders approved our 2021 Omnibus Incentive Compensation Plan under which we are authorized to issue awards underlying 25 million shares. Each award issued in the form of Restricted Units, stock options and other permitted awards reduces the share reserve by one share. We had 19 million shares available to be issued under the UPS Incentive Compensation Plan as of December 31, 2021.

Our primary equity compensation programs are the UPS Management Incentive Award program (the "MIP"), the UPS Long-Term Incentive Performance Award program (the "LTIP") and the UPS Stock Option program. Additionally, our matching contributions to our primary employee defined contribution savings plan are made in shares of UPS class A common stock. The total expense recognized in our statements of consolidated income under all stock compensation programs during 2021, 2020 and 2019 was $878, $796 and $915 million, respectively. The associated income tax benefit recognized in our statements of consolidated income during 2021, 2020 and 2019 was $301, $210 and $216 million, respectively. The cash income tax benefit received from the exercise of stock options and conversion of Restricted Units to class A shares during 2021, 2020 and 2019 was $278, $272 and $148 million, respectively.

Management Incentive Award Program ("MIP")

Non-executive management eligibility for MIP awards is determined annually by the executive officers of UPS. Awards granted to executive officers are determined annually by the Compensation Committee of the UPS Board of Directors. Our MIP provides, with certain exceptions, that one-half to two-thirds of the annual award will be made in RPUs, depending upon the level of management. The remaining one-third to one-half of the award is electable in the form of cash or unrestricted shares of class A common stock, and is fully vested at the time of grant. Upon conversion, RPUs result in the issuance of an equivalent number of UPS class A shares after required tax withholdings.

Beginning with the MIP grant in the first quarter of 2019, RPUs vest one year following the grant date based on continued employment with the Company (except in the case of death, disability or retirement, in which case immediate vesting occurs). The grant value is expensed on a straight-line basis (less estimated forfeitures) over the requisite service period (except in the case of death, disability or retirement, in which case immediate expensing occurs). RPUs granted under the MIP prior to 2019 vest over a five-year period with approximately 20% of the award vesting and converting to class A shares at the anniversary of each grant date. As of December 31, 2020, outstanding RPUs granted to non-executive management prior to 2019 became fully vested. The elimination of the future service requirement for these awards resulted in the recognition of an additional $133 million of stock compensation expense in 2020. Conversion to class A shares will continue to occur over the remaining five-year period.

All RPUs granted are subject to early cancellation or vesting under certain conditions. Dividends earned on RPUs are reinvested in additional RPUs at each dividend payable date until they have fully vested. As of December 31, 2021, we had the following outstanding RPUs, including reinvested dividends, granted under the MIP:

	RPUs (in thousands)	Weighted-Average Grant Date Fair Value
Non-vested as of January 1, 2021	2,293	$ 102.91
Vested	(5,452)	109.35
Granted	6,618	165.27
Reinvested Dividends	129	N/A
Forfeited / Expired	(121)	159.78
Non-vested as of December 31, 2021	3,467	$ 163.32

The fair value of each RPU is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of RPUs granted during 2021, 2020 and 2019 was $165.27, $102.54 and $108.78, respectively. The total fair value of RPUs vested was $716, $827 and $457 million in 2021, 2020 and 2019, respectively. As of December 31, 2021, there was $85 million of total unrecognized compensation cost related to non-vested RPUs. That cost is expected to be recognized over a weighted-average period of four months.

Long-Term Incentive Performance Award Program ("LTIP")

RPUs issued under the LTIP vest at the end of a three-year performance period, assuming continued employment with the Company (except in the case of death, disability or retirement, in which case immediate vesting occurs on a prorated basis). The number of RPUs earned is based on achievement of the performance targets established on the grant date.

For LTIP awards with a performance period ended December 31, 2021, the performance targets were equally weighted among consolidated operating return on invested capital ("ROIC"), growth in currency-constant consolidated revenue and total shareholder return ("RTSR") relative to a peer group of companies. For the two-thirds of the award related to ROIC and growth in currency-constant consolidated revenue, we recognized the grant date fair value of these RPUs (less estimated forfeitures) as compensation expense ratably over the vesting period, based on the number of awards expected to be earned. The remaining one-third of the award was valued using a Monte Carlo model. We recognized the grant date fair value of this portion of the award (less estimated forfeitures) as compensation expense ratably over the vesting period.

For LTIP awards with a performance period ending in 2022 and 2023, the performance targets are equally weighted between adjusted earnings per share and adjusted cumulative free cash flow. The final number of RPUs earned will then be subject to adjustment based on RTSR relative to the Standard & Poors 500 Index ("S&P 500"). We determine the grant date fair value of the RPUs using a Monte Carlo model and recognize compensation expense (less estimated forfeitures) ratably over the vesting period, based on the number of awards expected to be earned.

For the 2020 LTIP award, the performance period was divided into two measurement periods. The first measurement period evaluated the achievement of the performance targets for 2020. The second measurement period will evaluate the achievement of the performance targets for 2021 and 2022.

The weighted-average assumptions used in our Monte Carlo models for each award year were as follows:

	2021	2020	2019
Risk-free interest rate	0.19 %	0.15 %	2.23 %
Expected volatility	30.70 %	27.53 %	19.64 %
Weighted-average fair value of units granted	$ 168.05	$ 92.77	$ 123.44
Share payout	102.39 %	101.00 %	115.04 %

There is no expected dividend yield as units earn dividend equivalents.

As of December 31, 2021, we had the following RPUs outstanding, including reinvested dividends, that were granted under our LTIP program:

	RPUs (in thousands)	Weighted-Average Grant Date Fair Value
Non-vested as of January 1, 2021	1,004	$ 104.15
Vested	(919)	115.40
Granted	1,659	168.10
Reinvested Dividends	50	N/A
Forfeited / Expired	(158)	149.90
Non-vested as of December 31, 2021	1,636	$ 159.34

The fair value of each RPU is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of RPUs granted during 2021, 2020 and 2019 was $168.10, $92.76 and $107.30, respectively. The total fair value of RPUs vested was $160, $112 and $71 million in 2021, 2020 and 2019, respectively. As of December 31, 2021, there was $160 million of total unrecognized compensation cost related to non-vested RPUs. That cost is expected to be recognized over a weighted-average period of one year and six months.

Non-qualified Stock Options

We maintain stock option plans under which options are granted to purchase shares of UPS class A common stock. Stock options granted in connection with the UPS Incentive Compensation Plan must have an exercise price at least equal to the NYSE closing price of UPS class B common stock on the date the option is granted.

We grant non-qualified stock options to a limited group of eligible senior management employees annually, in which the value granted is determined as a percentage of salary. Stock option awards vest over a five-year period with approximately 20% of the award vesting at each anniversary of the grant date (except in the case of death, disability or retirement, in which case immediate vesting occurs). The option grants expire 10 years after the date of the grant. Option holders may exercise their options via the payment of cash or class A common stock and new class A shares are issued upon exercise.

The following is an analysis of options to purchase shares of class A common stock issued and outstanding:

	Options (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at January 1, 2021	1,564	$ 103.60		
Exercised	(176)	99.74		
Granted	211	165.58		
Forfeited / Expired	—	—		
Outstanding as of December 31, 2021	1,599	$ 112.18	6.46	$ 163
Options Vested and Expected to Vest	1,599	$ 112.18	6.46	$ 163
Exercisable as of December 31, 2021	1,050	$ 104.15	5.52	$ 116

The fair value of each option grant is estimated using the Black-Scholes option pricing model. The weighted-average assumptions used by year, and the calculated weighted-average fair values of options, are as follows:

	2021	2020	2019
Expected dividend yield	3.31 %	3.51 %	2.94 %
Risk-free interest rate	0.84 %	1.26 %	2.60 %
Expected life in years	7.5	7.5	7.5
Expected volatility	23.15 %	19.25 %	17.79 %
Weighted-average fair value of options granted	$ 23.71	$ 11.74	$ 16.34

The expected dividend yield is based on the recent historical dividend yields for our stock, taking into account changes in dividend policy. The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time options are expected to remain outstanding, and we have relied upon a combination of the observed exercise behavior of our prior grants with similar characteristics, the vesting schedule of the grants and an index of peer companies with similar grant characteristics in estimating this variable. Expected volatilities are based on the historical returns on our stock and the implied volatility of our publicly-traded options.

We received cash of $16, $28 and $7 million during 2021, 2020 and 2019, respectively, from option holders resulting from the exercise of stock options. The total intrinsic value of options exercised during 2021, 2020 and 2019 was $16, $17 and $5 million, respectively. As of December 31, 2021, there was $4 million of total unrecognized compensation cost related to non-vested options. That cost is expected to be recognized over a weighted-average period of three years and five months.

Discounted Employee Stock Purchase Plan

We maintain an employee stock purchase plan for all eligible employees. Under this plan, shares of UPS class A common stock may be purchased at quarterly intervals at 95% of the NYSE closing price of UPS class B common stock on the last day of each quarterly period. Employees purchased 0.6, 0.9 and 1.0 million shares at average prices of $172.07, $110.92 and $102.11 per share, during 2021, 2020 and 2019, respectively. This plan is not considered to be compensatory, and therefore no compensation cost is measured for the employees' purchase rights.

NOTE 15. SEGMENT AND GEOGRAPHIC INFORMATION

We have two reportable segments: U.S. Domestic Package and International Package, which are together referred to as our global small package operations. Our remaining businesses are reported as Supply Chain Solutions. Global small package operations represent our most significant business and are broken down into regional operations around the world. Regional operations managers are responsible for both domestic and export products within their geographic area. Supply Chain Solutions comprises the results of non-reportable operating segments that do not meet the quantitative and qualitative criteria of a reportable segment as defined under ASC Topic 280 – Segment Reporting.

U.S. Domestic Package

U.S. Domestic Package operations include the time-definite delivery of letters, documents and packages throughout the United States.

International Package

International Package operations include delivery to more than 220 countries and territories worldwide, including shipments wholly outside the United States, as well as shipments with either origin or destination outside the United States. Our International Package reporting segment includes our operations in Europe, Asia, Americas and ISMEA.

Supply Chain Solutions

Supply Chain Solutions includes our Forwarding, Logistics, Coyote, Marken, UPS Mail Innovations and other businesses. Our Forwarding, Logistics and UPS Mail Innovations units provide services in more than 200 countries and territories worldwide and include international air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting services. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the healthcare and life sciences industry, specializing in clinical trials logistics. Other businesses within this segment include The UPS Store, UPS Capital and Roadie. This segment also included UPS Freight prior to its divestiture, details of which are set out in note 4.

In evaluating financial performance, we focus on operating profit as a segment’s measure of profit or loss. Operating profit is before investment income (expense) and other, interest expense and income tax expense. Certain expenses are allocated between the segments using activity-based costing methods as described in Part I, "Item 7. Supplemental Information - Items Affecting Comparability" section of Management's Discussion and Analysis. As we operate an integrated, global multimodal network, we evaluate many of our capital expenditure decisions at a network level. Accordingly, expenditures on property, plant and equipment by segment are not presented. Unallocated assets are comprised primarily of cash and marketable securities.

Segment information for the years ended December 31, 2021, 2020 and 2019 is as follows (in millions):

	2021	2020	2019
Revenue:			
U.S. Domestic Package	$ 60,317	$ 53,499	$ 46,493
International Package	19,541	15,945	14,220
Supply Chain Solutions	17,429	15,184	13,381
Consolidated revenue	$ 97,287	$ 84,628	$ 74,094
Operating Profit:			
U.S. Domestic Package	$ 6,436	$ 3,891	$ 4,164
International Package	4,646	3,436	2,657
Supply Chain Solutions	1,728	357	977
Consolidated operating profit	$ 12,810	$ 7,684	$ 7,798
Assets:			
U.S. Domestic Package	$ 35,746	$ 35,067	$ 32,795
International Package	17,225	15,717	14,044
Supply Chain Solutions	9,556	9,041	9,045
Unallocated	6,878	2,583	1,973
Consolidated assets	$ 69,405	$ 62,408	$ 57,857
Depreciation and Amortization Expense:			
U.S. Domestic Package	$ 2,058	$ 1,805	$ 1,520
International Package	685	597	547
Supply Chain Solutions	210	296	293
Consolidated depreciation and amortization expense	$ 2,953	$ 2,698	$ 2,360

Revenue by product type for the years ended December 31, 2021, 2020 and 2019 is as follows (in millions):

	2021	2020	2019
U.S. Domestic Package:			
Next Day Air	$ 10,009	$ 8,522	$ 8,479
Deferred	5,846	5,665	5,180
Ground	44,462	39,312	32,834
Total U.S. Domestic Package	60,317	53,499	46,493
International Package:			
Domestic	3,690	3,160	2,836
Export	15,012	12,159	10,837
Cargo	839	626	547
Total International Package	19,541	15,945	14,220
Supply Chain Solutions:			
Forwarding	9,872	6,975	5,867
Logistics	4,767	4,073	3,435
Freight	1,064	3,149	3,265
Other	1,726	987	814
Total Supply Chain Solutions	17,429	15,184	13,381
Consolidated revenue	$ 97,287	$ 84,628	$ 74,094

Geographic information for the years ended December 31, 2021, 2020 and 2019 is as follows (in millions):

	2021	2020	2019
United States:			
Revenue	$ 74,376	$ 66,580	$ 58,699
Long-lived assets	$ 29,609	$ 28,354	$ 27,976
International:			
Revenue	$ 22,911	$ 18,048	$ 15,395
Long-lived assets	$ 11,098	$ 10,213	$ 9,567
Consolidated:			
Revenue	$ 97,287	$ 84,628	$ 74,094
Long-lived assets	$ 40,707	$ 38,567	$ 37,543

Long-lived assets include property, plant and equipment, pension and postretirement benefit assets, long-term investments, goodwill and intangible assets.

No countries outside of the United States provided 10% or more of consolidated revenue for the years ended December 31, 2021, 2020 or 2019. For the years ended December 31, 2021, 2020 and 2019, Amazon.com, Inc. and its affiliates ("Amazon") represented 11.7%, 13.3% and 11.6% of our consolidated revenues, respectively. Substantially all of this revenue was attributed to U.S. Domestic Package. Amazon accounted for approximately 15.5%, 18.1% and 16.9% of accounts receivable, net, included within the consolidated balance sheets as of December 31, 2021, 2020 and 2019, respectively.

NOTE 16. INCOME TAXES

The income tax expense (benefit) for the years ended December 31, 2021, 2020 and 2019 consists of the following (in millions):

	2021	2020	2019
Current:			
U.S. Federal	$ 1,388	$ 839	$ 570
U.S. State and Local	194	100	183
Non-U.S.	478	420	359
Total Current	2,060	1,359	1,112
Deferred:			
U.S. Federal	1,311	(725)	255
U.S. State and Local	273	(159)	(93)
Non-U.S.	61	26	(62)
Total Deferred	1,645	(858)	100
Total Income Tax Expense	$ 3,705	$ 501	$ 1,212

Income before income taxes includes the following components (in millions):

	2021	2020	2019
United States	$ 14,220	$ (39)	$ 3,972
Non-U.S.	2,375	1,883	1,680
Total Income Before Income Taxes:	$ 16,595	$ 1,844	$ 5,652

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2021, 2020 and 2019 consists of the following:

	2021	2020	2019
Statutory U.S. federal income tax rate	21.0 %	21.0 %	21.0 %
U.S. state and local income taxes (net of federal benefit) [1]	2.2	(2.6)	1.4
Non-U.S. tax rate differential	—	1.6	0.3
U.S. federal tax credits	(0.4)	(3.6)	(1.4)
Goodwill and other asset impairments	—	5.1	—
Net uncertain tax positions	0.6	3.6	0.1
Non-U.S. valuation allowance release	—	—	(1.2)
Other	(1.1)	2.1	1.2
Effective income tax rate	22.3 %	27.2 %	21.4 %

[1] The 2020 state tax impact to the effective tax rate is negative due to the favorable proportion of state tax credits in comparison to pretax income.

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions in which we operate and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year, but may not be consistent from year to year.

Our effective tax rate was 22.3% in 2021, compared with 27.2% in 2020 and 21.4% in 2019, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items.

2021 Discrete Items

We recognized an income tax expense of $784 million related to a pre-tax mark-to-market gain of $3.3 billion on our pension and U.S. postretirement defined benefit plans. This income tax expense was generated at a higher average tax rate than the 2021 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $380 million during the year ended December 31, 2021. As a result, we recorded an additional income tax benefit of $95 million. This income tax benefit was generated at a higher average tax rate than the 2021 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

We recorded a pre-tax gain of $46 million during the year ended December 31, 2021 related to the divestiture of UPS Freight. As a result, we recorded an additional income tax expense of $11 million. This income tax expense was generated at a higher average tax rate than the 2021 U.S. federal statutory tax rate due to the effect of U.S. state and local taxes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $105 million and reduced our effective tax rate by 0.6% during the year ended December 31, 2021.

2020 Discrete Items

In the fourth quarter of 2020, we recognized an income tax benefit of $1.6 billion related to pre-tax mark-to-market losses of $6.5 billion on our pension and U.S. postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2020 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $348 million during the year ended December 31, 2020. As a result, we recorded an additional income tax benefit of $83 million. This income tax benefit was generated at a higher average tax rate than the 2020 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

We recorded pre-tax goodwill and other asset impairment charges of $686 million during the year ended December 31, 2020. As a result, we recorded an additional income tax benefit of $57 million. This income tax benefit was generated at a lower average tax rate than the U.S. federal statutory tax rate due to the portion of the costs related to goodwill impairment, which is not deductible for tax purposes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $28 million and reduced our effective tax rate by 1.5% during the year ended December 31, 2020.

Our 2020 effective tax rate was also unfavorably impacted by new uncertain tax positions.

2019 Discrete Items

In the fourth quarter of 2019, we recognized an income tax benefit of $571 million related to pre-tax mark-to-market losses of $2.4 billion on our pension and U.S. postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $255 million during the year ended December 31, 2019. As a result, we recorded an additional income tax benefit of $59 million. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

Legal contingencies and expenses of $97 million were accrued during 2019 in respect of certain legal proceedings for which we recorded an additional income tax benefit of $6 million. This income tax benefit was generated at a lower average tax rate than the U.S. federal statutory tax rate due to the portion of the accrual related to penalties, which are not deductible for tax purposes.

As of December 31, 2018, we maintained a valuation allowance against certain deferred tax assets, primarily related to foreign net operating loss carryforwards. As of each reporting date, we consider new evidence, both positive and negative, that could affect the future realization of deferred tax assets. During 2019, we determined that there was sufficient positive evidence to conclude that it was more likely than not that the deferred tax assets related to certain foreign net operating loss carryforwards would be realized. This conclusion was primarily related to achieving cumulative three-year income and anticipated future earnings within the relevant jurisdiction. Accordingly, we reversed the related valuation allowance and recognized a discrete tax benefit of approximately $68 million.

Other factors that impacted our 2019 effective tax rate include favorable tax provisions enacted in the Taxpayer Certainty and Disaster Tax Relief Act of 2019.

Other Items

Beginning in 2012, we were granted a tax incentive for certain of our non-U.S. operations, which was effective through December 31, 2021. The tax incentive was conditioned upon our meeting specific employment and investment thresholds. The impact of this tax incentive decreased non-U.S. tax expense by $61, $35 and $27 million (increased diluted earnings per share by $0.07, $0.04 and $0.03) for 2021, 2020 and 2019, respectively.

Deferred income tax assets and liabilities are comprised of the following as of December 31, 2021 and 2020 (in millions):

	2021	2020
Fixed assets and capitalized software	$ (5,808)	$ (5,355)
Operating lease right-of-use assets	(839)	(730)
Other	(593)	(501)
Deferred tax liabilities	(7,240)	(6,586)
Pension and postretirement benefits	1,620	3,994
Loss and credit carryforwards	342	325
Insurance reserves	587	535
Stock compensation	219	183
Accrued employee compensation	453	583
Operating lease liabilities	874	736
Other	318	357
Deferred tax assets	4,413	6,713
Deferred tax assets valuation allowance	(122)	(88)
Deferred tax asset (net of valuation allowance)	4,291	6,625
Net deferred tax asset (liability)	$ (2,949)	$ 39
Amounts recognized in the consolidated balance sheets:		
Deferred tax assets	$ 176	$ 527
Deferred tax liabilities	(3,125)	(488)
Net deferred tax asset (liability)	$ (2,949)	$ 39

The valuation allowance changed by $34, $34 and $(58) million during the years ended December 31, 2021, 2020 and 2019, respectively.

We have a U.S. federal capital loss carryforward of $185 million as of December 31, 2021, $18 million of which expires on December 31, 2025 and the remainder of which expires on December 31, 2026.

Further, we have U.S. state and local operating loss and credit carryforwards as follows (in millions):

	2021	2020
U.S. state and local operating loss carryforwards	$ 924	$ 1,253
U.S. state and local credit carryforwards	$ 90	$ 108

The U.S. state and local operating loss carryforwards and credits can be carried forward for periods ranging from one year to indefinitely. We also have non-U.S. loss carryforwards of $674 million as of December 31, 2021, the majority of which may be carried forward indefinitely. As indicated in the table above, we have established a valuation allowance for certain U.S. federal, state and non-U.S. carryforwards and outside basis differences due to the uncertainty resulting from a lack of previous taxable income within the applicable tax jurisdictions and other limitations.

Undistributed earnings and profits ("E&P") of our foreign subsidiaries amounted to $5.4 billion as of December 31, 2021. Currently, $834 million of the undistributed E&P of our foreign subsidiaries is considered to be indefinitely reinvested and, accordingly, no deferred income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to U.S. state and local taxes and withholding taxes payable in various jurisdictions. Determination of the amount of unrecognized deferred income tax liability is not practicable because of the complexities associated with its hypothetical calculation.

In December 2017, the United States enacted into law the Tax Act, requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. We elected to pay the tax over eight years based on an installment schedule outlined in the Tax Act. The remaining liability of $123 million, to be paid between 2023 and 2025, is reflected as a non-current liability on the balance sheet.

The following table summarizes the activity related to our uncertain tax positions (in millions):

	Tax	Interest	Penalties
Balance as of January 1, 2019	$ 167	$ 44	$ 5
Additions for tax positions of the current year	6	—	—
Additions for tax positions of prior years	51	13	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(45)	(4)	(1)
Settlements during the period	(3)	(1)	—
Lapses of applicable statute of limitations	(4)	—	—
Balance as of December 31, 2019	172	52	4
Additions for tax positions of the current year	61	—	—
Additions for tax positions of prior years	154	34	2
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(54)	(24)	(2)
Settlements during the period	—	(1)	—
Lapses of applicable statute of limitations	—	—	—
Balance as of December 31, 2020	333	61	4
Additions for tax positions of the current year	85	—	—
Additions for tax positions of prior years	107	23	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(42)	(4)	(2)
Settlements during the period	(3)	(2)	—
Lapses of applicable statute of limitations	—	—	—
Balance as of December 31, 2021	$ 480	$ 78	$ 2

The total amount of gross uncertain tax positions as of December 31, 2021, 2020 and 2019 that, if recognized, would affect the effective tax rate was $479, $332 and $171 million, respectively. Our continuing policy is to recognize interest and penalties associated with income tax matters as a component of income tax expense.

We file income tax returns in the U.S. federal jurisdiction, most U.S. state and local jurisdictions, and many non-U.S. jurisdictions. We have substantially resolved all U.S. federal income tax matters for tax years prior to 2016.

A number of years may elapse before an uncertain tax position is audited and ultimately settled. It is difficult to predict the ultimate outcome or the timing of resolution for uncertain tax positions. It is reasonably possible that the liability for uncertain tax positions could significantly increase or decrease within the next twelve months. Items that may cause changes to uncertain tax positions include the timing of interest deductions and the allocation of income and expense between tax jurisdictions. These changes could result from the settlement of ongoing litigation, the completion of ongoing examinations, the expiration of the statute of limitations, or other unforeseen circumstances. At this time, an estimate of the range of the reasonably possible change cannot be made.

NOTE 17. EARNINGS PER SHARE

The earnings per share amounts are the same for class A and class B common shares as the holders of each class are legally entitled to equal per share distributions whether through dividends or in liquidation.

The following table sets forth the computation of basic and diluted earnings per share (in millions, except per share amounts):

	2021	2020	2019
Numerator:			
Net income attributable to common shareowners	$ 12,890	$ 1,343	$ 4,440
Denominator:			
Weighted-average shares	869	862	859
Deferred compensation obligations	—	—	—
Vested portion of restricted shares	5	5	5
Denominator for basic earnings per share	874	867	864
Effect of Dilutive Securities:			
Restricted performance units	3	4	5
Stock options	1	—	—
Denominator for diluted earnings per share	878	871	869
Basic Earnings Per Share	$ 14.75	$ 1.55	$ 5.14
Diluted Earnings Per Share	$ 14.68	$ 1.54	$ 5.11

Diluted earnings per share for the years ended December 31, 2021, 2020 and 2019 exclude the effect of 0.1, 0.6 and 0.5 million shares, respectively, of common stock that may be issued upon the exercise of employee stock options because such effect would be antidilutive.

NOTE 18. DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT

Risk Management Policies

Changes in fuel prices, interest rates and foreign currency exchange rates impact our results of operations and we actively monitor these exposures. To manage the impact of these exposures, we may enter into a variety of derivative financial instruments. Our objective is to manage, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency exchange rates, commodity prices and interest rates. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures. As we use price sensitive instruments to hedge a certain portion of our existing and anticipated transactions, we expect that any loss in value from those instruments generally would be offset by increases in the value of those hedged transactions. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Credit Risk Management

The forward contracts, swaps and options discussed below contain an element of risk that the counterparties may be unable to meet the terms of the agreements; however, we seek to minimize such risk exposures for these instruments by limiting the counterparties to banks and financial institutions that meet established credit guidelines and by monitoring counterparties to prevent concentrations of credit risk with any single counterparty.

We have agreements with all of our active counterparties (covering the majority of our derivative positions) containing early termination rights and/or zero threshold bilateral collateral provisions whereby cash is required based on the net fair value of derivatives associated with those counterparties.

As of December 31, 2021 and 2020, we held cash collateral of $260 and $146 million, respectively, under these agreements. This collateral is included in *Cash and cash equivalents* in the consolidated balance sheets and its use by UPS is not restricted. As of December 31, 2021, no collateral was required to be posted with our counterparties. As of December 31, 2020, we were required to post $158 million with our counterparties.

Events such as a counterparty credit rating downgrade (depending on the ultimate rating level) could also allow us to take additional protective measures such as the early termination of trades. Alternatively, we could be required to provide additional collateral or terminate transactions with certain counterparties in the event of a downgrade of our credit rating. The amount of collateral required would be determined by the net fair value of the associated derivatives with each counterparty. We have not historically incurred, and do not expect to incur in the future, any losses as a result of counterparty default.

As of December 31, 2021, there were no instruments in a net liability position that were not covered by the zero threshold bilateral collateral provisions.

Types of Hedges

Commodity Risk Management

Currently, the fuel surcharges that we apply to our domestic and international package are the primary means of reducing the risk of adverse fuel price changes on our business. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage services.

Foreign Currency Risk Management

To protect against the reduction in value of forecasted foreign currency cash flows from our international package business, we maintain a foreign currency cash flow hedging program. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We hedge portions of our forecasted revenue denominated in foreign currencies with forward contracts. We normally designate and account for these contracts as cash flow hedges of anticipated foreign currency denominated revenue and, therefore, the resulting gains and losses from these hedges are recognized as a component of international package revenue when the underlying sales transactions occur.

We also hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement using foreign currency forward contracts. We normally designate and account for these contracts as cash flow hedges of forecasted foreign currency denominated transactions; therefore, the resulting gains and losses from these hedges are recognized as a component of *Investment income (expense) and other* when the underlying transactions are subject to currency remeasurement.

We hedge our net investment in certain foreign operations with foreign currency denominated debt instruments. The use of foreign denominated debt as the hedging instrument allows the debt to be remeasured to foreign currency translation adjustment within other comprehensive income to offset the translation risk from those investments. Balances in the cumulative translation adjustment accounts remain until the sale or substantially complete liquidation of the foreign entity, upon which they are recognized as a component of *Investment income (expense) and other*.

Interest Rate Risk Management

Our indebtedness under our various financing arrangements creates interest rate risk. We use a combination of derivative instruments as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. Interest rate swaps allow us to maintain a target range of floating-rate debt within our capital structure. The notional amount, interest payment date and maturity date of the swaps match the terms of the associated debt being hedged.

We have designated and account for the majority of our interest rate swaps that convert fixed-rate interest payments into floating-rate interest payments as fair value hedges of the associated debt instruments. Therefore, the gains and losses resulting from fair value adjustments to the interest rate swaps and fair value adjustments to the associated debt instruments are recorded to interest expense in the period in which the gains and losses occur. We have designated and account for interest rate swaps that convert floating-rate interest payments into fixed-rate interest payments as cash flow hedges of the forecasted payment obligations. The gains and losses resulting from fair value adjustments to these interest rate swaps are recorded to other comprehensive income.

We periodically hedge the forecasted fixed-coupon interest payments associated with anticipated debt offerings by using forward starting interest rate swaps, interest rate locks or similar derivatives. These agreements effectively lock a portion of our interest rate exposure between the time the agreement is entered into and the date when the debt offering is completed, thereby mitigating the impact of interest rate changes on future interest expense. These derivatives are settled commensurate with the issuance of the debt, and any gain or loss upon settlement is amortized as an adjustment to the effective interest yield on the debt.

Outstanding Positions

The notional amounts of our outstanding derivative positions as of December 31, 2021 and 2020 were as follows (in millions):

		2021	2020
Currency hedges:			
Euro	EUR	4,257	4,197
British Pound Sterling	GBP	1,402	1,400
Canadian Dollar	CAD	1,633	1,576
Hong Kong Dollar	HKD	4,033	3,717
Interest rate hedges:			
Fixed to Floating Interest Rate Swaps	USD	1,000	3,250
Floating to Fixed Interest Rate Swaps	USD	28	778

As of December 31, 2021 and 2020, we had no outstanding commodity hedge positions.

Our fixed to floating interest rate swaps are designated as a fair value hedge of our 2.450% fixed rate notes that mature in October 2022. These instruments utilize LIBOR as the reference rate to determine the floating interest rate to be paid. As these instruments will settle before the applicable U.S. Dollar LIBOR rate ceases to be published in June 2023, we have not evaluated the application of ASC Topic 848 to these instruments.

Balance Sheet Recognition

The following table indicates the location in the consolidated balance sheets where our derivative assets and liabilities have been recognized, the fair value hierarchy level applicable to each derivative type and the related fair values of those derivatives.

We have master netting arrangements with substantially all of our counterparties giving us the right of offset for our derivative positions. However, we have not elected to offset the fair value positions of our derivative contracts recorded in the consolidated balance sheets. The columns labeled *Net Amounts if Right of Offset had been Applied* indicate the potential net fair value positions by type of contract and location in the consolidated balance sheets had we elected to apply the right of offset as of December 31, 2021 and December 31, 2020 (in millions):

			Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Asset Derivatives	**Balance Sheet Location**	**Fair Value Hierarchy Level**	**2021**	**2020**	**2021**	**2020**
Derivatives designated as hedges:						
Foreign currency exchange contracts	Other current assets	Level 2	$ 100	$ 56	$ 82	$ 45
Interest rate contracts	Other current assets	Level 2	11	2	11	2
Foreign currency exchange contracts	Other non-current assets	Level 2	123	35	90	4
Interest rate contracts	Other non-current assets	Level 2	—	29	—	26
Derivatives not designated as hedges:						
Foreign currency exchange contracts	Other current assets	Level 2	2	4	2	4
Total Asset Derivatives			$ 236	$ 126	$ 185	$ 81

Liability Derivatives	Balance Sheet Location	Fair Value Hierarchy Level	Gross Amounts Presented in Consolidated Balance Sheets 2021	Gross Amounts Presented in Consolidated Balance Sheets 2020	Net Amounts if Right of Offset had been Applied 2021	Net Amounts if Right of Offset had been Applied 2020
Derivatives designated as hedges:						
Foreign currency exchange contracts	Other current liabilities	Level 2	$ 19	$ 34	$ 1	$ 23
Foreign currency exchange contracts	Other non-current liabilities	Level 2	33	142	—	111
Interest rate contracts	Other non-current liabilities	Level 2	10	13	10	10
Derivatives not designated as hedges:						
Foreign currency exchange contracts	Other current liabilities	Level 2	—	2	—	2
Interest rate contracts	Other current liabilities	Level 2	—	1	—	1
Total Liability Derivatives			$ 62	$ 192	$ 11	$ 147

Our foreign currency exchange rate, interest rate and investment market price derivatives are largely comprised of over-the-counter derivatives, which are primarily valued using pricing models that rely on market observable inputs such as yield curves, currency exchange rates and investment forward prices; therefore, these derivatives are classified as Level 2. As of December 31, 2021 and 2020 we did not have any derivatives that were classified as Level 1 (valued using quoted prices in active markets for identical assets) or Level 3 (valued using significant unobservable inputs).

Balance Sheet Location of Hedged Item in Fair Value Hedges

The following table indicates the amounts that were recorded in the consolidated balance sheets related to cumulative basis adjustments for fair value hedges as of December 31, 2021 and 2020 (in millions):

	2021		2020	
Line Item in the Consolidated Balance Sheets in Which the Hedged Item is Included	**Carrying Amount of Hedged Liabilities**	**Cumulative Amount of Fair Value Hedge Adjustments**	**Carrying Amount of Hedged Liabilities**	**Cumulative Amount of Fair Value Hedge Adjustments**
Long-Term Debt and Finance Leases	$ 1,290	$ 16	$ 2,816	$ 42

The cumulative amount of fair value hedging losses remaining for any hedged assets and liabilities for which hedge accounting has been discontinued as of December 31, 2021 is $5 million. These amounts will be recognized over the next 8 years.

Income Statement and AOCI Recognition

The following table indicates the amount of gains and (losses) that have been recognized in the statements of consolidated income for fair value and cash flow hedges, as well as the associated gain or (loss) for the underlying hedged item for fair value hedges for the years ended December 31, 2021 and 2020 (in millions):

	2021			2020		
Location and Amount of Gain (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships	**Revenue**	**Interest Expense**	**Investment Income and Other**	**Revenue**	**Interest Expense**	**Investment Income and Other**
Gain or (loss) on fair value hedging relationships:						
Interest Contracts:						
Hedged items	$ —	$ 20	$ —	$ —	$ (8)	$ —
Derivatives designated as hedging instruments	—	(20)	—	—	8	—
Gain or (loss) on cash flow hedging relationships:						
Interest Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	—	(11)	—	—	(8)	—
Foreign Currency Exchange Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	83	—	—	196	—	—
Total amounts of income and expense line items presented in the statement of income in which the effects of fair value or cash flow hedges are recorded	$ 83	$ (11)	$ —	$ 196	$ (8)	$ —

The following table indicates the amount of gains and (losses) that have been recognized in AOCI for the years ended December 31, 2021 and 2020 for those derivatives designated as cash flow hedges (in millions):

Derivative Instruments in Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in AOCI on Derivatives December 31, 2021	December 31, 2020
Interest rate contracts	$ 2	$ —
Foreign currency exchange contracts	341	(253)
Total	$ 343	$ (253)

As of December 31, 2021, there were $70 million of pre-tax gains related to cash flow hedges deferred in AOCI that are expected to be reclassified to income over the 12 month period ending December 31, 2022. The actual amounts that will be reclassified to income over the next 12 months will vary from this amount as a result of changes in market conditions. The maximum term over which we are hedging exposures to the variability of cash flows is approximately 10 years.

The following table indicates the amount of gains and (losses) that have been recognized in AOCI within foreign currency translation adjustment for the years ended December 31, 2021 and 2020 for those instruments designated as net investment hedges (in millions):

	Amount of Gain (Loss) Recognized in AOCI on Debt	
Non-derivative Instruments in Net Investment Hedging Relationships	**2021**	**2020**
Foreign denominated debt	$ 225	$ (265)
Total	$ 225	$ (265)

Additionally, we maintain interest rate swaps, foreign currency exchange forwards and investment market price forward contracts that are not designated as hedges. The interest rate swap contracts are intended to provide an economic hedge of portions of our outstanding debt. The foreign currency exchange forward contracts are intended to provide an economic offset to foreign currency remeasurement and settlement risk for certain assets and liabilities in our consolidated balance sheets. The investment market price forward contracts are intended to provide an economic offset to fair value fluctuations of certain investments in marketable securities.

We also periodically terminate interest rate swaps and foreign currency exchange forward contracts by entering into offsetting swap and foreign currency positions with different counterparties. As part of this process, we de-designate our original swap and foreign currency exchange contracts. These transactions provide an economic offset that effectively eliminates the effects of changes in market valuation.

The following is a summary of the amounts recorded in the statements of consolidated income related to fair value changes and settlements of these interest rate swaps, foreign currency forward and investment market price forward contracts not designated as hedges for the years ended December 31, 2021 and 2020 (in millions):

		Amount of Gain (Loss) Recognized in Income	
Derivative Instruments Not Designated in Hedging Relationships	**Location of Gain (Loss) Recognized in Income**	**2021**	**2020**
Interest rate contracts	Interest expense	$ —	$ (9)
Foreign currency exchange contracts	Investment income and other	(28)	27
Total		$ (28)	$ 18

NOTE 19. TRANSFORMATION STRATEGY COSTS

In 2018, we launched a multi-year, enterprise-wide transformation strategy impacting our organization. The program includes investments, as well as changes in processes and technology, that impact global direct and indirect operating costs.

The table below presents the transformation strategy costs for the years ended December 31, 2021, 2020 and 2019 (in millions):

	2021	2020	2019
Compensation and benefits	$ 206	$ 211	$ 166
Total other expenses	174	137	89
Total Transformation Strategy Costs	$ 380	$ 348	$ 255
Income Tax Benefit from Transformation Strategy Costs	(95)	(83)	(59)
After-Tax Transformation Strategy Costs	$ 285	$ 265	$ 196

The income tax effects of transformation strategy costs are calculated by multiplying the amount of the adjustments by the statutory tax rates applicable in each tax jurisdiction.

NOTE 20. SUBSEQUENT EVENTS

On February 17, 2022, we announced the Canada Small Package Retirement Plan will cease accruals of additional benefits for future service and compensation for participants effective December 31, 2023. Upon adoption of the plan amendments, the elimination of defined benefit accruals for all current employees will trigger a pension curtailment event and the plan assets and pension benefit obligation will be remeasured.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, management, including our Principal Executive Officer and Principal Financial and Accounting Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures. Based upon, and as of the date of, the evaluation, our Principal Executive Officer and Principal Financial and Accounting Officer concluded that the disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported as and when required and is accumulated and communicated to our management, including our Principal Executive Officer and Principal Financial and Accounting Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting:

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal controls over financial reporting despite the fact that more of our employees are working remotely during the ongoing COVID-19 pandemic. We have enhanced our oversight and monitoring during the closing and reporting processes and we continue to monitor and assess the effects of remote work on our internal controls to minimize the impact on their design and operating effectiveness.

Management's Report on Internal Control Over Financial Reporting:

UPS management is responsible for establishing and maintaining adequate internal control over financial reporting for United Parcel Service, Inc. and its subsidiaries (the "Company"). Based on the criteria for effective internal control over financial reporting established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, management has assessed our internal control over financial reporting as effective as of December 31, 2021. The independent registered public accounting firm of Deloitte & Touche LLP, as auditors of the consolidated balance sheets of United Parcel Service, Inc. and its subsidiaries as of December 31, 2021 and the related statements of consolidated income, consolidated comprehensive income and consolidated cash flows for the year ended December 31, 2021, has issued an attestation report on our internal control over financial reporting, which is included herein.

Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of
Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of United Parcel Service, Inc. and subsidiaries (the “Company”) as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated financial statements as of and for the year ended December 31, 2021, of the Company and our report dated February 21, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2022

Item 9B. ***Other Information***

The Company maintains robust economic sanctions compliance procedures designed to promote compliance with applicable sanctions laws. However, it is possible that the Company may inadvertently engage in dealings that require disclosure under Section 13(r).

On April 15, 2021, the Treasury Department's Office of Foreign Assets Control ("OFAC") designated Pozitiv Teknolodzhiz, AO ("PT"), a Russian IT security company, on the List of Specially Designated Nationals and Blocked Persons ("SDN List"). Since that date, the Company has identified 23 shipments involving PT that it has carried. Total revenue and profit from these transactions was approximately $572.81 and $156.55, respectively.

In addition, on July 2, 2021, the Company inadvertently carried one shipment involving SHIBA, an Iranian flagged container vessel designated on the SDN List, which requires disclosure under Section 13(r). Revenue and profit from this transaction was approximately $28.63 and $7.80, respectively.

UPS has implemented additional screening measures designed to better identify potential shipments to or from these entities.

Item 9C. ***Disclosure Regarding Foreign Jurisdictions that Prevent Inspections***

Not applicable.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Information about our Executive Officers

Name and Office	Age	Principal Occupation and Employment For the Last Five Years
Carol B.Tomé Chief Executive Officer	65	Chief Executive Officer (2020 - present), Chief Financial Officer, The Home Depot, Inc. (2001 - 2019).
Norman M. Brothers, Jr. Executive Vice President; Chief Legal and Compliance Officer and Corporate Secretary	54	Chief Legal and Compliance Officer and Corporate Secretary (2020 - present), Senior Vice President, General Counsel and Corporate Secretary (2016 - 2020), Corporate Legal Department Manager (2014 - 2016).
Nando Cesarone Executive Vice President; President, U.S. Operations	50	President, U.S. Operations (2020 - present), President, UPS International (2018 - 2020), Europe Region Manager (2016 - 2018), Asia Pacific Region Manager (2013 - 2016).
Darrell Ford Executive Vice President; Chief Human Resources Officer	57	Chief Human Resources Officer (2021 - present), Chief Human Resources Officer, DuPont (2018 - 2020), Chief Human Resources Officer, Xerox Corporation (2015 - 2018).
Philippe Gilbert Executive Vice President; President, UPS Supply Chain Solutions	57	President, UPS Supply Chain Solutions (2019 - present), Regional CEO, Americas, DB Schenker Logistics (2015 - 2018), Regional CEO, West Europe, DB Schenker Logistics (2013 - 2015).
Kate M. Gutmann Executive Vice President; Chief Sales and Solutions Officer and Executive Vice President, UPS Global Healthcare	53	Chief Sales and Solutions Officer, Executive VP, UPS Global Healthcare (2020 - present), Chief Sales and Solutions Officer; Senior Vice President The UPS Store and UPS Capital (2017 - 2019) Senior Vice President, Worldwide Sales and Solutions (2014 - 2017).
Laura Lane Executive Vice President; Chief Corporate Affairs, Communications and Sustainability Officer	55	Chief Corporate Affairs, Communications and Sustainability Officer (2020 - present), Chief Corporate Affairs and Communications Officer (August 2020 - October 2020), President, Global Public Affairs (2011 - 2020).
Brian Newman Executive Vice President; Chief Financial Officer	53	Chief Financial Officer (2021 - present), Chief Financial Officer and Treasurer (2019 - 2021), Executive Vice President, Finance and Operations, Latin America, PepsiCo, Inc. (2017 - 2019), Executive Vice President, Global Operations, PepsiCo, Inc. (2015 - 2017), Global Head of e-Commerce, PepsiCo, Inc. (2014 - 2015).
Juan R. Perez Executive Vice President; Chief Information and Engineering Officer	55	Chief Information and Engineering Officer (2017 - present), Chief Information Officer (2016 - 2017), Vice President, Information Services (2011 - 2016).
Scott A. Price Executive Vice President; President, UPS International	60	President, UPS International (2020 - present), Chief Strategy and Transformation Officer (2017 - 2020), Executive Vice President of Global Leverage, Walmart International, Walmart Stores, Inc. (2017), Chief Administrative Officer and Executive Vice President, Walmart International, Walmart Stores Inc. (2016 - 2017), Chief Executive Officer and President of Walmart Asia Pte. Ltd. (2014 - 2016).
Charlene Thomas Executive Vice President; Chief Diversity, Equity and Inclusion Officer	54	Chief Diversity, Equity and Inclusion Officer (2021 - present), Chief Human Resources Officer (2019 - 2020), President, Human Capital Transformation (March 2019 - July 2019), West Region Manager (2018 - 2019), North Atlantic District Manager (2018 - 2018), Mid-South District Manager (2016-2018), West-OPS Package Operations Manager (March 2016 - August 2016), U.S. Operations Training Staff Manager (2015 - 2016).
Kevin Warren Executive Vice President; Chief Marketing Officer	59	Chief Marketing Officer (2018 - present), Executive Vice President and Chief Commercial Officer, Xerox Corp. (2017 - 2018), President, Commercial Business Group, Xerox Corp. (2016 - 2017), President, Industrial, Retail and Hospitality Business Group, Xerox Corp. (2015 - 2016), President of Strategic

Information about our directors will be presented under the caption “Our Board of Directors" in our definitive proxy statement for our meeting of shareowners to be held on May 5, 2022 (the “Proxy Statement”) and is incorporated herein by reference.

Information about our Audit Committee will be presented under the caption “Our Board of Directors - Committees of the Board of Directors” and "Audit Committee Matters" in our Proxy Statement and is incorporated herein by reference.

Information about our Code of Business Conduct is presented under the caption “Where You Can Find More Information” in Part I, Item 1 of this report.

Item 11. ***Executive Compensation***

Information about our board and executive compensation will be presented under the captions “Our Board of Directors - Director Compensation" and "Executive Compensation" in our Proxy Statement and is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

Information about security ownership will be presented under the caption “Ownership of Our Securities - Securities Ownership of Certain Beneficial Owners and Management” in our Proxy Statement and is incorporated herein by reference.

Information about our equity compensation plans will be presented under the caption “Executive Compensation - Equity Compensation Plans” in our Proxy Statement and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

Information about transactions with related persons will be presented under the caption “Corporate Governance - Conflicts of Interest and Related Person Transactions” in our Proxy Statement and is incorporated herein by reference.

Information about director independence will be presented under the caption “Corporate Governance - Director Independence” in our Proxy Statement and is incorporated herein by reference.

Item 14. ***Principal Accountant Fees and Services***

Information about aggregate fees billed to us by our principal accountant will be presented under the caption “Audit Committee Matters - Principal Accounting Firm Fees” in our Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) *Documents filed as a part of this report:*

1. *Financial Statements*.

See Item 8 for the financial statements filed with this report.

2. *Financial Statement Schedules*.

None.

3. *Exhibits*.

See the Exhibit Index below for a list of the exhibits incorporated by reference into or filed with this report.

(b) *Exhibits Required To Be Filed*

See Item 15(a) 3 above.

(c) *Financial Statement Schedules Required To Be Filed*

See Item 15(a) 2 above.

Item 16. ***Form 10-K Summary***

None.

EXHIBIT INDEX

Exhibit No.		Description
3.1	—	Restated Certificate of Incorporation of United Parcel Service, Inc. (incorporated by reference to Exhibit 3.3 to Form 8-K filed on May 12, 2010).
3.2	—	Amended and Restated Bylaws of United Parcel Service, Inc. as of November 17, 2017 (incorporated by reference to Exhibit 3.1 to Form 8-K, filed on November 17, 2017).
4.1	—	Indenture dated as of December 18, 1997 (incorporated by reference to Exhibit T-3C to Form T-3 (No. 022-22295), filed on December 18, 1997) [(1)].
4.2	—	Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to Form S-3 (No. 333-08369), filed on January 26, 1999) [(1)].
4.3	—	Form of First Supplemental Indenture to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.2 to Post-Effective Amendment No. 1 to Form S-3 (No. 333-08369-01), filed on March 15, 2000).
4.4	—	Second Supplemental Indenture dated as of September 21, 2001 to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4 to Form 10-Q for the quarter ended September 30, 2001).
4.5	—	Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.1 to Form S-3 (No. 333-108272), filed on August 27, 2003).
4.6	—	First Supplemental Indenture dated as of November 15, 2013 to Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.2 to Form S-3ASR (No. 333-192369), filed on November 15, 2013).
4.7	—	Second Supplemental Indenture dated as of May 18, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 18, 2017).
4.8	—	Form of 6.20% Senior Notes due January 15, 2038 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on January 15, 2008).
4.9	—	Form of 4.875% Senior Notes due November 15, 2040 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 12, 2010).
4.10	—	Form of 2.450% Senior Notes due October 1, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on September 27, 2012).
4.11	—	Form of 3.625% Senior Notes due

4.21	—	Form of 2.350% Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 16, 2017).
4.22	—	Form of 2.125% Senior Notes due May 21, 2024 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 18, 2017).
4.23	—	Form of 0.375% Senior Notes due November 15, 2023 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 13, 2017).
4.24	—	Form of 1.500% Senior Notes due November 15, 2032 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 13, 2017).
4.25	—	Form of Floating Rate Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 14, 2017).
4.26	—	Form of 2.500% Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.4 to Form 8-K, filed on November 14, 2017).
4.27	—	Form of 2.800% Senior Notes due November 15, 2024 (incorporated by reference to Exhibit 4.5 to Form 8-K, filed on November 14, 2017).
4.28	—	Form of 3.050% Senior Notes due November 15, 2027 (incorporated by reference to Exhibit 4.6 to Form 8-K, filed on November 14, 2017).
4.29	—	Form of 3.750% Senior Notes due November 15, 2047 (incorporated by reference to Exhibit 4.7 to Form 8-K, filed on November 14, 2017).
4.30	—	Form of Floating Rate Senior Notes due November 15, 2067 (incorporated by reference to Exhibit 4.8 to Form 8-K, filed on November 14, 2017).
4.31	—	Form of 3.400% Senior Notes due March 15, 2029 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on March 15, 2019).
4.32	—	Form of 4.250% Senior Notes due March 15, 2049 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on March 15, 2019).
4.33	—	Form of 2.200% Senior Notes due September 1, 2024 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on August 16, 2019).
4.34	—	Form of 2.500% Senior Notes due September 1, 2029 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on August 16, 2019).
4.35	—	Form of 3.400% Senior Notes due September 1, 2049 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on August 16, 2019).
4.36	—	Form of 3.900% Senior Notes due 2025 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on

10.3	—	UPS Restoration Savings Plan effective January 1, 2017 (incorporated by reference to Exhibit 10.3 to Form 8-K, filed on June 27, 2017).*
10.4	—	Amendment One to the Amended and Restated UPS Excess Coordinating Benefit Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.4 to Form 8-K, filed on June 27, 2017).*
10.4(a)	—	UPS Excess Coordinating Benefit Plan, as Amended and Restated, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to Form 10-K for the year ended December 31, 2012).*
10.5	—	United Parcel Service, Inc. 2012 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement, filed on March 12, 2012).*
10.5(a)	—	Form of Long-Term Incentive Performance Award Agreement (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2011).*
10.5(b)	—	Form of Non-Employee Director Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2019).*
10.5(c)	—	UPS Stock Option Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(4) to the Form 10-K for the year ended December 31, 2011).*
10.5(d)	—	UPS Long-Term Incentive Performance Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(5) to the Form 10-K for the year ended December 31, 2011).*
10.6	—	Form of UPS Deferred Compensation Plan as Amended and Restated effective January 1, 2012 (incorporated by reference to Exhibit 10.6 to Form 10-K for the year ended December 31, 2018).*
10.6(a)	—	Amendment No. 1 to Amended and Restated UPS Deferred Compensation Plan (incorporated by reference to Exhibit 10.7(1) to the Form 10-K for the year ended December 31, 2012).*
10.7	—	2015 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 24, 2015).*
10.8	—	2018 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 16

10.18	—	Retention Arrangement Letter between UPS and Kate Gutmann, dated April 15, 2020 (incorporated by reference to Exhibit 10.21 to Form 10-K for the year ended December 31, 2020).*
10.19	—	Retention Arrangement Letter between UPS and Juan Perez, dated April 14, 2020 (incorporated by reference to Exhibit 10.22 to Form 10-K for the year ended December 31, 2020).*
10.20	—	UPS Long-Term Incentive Performance Program Amended and Restated Terms and Conditions effective as of March 25, 2021 (incorporated by reference to Exhibit 10.1 to Form 10-Q for the quarter ended March 31, 2021).*
10.21		United Parcel Service, Inc. 2021 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the definitive proxy statement on Schedule 14A filed March 29, 2021).*
21	—	Subsidiaries.
23	—	Consent of Deloitte & Touche LLP.
31.1	—	Certificate of the Principal Executive Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	—	Certificate of the Principal Financial and Accounting Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	—	Certification of the Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	—	Certification of the Principal Financial and Accounting Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	—	The following financial information from the Annual Report on Form 10-K for the year ended December 31, 2021, formatted in Inline XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statements of Cash Flows and (v) the Notes to the Consolidated Financial Statements.
104	—	Cover Page Interactive Data File - The cover page from this Annual Report on Form 10-K for the year ended December 31, 2021 is formatted in iXBRL (included as Exhibit 101).

(1)	Filed in paper format.
*	Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, United Parcel Service, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNITED PARCEL SERVICE, INC.
(REGISTRANT)

By: /S/ CAROL B. TOMÉ

Carol B. Tomé

Chief Executive Officer (Principal Executive Officer)

Date: February 21, 2022

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ CAROL B. TOMÉ **Carol B. Tomé**	Chief Executive Officer (Principal Executive Officer)	February 21, 2022
/S/ BRIAN O. NEWMAN **Brian O. Newman**	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 21, 2022
/S/ RODNEY C. ADKINS **Rodney C. Adkins**	Director	February 21, 2022
/S/ EVA C. BORATTO **Eva C. Boratto**	Director	February 21, 2022
/S/ MICHAEL J. BURNS **Michael J. Burns**	Director	February 21, 2022
/S/ WAYNE M. HEWETT **Wayne M. Hewett**	Director	February 21, 2022
/S/ ANGELA HWANG **Angela Hwang**	Director	February 21, 2022
/S/ KATE E. JOHNSON **Kate E. Johnson**	Director	February 21, 2022
/S/ WILLIAM R. JOHNSON **William R. Johnson**	Director	February 21, 2022
/S/ ANN M. LIVERMORE **Ann M. Livermore**	Director	February 21, 2022
/S/ FRANCK J. MOISON **Franck J. Moison**	Director	February 21, 2022
/S/ CHRISTIANA SMITH SHI **Christiana Smith Shi**	Director	February 21, 2022
/S/ RUSSELL STOKES **Russell Stokes**	Director	February 21, 2022
/S/ KEVIN M. WARSH **Kevin M. Warsh**	Director	February 21, 2022

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission file number 001-15451

ups-20201231_g1.jpg
United Parcel Service, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**58-2480149**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification No.)***

55 Glenlake Parkway, N.E. Atlanta, Georgia 30328
(Address of Principal Executive Offices) ***(Zip Code)***
(404) 828-6000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Class B common stock, par value $.01 per share	UPS	New York Stock Exchange
0.375% Senior Notes due 2023	UPS23A	New York Stock Exchange
1.625% Senior Notes due 2025	UPS25	New York Stock Exchange
1% Senior Notes due 2028	UPS28	New York Stock Exchange
1.500% Senior Notes due 2032	UPS32	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
Class A common stock, par value $.01 per share
(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of " large accelerated filer", "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the class B common stock held by non-affiliates of the registrant was $78,510,244,191 as of June 30, 2020. The registrant's class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of the registrant's class A common stock is convertible into one share of the registrant's class B common stock.

As of February 5, 2021, there were 147,531,933 outstanding shares of class A common stock and 719,506,596 outstanding shares of class B common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its annual meeting of shareowners scheduled for May 13, 2021 are incorporated by reference into Part III of this report.

UNITED PARCEL SERVICE, INC.
ANNUAL REPORT ON FORM 10-K
TABLE OF CONTENTS

PART I

Cautionary Statement About Forward-Looking Statements

This report and our other filings with the Securities and Exchange Commission ("SEC") contain and in the future may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Statements other than those of current or historical fact, and all statements accompanied by terms such as "will," "believe," "project," "expect," "estimate," "assume," "intend," "anticipate," "target," "plan" and similar terms, are intended to be forward-looking statements. Forward-looking statements are made subject to the safe harbor provisions of the federal securities laws pursuant to Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

From time to time, we also include written or oral forward-looking statements in other publicly disclosed materials. Such statements relate to our intent, belief and current expectations about our strategic direction, prospects and future results, and give our current expectations or forecasts of future events; they do not relate strictly to historical or current facts. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or anticipated results. These risks and uncertainties include, but are not limited to, those described in Part I, "Item 1A. Risk Factors" and elsewhere in this report and may also be described from time to time in our future reports filed with the SEC. You should consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of predictions contained in such forward-looking statements. We do not undertake any obligation to update forward-looking statements to reflect events, circumstances, changes in expectations or the occurrence of unanticipated events after the date of those statements.

Item 1. *Business*

Overview

United Parcel Service, Inc. ("UPS"), founded in 1907, is the world's largest package delivery company and a premier provider of global supply chain management solutions. We offer a broad range of industry-leading products and services through our extensive presence in North America; Europe; the Indian sub-continent, Middle East and Africa ("ISMEA"); Asia Pacific and Latin America. Our services include transportation, distribution, contract logistics, ground freight, ocean freight, air freight, customs brokerage and insurance.

We operate one of the largest airlines in the world, as well as the world's largest fleet of alternative fuel vehicles. We deliver packages each business day for approximately 1.7 million shipping customers to 11.8 million delivery customers in over 220 countries and territories. In 2020, we delivered an average of 24.7 million packages per day, totaling 6.3 billion during the year. Total revenue in 2020 was $84.6 billion.

Strategy

Our business sits at the intersection of major economic and societal trends, such as rapid urbanization and e-commerce growth. As we look ahead, we recognize that our customers are changing, our competitors are changing, and the rate of change is accelerating. We are guided by our strategy, *Customer First, People Led, Innovation Driven*, as we transform nearly every aspect of our business.

Customer First is about reducing the friction of doing business. We seek to help our customers seize new opportunities, compete, and succeed by delivering the capabilities that they tell us matter the most; speed and ease. We believe that our best opportunities are captured in, and we are focusing on, our three strategic growth initiatives: small- and medium-sized businesses ("SMBs"), healthcare and international markets. We seek to grow in these areas by providing the best digital experience powered by our global smart logistics network. We will measure our success in this area through improvements in our net promoter score.

People Led specifically focuses on how likely an employee is to recommend UPS employment to a friend or family member. We know successful outcomes are built from a strong culture, so we are striving to make UPS a great place to work. Through our transformation initiatives, we are creating fewer but more impactful jobs. We are also enhancing the employee value proposition to align with evolving market practices. We will measure our success on this strategic initiative through the employee experience.

Innovation Driven is designed to optimize the volume that flows through our network, to focus on increasing value share and drive business growth from higher-yielding opportunities in our target markets. In the United States, our aim is to improve revenue mix and lower our cost to serve in the U.S. Domestic Package segment. Within the International Package and Supply Chain & Freight segments, our focus is on growing operating profit. We will measure our success on this strategic initiative through our returns on invested capital and operating margins.

Competitive Strengths

Our competitive strengths include:

An Efficient Multimodal Network. We believe that our integrated global air and ground network is the most extensive in the industry. We provide all types of package services (air, ground, domestic, international, commercial and residential) through a single pickup and delivery network. Our sophisticated engineering systems allow us to optimize network efficiency and asset utilization.

Global Presence. We serve more than 220 countries and territories. We have a significant presence in all of the world's major economies, allowing us to effectively and efficiently operate globally.

Cutting-Edge Technology. We are a global leader in developing technology that helps our customers enhance their shipping and logistics business processes to lower costs, improve service and increase efficiency. We offer a variety of online tools that enable our customers to integrate UPS functionality into their own websites, deepening our customer relationships. These tools allow customers to send, manage and track their shipments, and also to provide their customers with better information services.

A Broad Portfolio of Services. Our portfolio of services helps customers choose their most appropriate delivery option. Increasingly, our customers benefit from UPS business solutions that integrate our services beyond package delivery. For example, supply chain services – such as freight forwarding, truckload brokerage, customs brokerage, order fulfillment and returns management – help improve the efficiency of our customers' entire supply chain management process.

Customer Relationships. We focus on building and maintaining long-term customer relationships. Providing value-added services beyond package delivery, and cross-selling small package and supply chain services across our customer base, are important retention tools and growth mechanisms for us.

Brand Equity. We have built a leading and trusted brand that stands for quality, reliability and service innovation. Our vehicles and the professional courtesy of our drivers are major contributors to our brand equity.

Distinctive Culture. We believe that the dedication of our employees comes in large part from our distinctive "employee-owner" culture. Our founders believed that employee stock ownership was a vital foundation for successful business, and the employee stock ownership tradition dates back to our first stock ownership program in 1927.

Financial Strength. Our financial strength allows us to generate value for our shareowners by investing in technology, transportation equipment, facilities and employee development; pursuing strategic opportunities that facilitate our growth and maintaining a strong credit rating that gives us flexibility in running the business.

Products and Services; Reporting Segments

We have three reporting segments: U.S. Domestic Package, International Package and Supply Chain & Freight. U.S. Domestic Package and International Package are together referred to as our global small package operations.

Global Small Package

Our global small package operations provide time-definite delivery services for express letters, documents, packages and palletized freight via air and ground services. These services are supported by numerous shipping, visibility and billing technologies. For example, our Digital Access Program makes it easier for SMBs to use our services by embedding our shipping solutions directly into leading e-commerce platforms.

All services (air, ground, domestic, international, commercial and residential) are managed through a single, global smart logistics network. We combine all packages within our network, unless dictated by specific service commitments. This enables us to efficiently pick up customers' shipments for any services at a scheduled time each day. Our integrated network provides unique operational and capital efficiencies that have a lower environmental impact than single service network designs.

We offer same-day pickup of air and ground packages seven days a week. Our global network offers approximately 150,000 entry points where customers can tender packages to us at locations and times convenient to them. This includes UPS drivers who can accept packages, UPS drop boxes, UPS Access Point locations, The UPS Store locations, authorized shipping outlets and commercial counters, alliance locations and customer centers attached to UPS facilities. Our UPS Access Point network includes local small businesses, national retailers and self-serve lockers. This network allows consumers to ship or redirect packages to an alternate delivery location or to drop off pre-labeled packages, including returns. We have expanded the UPS Access Point network to approximately 21,000 locations within the U.S. and 40,000 globally.

We offer a portfolio of returns services in more than 140 countries. These services are driven by the continued growth of online and mobile shopping that has increased our customers' need for efficient and reliable returns, and is designed to promote efficiency and a friction-free consumer experience. This portfolio provides a range of cost-effective label and digital returns options and a broad network of consumer drop points. We also offer a selection of returns technologies, such as UPS Returns Manager, that promote systems integration, increase customer ease of use and visibility of inbound merchandise. These technologies help reduce costs and improve efficiency in our customers' reverse logistics processes.

Our global air operations are based in Louisville, Kentucky, and are supported by air hubs across the United States and internationally. We operate international air hubs in Germany, China, Hong Kong, Canada and Florida (for Latin America and the Caribbean). This network design enables cost-effective package processing in our most technology-enabled facilities, which allows us to use fewer, larger and more fuel-efficient aircraft.

U.S. Domestic Package

We are a leader in time-definite, guaranteed small package delivery services in the United States. We offer a full spectrum of U.S. domestic guaranteed air and ground package transportation services. Our U.S. ground fleet serves all business and residential zip codes in the contiguous United States.

- Our air portfolio offers time specific, same day, next day, two day and three day delivery alternatives.
- Our ground network enables customers to ship using our day-definite guaranteed ground service. We deliver more ground packages in the U.S. than any other carrier, with average daily package volume of more than 17 million, most within one to three business days.
- UPS SurePost provides residential ground service for customers with non-urgent, lightweight residential shipments. UPS SurePost combines the consistency and reliability of the UPS ground network, with final delivery often provided by the U.S. Postal Service.

During 2020, as a component of our strategic initiatives focused on SMBs and to increase speed and ease for our customers, we successfully completed our weekend expansion, enabling broader market coverage. We are the only carrier that provides both commercial and residential pickup and delivery services on Saturdays as a general service offering. We also improved ground transit times between millions of zip codes in the most populous U.S. markets and expanded our Digital Access Program by connecting UPS directly to more e-commerce platforms, improving access to our network.

International Package

International Package consists of our small package operations in Europe, Asia Pacific, Canada, Latin America and ISMEA. We offer a wide selection of guaranteed day- and time-definite international shipping services, including more guaranteed time-definite express options than any other carrier.

For international package shipments that do not require express services, UPS Worldwide Expedited offers a reliable, deferred, guaranteed day-definite service option. For cross-border ground package delivery, we offer UPS Standard delivery services within Europe, between the U.S. and Canada, and between the U.S. and Mexico. UPS Worldwide Express Freight is a premium international service for urgent, palletized shipments over 150 pounds.

Europe is our largest region outside of the U.S. and, in 2020, accounted for approximately half of our international package segment revenue. We continue to make major European infrastructure investments to meet growing demand for our services and to improve transit times across the region. Customers can now reach more than 80% of Europe's population within two business days using UPS Standard.

We serve more than 40 Asia Pacific countries and territories through more than two dozen alliances with local delivery companies that supplement our owned operations.

International high growth markets are one of our strategic imperatives. Since 2017, we have doubled our air capacity to Dubai. The introduction of a direct flight from the U.S. has improved time-in-transit to key destinations in ISMEA for shippers throughout the U.S., Canada and Latin America. In India, we are investing in our network to improve transit times and extend pickup times, allowing businesses to gain faster access to markets in Europe and the United States.

Supply Chain & Freight

Supply Chain & Freight consists of our forwarding, truckload brokerage, logistics and distribution, UPS Freight, UPS Capital and other businesses. Supply chain complexity creates demand for a global service offering that incorporates transportation, distribution and international trade and brokerage services, with complementary financial and information services. Many companies see value in outsourcing non-core logistics activity. With increased competition and growth opportunities in new markets, businesses require flexible and responsive supply chains to support their strategies. We meet this demand by offering a broad array of supply chain services in more than 200 countries and territories.

Forwarding

We are one of the largest U.S. domestic air freight carriers and among the top air freight forwarders globally. We offer a portfolio of guaranteed and non-guaranteed global air freight services. Additionally, as one of the world's leading non-vessel operating common carriers, we provide ocean freight full-container load, less-than-container load and multimodal transportation services between most major ports around the world.

Truckload Brokerage

We provide truckload brokerage services in the U.S. and Europe through our Coyote-branded subsidiaries. Access to the UPS fleet, combined with a broad third-party carrier network, creates customized capacity solutions for all markets and customers. Coyote customers can also access UPS services such as air freight, customs brokerage and global freight forwarding.

Logistics & Distribution

Our Logistics & Distribution business provides value-added fulfillment and transportation management services. We leverage a network of more than 1,000 facilities in over 100 countries to ensure products and parts are in the right place at the right time. We operate both multi-client and dedicated facilities across our network, many of which are strategically located near UPS air and ground transportation hubs to support rapid delivery to consumer and business markets.

Each of our U.S. distribution centers can be designated as a Foreign Trade Zone ("FTZ"), allowing businesses the opportunity to defer or reduce tariff burdens on imported and exported goods. We also have multiple FTZ-compliant facilities in Europe and Asia.

Healthcare logistics is one of our strategic growth initiatives. UPS Healthcare offers world-class technology, deep expertise and the most sophisticated suite of services in the industry. With a strategic focus on serving the unique, priority-handling needs of healthcare and life sciences customers, we have increased our cold-chain logistics capabilities to support the rapid deployment of COVID-19 vaccines both in the U.S. and internationally. During 2020, we added nearly 2.6 million square feet of capacity and now have approximately ten million square feet of healthcare-licensed warehousing in 82 facilities across fifteen countries. These facilities are climate controlled and offer validated coolers and freezers for products requiring strict temperature-controlled environments.

UPS Freight

UPS Freight offers regional, inter-regional and long-haul less-than-truckload ("LTL") services in all 50 states, Canada, Puerto Rico, Guam, the U.S. Virgin Islands and Mexico. UPS Freight also provides dedicated contract carriage truckload services. User-friendly shipping, visibility and billing technology offerings, including UPS WorldShip, Quantum View and UPS Billing Center, allow customers to create electronic bills of lading, monitor shipment progress and reconcile shipping charges.

On January 24, 2021, we entered into a definitive agreement to divest our UPS Freight business. This will allow us to be even more focused on the core parts of our business that drive the greatest value for our shareholders. The transaction, which is subject to customary closing conditions and regulatory approvals, is expected to close during the second quarter of 2021. For additional information, see note 4 to the audited, consolidated financial statements.

Customs Brokerage

We are among the world’s largest customs brokers, as measured by both the number of shipments processed annually and by the number of dedicated brokerage employees worldwide. In addition to customs clearance services, we provide product classification, trade management, duty drawback and consulting services.

UPS Capital

UPS Capital offers integrated supply chain insurance solutions for in-transit goods to both small and large businesses. Supply chain protection services are available in 19 countries and territories. UPS Capital also offers insured transportation of high value goods.

Human Capital

Our success is dependent upon our people, working together with a common purpose. We have approximately 543,000 employees (excluding temporary seasonal employees), of which 458,000 are in the U.S. and 85,000 are located internationally. Our global workforce includes approximately 93,000 management employees (43% of whom are part-time) and 450,000 hourly employees (51% of whom are part-time). More than three-quarters of our U.S. employees are represented by unions, primarily those employees handling or transporting packages. In addition, approximately 3,000 of our pilots are represented by the Independent Pilots Association.

We believe that UPS employees are among the most motivated, highest-performing people in the industry and provide us with a meaningful competitive advantage. To assist with employee recruitment and retention, we continue to review the competitiveness of our employee value proposition, including benefits and pay, the range of continuous training, talent development and promotional opportunities. For additional information on the importance of our human capital efforts, see "Risk Factors - Business and Operating Risks - Failure to attract or retain qualified employees could materially adversely affect us".

Oversight and management

We believe in creating an inclusive and equitable environment that represents a broad spectrum of backgrounds, cultures and stakeholders. By leveraging diversity with respect to gender, age, ethnicity, skills and other factors, and creating inclusive environments, we can improve organizational effectiveness, cultivate innovation and drive growth.

Our Board of Directors and Board committees provide oversight on human capital matters through a variety of methods and processes. These include regular updates and discussion around human capital transformation efforts, technology initiatives impacting the workforce, health and safety matters, employee survey results related to culture and other matters, hiring and retention, employee demographics, labor relations and contract negotiations, compensation and benefits, succession planning and employee training initiatives. We believe the Board’s oversight of these matters helps identify and mitigate exposure to labor and human capital management risks, and is part of the broader framework that guides how we attract, retain and develop a workforce that aligns with our values and strategies.

In addition, in 2020 we created the role of Chief Diversity, Equity and Inclusion Officer, a new position on the company's Executive Leadership Team, reporting directly to our Chief Executive Officer. The creation of this role is a significant step forward for UPS to further develop a more inclusive and equitable environment.

Transformation

As we expand and enter new markets, and seek to capture new opportunities and pursue growth, we need employees to grow and innovate along with us. We believe that transforming the UPS employee experience is foundational to our success. This requires a thoughtful balance between the culture we have cultivated over the years and new approaches to lead our business into the future.

We are investing in capabilities that will transform our business, including investments in employee opportunities to support growth. We are providing further training for 40,000 management employees on professionalism and performance as well as unconscious bias and diversity and inclusion to ensure our actions match our values.

Additional information on our human capital efforts is contained in our annual sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society. This report is available at *www.sustainability.ups.com*.

Collective bargaining

We bargain in good faith with the unions that represent our employees. We frequently engage union leaders at the national level and at local chapters throughout the United States. We participate in works councils and associations outside the U.S., which allows us to respond to emerging regional issues. This work helps our operations to build and maintain productive relationships with our employees. For additional information regarding employees employed under collective bargaining agreements, see note 7 to the audited, consolidated financial statements.

Employee health and safety

We are committed to industry-leading employee health, safety and wellness programs across our growing workforce. We develop a culture of health and safety by:

- investing in safety training and audits;
- promoting wellness practices which mitigate risk; and
- offering benefits designed to keep employees safe in the workplace and beyond.

Our local health and safety committees coach employees on UPS's safety processes and are able to share best practices across work groups. Our safety methods and procedures are increasingly focused on the variables associated with residential delivery environments, which have become more common with the growth in e-commerce. We monitor our performance in this area through various measurable targets including lost time injury frequency and the number of recorded auto accidents.

Customers

Building and maintaining long-term customer relationships is a competitive strength of UPS. In 2020, we served 1.7 million shipping customers and more than 11.8 million delivery customers daily. For the year ended December 31, 2020, one customer, Amazon.com, Inc. and its affiliates, represented approximately 13.3% of our consolidated revenues, substantially all of which was within our U.S. Domestic Package segment. For additional information on our customers, see "Risk Factors - Business and Operating Risks - Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us" and note 14 to the audited, consolidated financial statements.

Competition

We offer a broad array of transportation and logistics services and compete with many local, regional, national and international logistics providers as well as national postal services. We believe our strategy, network and competitive strengths position us well to compete in the marketplace. For additional information on our competitive environment, see "Risk Factors - Business and Operating Risks - Our industry is rapidly evolving. We expect to continue to face significant competition, which could materially adversely affect us".

Government Regulation

We are subject to numerous laws and regulations in the countries in which we operate. Continued compliance with increasingly stringent laws, regulations and policies in the U.S. and in the other countries in which we operate may result in materially increased costs, or we could be subject to substantial fines or possible revocation of our authority to conduct our operations.

Air Operations

The U.S. Department of Transportation ("DOT"), the Federal Aviation Administration ("FAA") and the U.S. Department of Homeland Security, through the Transportation Security Administration ("TSA"), have primary regulatory authority over our air transportation services.

The DOT’s authority primarily relates to economic aspects of air transportation, such as operations, authority, insurance requirements, pricing, non-competitive practices, interlocking relations and cooperative agreements. The DOT also regulates international routes, fares, rates and practices and is authorized to investigate and take action against discriminatory treatment of U.S. air carriers abroad. International operating rights for U.S. airlines are usually subject to bilateral agreements between the U.S. and foreign governments or, in the absence of such agreements, by principles of reciprocity. We are also subject to current and potential aviation regulations imposed by governments in other countries in which we operate, including registration and license requirements and security regulations. We have international route operating rights granted by the DOT and we may apply for additional authorities when those operating rights are available and are required for the efficient operation of our international network. The efficiency and flexibility of our international air transportation network is subject to DOT and foreign government regulations and operating restrictions.

The FAA’s authority primarily relates to safety aspects of air transportation, including certification, aircraft operating procedures, transportation of hazardous materials, record keeping standards and maintenance activities and personnel. In addition, we are subject to non-U.S. government regulation of aviation rights involving non-U.S. jurisdictions and non-U.S. customs regulation.

UPS's aircraft maintenance programs and procedures, including aircraft inspection and repair at periodic intervals, are approved for all aircraft under FAA regulations. The future cost of repairs pursuant to these programs may fluctuate according to aircraft condition, age and the enactment of additional FAA regulatory requirements.

The TSA regulates various security aspects of air cargo transportation. Our airport and off-airport locations, as well as our personnel, facilities and procedures involved in air cargo transportation must comply with TSA regulations.

Our airline, along with a number of other U.S. domestic airlines, participates in the Civil Reserve Air Fleet (“CRAF”) program. Our participation in the CRAF program allows the U.S. Department of Defense (“DOD”) to requisition specified UPS aircraft for military use during a national defense emergency. The DOD is required to compensate us for any use of aircraft under the CRAF program. In addition, participation in CRAF entitles us to bid for other U.S. Government opportunities including small package and air freight.

Ground Operations

Our ground transportation of packages in the U.S. is subject to regulation by the DOT and its agency, the Federal Motor Carrier Safety Administration (the “FMCSA”). Ground transportation also falls under state jurisdiction with respect to the regulation of operations, safety and insurance. Our ground transportation of hazardous materials in the U.S. is subject to regulation by the DOT's Pipeline and Hazardous Materials Safety Administration. We also must comply with safety and fitness regulations promulgated by the FMCSA, including those relating to drug and alcohol testing and hours of service for drivers. Ground transportation of packages outside of the U.S. is subject to similar regulatory schemes in the countries in which we transport those packages.

The Postal Reorganization Act of 1970 created the U.S. Postal Service as an independent establishment of the executive branch of the federal government, and created the Postal Rate Commission, an independent agency, to recommend postal rates. The Postal Accountability and Enhancement Act of 2006 amended the 1970 Act to give the re-named Postal Regulatory Commission revised oversight authority over many aspects of the U.S. Postal Service, including postal rates, product offerings and service standards. We sometimes participate in proceedings before the Postal Regulatory Commission in an attempt to secure fair postal rates for competitive services.

Our ground operations are also subject to compliance with various cargo-security and transportation regulations issued by the U.S. Department of Homeland Security, including regulation by the TSA in the U.S., and similar regulations issued by foreign governments in other countries.

Customs

We are subject to the customs laws regarding the import and export of shipments in the countries in which we operate, including those related to the filing of documents on behalf of client importers and exporters. Our activities in the U.S., including customs brokerage and freight forwarding, are subject to regulation by the Bureau of Customs and Border Protection, the TSA, the U.S. Federal Maritime Commission and the DOT. Our international operations are subject to similar regulatory structures in their respective jurisdictions.

For additional information, see “Risk Factors – Business and Operating Risks – Increased security requirements impose substantial costs on us and we could be the target of an attack or have a security breach, which could materially adversely affect us”.

Environmental

We are subject to federal, state and local environmental laws and regulations across all of our operations. These laws and regulations cover a variety of processes, including, but not limited to: properly storing, handling and disposing of waste materials; appropriately managing waste water and storm water; monitoring and maintaining the integrity of underground storage tanks; complying with laws regarding clean air, including those governing emissions; protecting against and appropriately responding to spills and releases and communicating the presence of reportable quantities of hazardous materials to local responders. We maintain site- and activity-specific environmental compliance and pollution prevention programs to address our environmental responsibilities and remain compliant. In addition, we maintain numerous programs which seek to minimize waste and prevent pollution within our operations.

Pursuant to the Federal Aviation Act, the FAA, with the assistance of the Environmental Protection Agency is authorized to establish standards governing aircraft noise. Our aircraft fleet is in compliance with current noise standards of the federal aviation regulations. Our international operations are also subject to noise regulations in certain other countries in which we operate.

For additional information, see “Risk Factors – Regulatory and Legal Risks – Increasingly stringent regulations related to climate change could materially increase our operating costs”.

Communications and Data Protection

Because of our extensive use of radio and other communication facilities in our aircraft and ground transportation operations, we are subject to the Federal Communications Act of 1934, as amended. In addition, the Federal Communications Commission regulates and licenses our activities pertaining to satellite communications. There has recently been increased regulatory and enforcement focus on data protection in the U.S. (at both the state and federal level) and in other countries.

For additional information, see “Risk Factors – Business and Operating Risks – A significant data breach or information technology system disruption could materially adversely affect us”.

For additional information on governmental regulations and their potential impact on us generally, see “Risk Factors – Regulatory and Legal Risks”.

Where You Can Find More Information

We maintain a website at *www.ups.com*. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed with or furnished to the SEC pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available free of charge through our investor relations website at *www.investors.ups.com* under the heading "Financials - SEC Filings" as soon as reasonably practical after we electronically file or furnish the reports to the SEC. We have a written Code of Business Conduct that applies to all of our directors, officers and employees, including our principal executive and financial officers. It is available under the heading "ESG - Governance Documents" on our investor relations website. In the event that we make changes in, or provide waivers from, the provisions of the Code of Business Conduct that the SEC requires us to disclose, we intend to disclose these events within four business days following the date of the amendment or waiver in that section of our investor relations website.

Our Corporate Governance Guidelines and the Charters for our Audit Committee, Compensation Committee, Executive Committee, Risk Committee and Nominating and Corporate Governance Committee are also available under the heading "ESG- Governance Documents" on our investor relations website.

Our sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society, is available at *www.sustainability.ups.com*.

We provide the addresses to our internet sites solely for information. We do not intend for any addresses to be active links or to otherwise incorporate the contents of any website into this or any other report we file with the SEC.

Item 1A. *Risk Factors*

Our business, financial condition and results of operations are subject to numerous risks and uncertainties. In connection with any investment decision, you should carefully consider the following risk factors, which may have materially affected or could materially affect us, including impacting our business, financial condition, results of operations, stock price or credit rating, as well as our reputation. You should read these risk factors in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 and our Consolidated Financial Statements and related notes in Item 8. These risks are not the only ones we face. We could also be affected by other events, factors or uncertainties that are unknown to us, or that we do not currently consider to be material risks.

Business and Operating Risks

The outbreak and spread of the novel strain of coronavirus COVID-19 has had a significant impact on us, as well as on the operations, financial performance and liquidity of many of our customers. We are unable to predict the full extent to which the coronavirus will continue to adversely impact us.

The COVID-19 pandemic resulted in, and is expected to continue to result in, a substantial curtailment of business activities (including the decrease in demand for a broad variety of goods and services), weakened economic conditions, supply chain disruptions, significant economic uncertainty and volatility in the financial markets, both in the United States and abroad. The pandemic has significantly impacted, and is expected to continue to significantly impact us, and has had, and is expected to continue to have, a material adverse impact on the operations, financial performance and liquidity of many of our customers.

Because the ongoing severity, magnitude and duration of the COVID-19 pandemic and its economic consequences are uncertain, rapidly changing and difficult to predict, the future impact on our operations, financial condition and liquidity remains uncertain and difficult to predict. The impact of the pandemic will depend on evolving factors, many of which are not within our control, and to which we may not be able to effectively respond. These risks include, but are not limited to: a significant reduction in revenue due to curtailment of business from our customers; a significant increase in our expenses or a reduction in our operating margins due to long-term changes in the mix of our products and services; effects from governmental, business and individuals' actions that have been and continue to be taken in response to the pandemic (including restrictions on travel and transportation and workforce pressures); reductions in operating effectiveness due to employees working remotely; unavailability of personnel; the delay or cancellation of capital projects and related delays in, or loss of, expected benefits therefrom; limited access to liquidity; increased volatility and pricing in the capital and commercial paper markets; further disruption of our global supply chains; an impairment in the fair value of our assets; an increase in our pension funding obligations; and the effect of the pandemic on the credit-worthiness of our customers. Further, the COVID-19 pandemic, and the volatile regional and global economic conditions stemming from it, could also precipitate or aggravate risk factors that we identify herein or affect our operations and financial performance in a manner that is not presently known to us or that we currently do not consider material. The occurrence or continuation of any of the foregoing could have a material adverse effect on us.

Changes in general economic conditions, in the U.S. and internationally, may adversely affect us.

We conduct operations in over 220 countries and territories. Our operations are subject to cyclicality affecting national and international economies in general, as well as the local economic environments in which we operate. The factors that result in general economic changes are beyond our control, and it may be difficult for us to adjust our business model to mitigate the impact of these factors. In particular, we are affected by levels of industrial production, consumer spending and retail activity and we could be materially affected by adverse developments in these aspects of the economy, including without limitation the impact of the ongoing COVID-19 pandemic. In addition, there remains substantial economic uncertainty arising from the United Kingdom's departure from the European Union. The U.K. and the E.U. continue to negotiate their future relationship, which could take several years to finalize. The outcome of these negotiations could result in, among other things, transportation delays, increased costs, fewer goods being transported globally, additional volatility in currency exchange rates and further regulations relating to, among other things, trade, aviation and the transport of goods. Changes in general economic conditions, or our inability to accurately forecast these changes, could materially adversely affect us.

Our industry is rapidly evolving. We expect to continue to face significant competition, which could materially adversely affect us.

Our industry is rapidly evolving, including in response to demand for faster deliveries and increased visibility into shipments. We expect to continue to face significant competition on a local, regional, national and international basis. Current competitors include the postal services of the U.S. and other nations, various motor carriers, express companies, freight forwarders, air couriers, large transportation and e-commerce companies that are making significant investments in their capabilities, and start ups and other companies that combine technologies with crowdsourcing to focus on local market needs, some of whom are currently our customers. Competition may also come from other sources in the future, including as new technologies are developed. Competitors have cost and organizational structures that differ from ours and from time to time may offer services or pricing terms that we may not be willing or able to offer. Additionally, to sustain the level of services and value that we deliver to our customers, from time to time we may raise prices and our customers may not be willing to accept these higher prices. If we are unable to timely and appropriately respond to competitive pressures, we could be materially adversely affected.

Continued transportation industry consolidation may further increase competition. As a result of consolidation, competitors may increase their market share, improve their financial capacity and strengthen their competitive positions. Business combinations could also result in competitors providing a wider variety of services and products at competitive prices, which could materially adversely affect us.

Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us.

For the year ended December 31, 2020, business from one customer, Amazon.com, Inc. and its affiliates, accounted for 13.3% of our consolidated revenues. Some of our other significant customers can account for a relatively significant portion of our revenues in a particular quarter or year. Customer impact on our revenue is based on factors such as: product launches; e-commerce or other industry trends, including those related to the fourth quarter holiday season; business combinations and the overall growth of a customer's underlying business; as well as any disruptions to their businesses. These customers could choose to divert all or a portion of their business with us to one of our competitors, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or develop their own shipping and distribution capabilities. In addition, certain of our significant customer contracts include termination rights of either party upon the occurrence of certain events or without cause upon advance notice to the other party. If all or a portion of our business relationships with one or more significant customers were to terminate, significantly change or be canceled, this could materially adversely affect us.

Failure to attract or retain qualified employees could materially adversely affect us.

We maintain a large workforce, and necessarily depend on the skills and continued service of our employees, including our experienced management team. We also regularly hire a large number of part-time and seasonal workers. We must be able to attract, engage, develop and retain a large and diverse global workforce, while controlling related labor costs and maintaining an environment that supports our core values. Our ability to control labor costs is subject to numerous factors, including turnover, training costs, regulatory changes, market pressures, unemployment levels and healthcare and other benefit costs. If we are unable to hire, properly train and retain qualified employees, we could experience higher employment costs, reduced sales, further increased workers' compensation and automobile liability claims, regulatory noncompliance, losses of customers and diminution of our brand value or company culture, which could materially adversely affect us.

In addition, our strategic initiatives, including transformation, have and may in the future lead to the creation of fewer, more impactful jobs as we strive to lower our cost to serve. Our inability to continue to retain experienced and motivated employees may also materially adversely affect us.

Increased security requirements impose substantial costs on us and we could be the target of an attack or have a security breach, which could materially adversely affect us.

As a result of concerns about global terrorism and homeland security, governments around the world have adopted or may adopt stricter security requirements that will result in increased operating costs for businesses in the transportation industry. These requirements may change periodically as a result of regulatory and legislative requirements and in response to evolving threats. We cannot determine the effect that any new requirements will have on our cost structure or our operating results, and new rules or other future security requirements may increase our operating costs and reduce operating efficiencies. Regardless of our compliance with security requirements or the steps we take to secure our facilities or fleet, we could also be the target of an attack or security breaches could occur, which could materially adversely affect us.

Strikes, work stoppages and slowdowns by our employees could materially adversely affect us.

Many of our U.S. employees are employed under a national master agreement and various supplemental agreements with local unions affiliated with the International Brotherhood of Teamsters ("the Teamsters"). Our airline pilots, airline mechanics, ground mechanics and certain other employees are employed under other collective bargaining agreements. In addition, some of our international employees are employed under collective bargaining or similar agreements. Strikes, work stoppages or slowdowns by our employees could adversely affect our ability to meet our customers' needs. As a result, customers may reduce their business or stop doing business with us if they believe that such actions or threatened actions may adversely affect our ability to provide services. We may permanently lose customers if we are unable to provide uninterrupted service, and this could materially adversely affect us. The terms of future collective bargaining agreements also may affect our competitive position and results of operations.

Failure to maintain our brand image and corporate reputation could materially adversely affect us.

Our success depends in part on our ability to maintain the image of the UPS brand and our reputation for providing excellent service to our customers. Service quality issues, actual or perceived, even when false or unfounded, could tarnish the image of our brand and may cause customers to use other companies. Also, adverse publicity surrounding labor relations, environmental concerns, security matters, political activities and similar matters, or attempts to connect our company to such issues, either in the U.S. or other countries in which we operate, could negatively affect our overall reputation and use of our services by customers. Social media accelerates and amplifies the scope of negative publicity, and makes responding to negative claims more difficult. Damage to our reputation and loss of brand equity could reduce demand for our services and thus have a material adverse effect on us, and could require additional resources to rebuild our reputation and restore the value of our brand.

A significant data breach or information technology system disruption could materially adversely affect us.

We rely heavily on information technology networks and systems, including the internet and a number of internally-developed systems and applications, to manage or support a wide variety of important business processes and activities throughout our operations. For example, we rely on information technology to receive package level information in advance of physical receipt of packages, to track items that move through our delivery systems, to efficiently plan deliveries, to execute billing processes, and to track and report financial and operational data. Our franchise locations and businesses we have acquired also are reliant on the use of information technology systems to manage their business processes and activities.

In addition, the provision of service to our customers and the operation of our networks and systems involve the collection, storage and transmission of significant amounts of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. To conduct our operations, we regularly move data across national borders, and consequently we are subject to a variety of continuously evolving and developing laws and regulations in the U.S. and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the E.U. has enacted the General Data Protection Regulation, which greatly increases the jurisdictional reach of E.U. law and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches. Other countries have also enacted or are enacting data localization laws that require data to stay within their borders. These evolving compliance and operational requirements impose significant costs that are likely to increase over time.

Information technology systems (ours, as well as those of our franchisees, acquired businesses, and third-party service providers) are susceptible to damage, disruptions or shutdowns due to programming errors, defects or other vulnerabilities, power outages, hardware failures, computer viruses, cyber-attacks, ransomware attacks, malware attacks, theft, misconduct by employees or other insiders, telecommunications failures, misuse, human errors or other catastrophic events. Hackers, foreign governments, cyber-terrorists and cyber-criminals, acting individually or in coordinated groups, may launch distributed denial of service attacks or other coordinated attacks that may cause service outages, gain inappropriate or block legitimate access to systems or information, or result in other interruptions in our business. In addition, the foregoing breaches in security could expose us, our customers and franchisees, or the individuals affected, to a risk of loss, disclosure or misuse of proprietary information and sensitive or confidential data, including personally identifiable information. The techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, may be difficult to detect and often are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate measures to prevent any of the events described above.

We also depend on and interact with the information technology networks and systems of third-parties for many aspects of our business operations, including our customers, franchisees and service providers such as cloud service providers and third-party delivery services. These third parties may have access to information we maintain about our company, operations, customers, employees and vendors, or operating systems that are critical to or can significantly impact our business operations. Like us, these third parties are subject to risks imposed by data breaches and information technology systems disruptions like those described above, and other events or actions that could damage, disrupt or close down their networks or systems. Security processes, protocols and standards that we have implemented and contractual provisions requiring security measures that we may have sought to impose on such third-parties may not be sufficient or effective at preventing such events. These events could result in unauthorized access to, or disruptions or denials of access to, misuse or disclosure of, information or systems that are important to our business, including proprietary information, sensitive or confidential data, and other information about our operations, customers, employees and suppliers, including personal information.

Any of these events that impact our information technology networks or systems, or those of acquired businesses, franchisees, customers, service providers or other third-parties, could result in disruptions in our operations, the loss of existing or potential customers, damage to our brand and reputation, regulatory scrutiny, and litigation and potential liability for us. Among other consequences, our customers' confidence in our ability to protect data and systems and to provide services consistent with their expectations could be impacted, further disrupting our operations. Similarly, an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation, fines, sanctions or other penalties.

We have invested and continue to invest in technology security initiatives, information technology risk management and disaster recovery plans. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly intense, complex and sophisticated global cyber threats. Despite our best efforts, we are not fully insulated from data breaches and system disruptions. Although to date we are unaware of a data breach or system disruption, including a cyber-attack, that has been material to us, we cannot provide any assurances that such events and impacts will not be material in the future, and our efforts to deter, identify, mitigate and/or eliminate future breaches may require significant additional effort and expense and may not be successful.

Severe weather or other natural or manmade disasters could materially adversely affect us.

Severe weather conditions or other natural or manmade disasters, including storms, floods, fires, earthquakes, epidemics, pandemics, conflicts, unrest, or terrorist attacks, have in the past and may in the future disrupt our business and result in decreased revenues. Customers may reduce shipments, or our costs to operate our business may increase, either of which could have a material adverse effect on us. Any such event affecting one of our major facilities could result in a significant interruption in or disruption of our business.

Economic, political, or social developments and other risks associated with international operations could materially adversely affect us.

We have significant international operations. As a result, we are continually exposed to changing economic, political and social developments that are beyond our control. Emerging markets are typically more volatile than those in the developed world, and any broad-based downturn in these markets could reduce our revenues and adversely affect our business, financial condition and results of operations. We are subject to many laws governing our international operations, including those that prohibit improper payments to government officials and commercial customers, govern our environmental impact or labor matters, and restrict where we can do business, our shipments to certain countries and the information that we can provide to non-U.S. governments. Our failure to manage and anticipate these and other risks associated with our international operations could materially adversely affect us.

Changes in markets and our business plans have resulted, and may in the future result, in substantial write-downs of the carrying value of our assets, thereby reducing our net income.

Our regular review of the carrying value of our assets, changes in business strategy, government regulations, and economic or market conditions have resulted from time to time, and may in the future result, in substantial impairments of our intangible, fixed or other assets. For example, in connection with our entry into a definitive agreement to divest our UPS Freight business, we recognized a $629 million after-tax impairment charge as of December 31, 2020. In addition, we have been and may be required in the future to recognize increased depreciation and amortization charges if we determine that the useful lives of our fixed assets or intangible assets are shorter than we originally estimated. Such changes have in the past, and may in the future, reduce our net income.

Insurance and claims expense could materially affect us.

We have a combination of both self-insurance and high-deductible insurance programs for the risks arising out of the services we provide and the nature of our global operations, including claims exposure resulting from cargo loss, personal injury, property damage, aircraft and related liabilities, business interruption and workers' compensation. Self-insured workers' compensation, automobile and general liabilities are determined using actuarial estimates of the aggregate liability for claims incurred and an estimate of incurred but not reported claims, on an undiscounted basis. Our accruals for insurance reserves reflect certain actuarial assumptions and management judgments, which are subject to a high degree of variability. If the number or severity of claims for which we are retaining risk continues to increase, which has occurred in recent periods, our financial condition and results of operations could be materially adversely affected. If we lose our ability to self-insure these risks, our insurance cost could materially increase and we may find it difficult to obtain adequate levels of insurance coverage.

Our inability to effectively integrate any acquired operations and realize the anticipated benefits of any acquisitions, joint ventures, strategic alliances or dispositions could materially adversely affect us.

As part of our business strategy, we may acquire businesses and form joint ventures or strategic alliances, or may dispose of operations. Whether we realize the anticipated benefits from these transactions will depend, in part, upon the successful integration between the businesses involved, the performance of the underlying operations, capabilities or technologies and the management of the acquired operations. Accordingly, our financial results could be materially adversely affected by our failure to effectively integrate the acquired operations, unanticipated performance issues or transaction-related charges.

Financial Risks

We are exposed to the effects of changing fuel and energy prices, including gasoline, diesel and jet fuel, and interruptions in supplies of these commodities.

Changing fuel and energy costs have a significant impact on our operations. We require significant quantities of fuel for our aircraft and delivery vehicles and are exposed to the risks associated with variations in the market price for petroleum products, including gasoline, diesel and jet fuel. We mitigate our exposure to changing fuel prices through our indexed fuel surcharges and we utilize hedging transactions from time to time. If we are unable to maintain or increase our fuel surcharges, higher fuel costs could adversely impact our operating results. Even if we are able to offset changes in fuel costs with surcharges, high fuel surcharges may result in a shift from our higher-yielding products to lower-yielding products or an overall reduction in volume. There can also be no assurance that hedging transactions will be effective to protect us from changes in fuel prices. Moreover, we could experience a disruption in energy supplies as a result of war, weather-related events or natural disasters, actions by producers or other factors beyond our control, which could have a material adverse effect on us.

Changes in exchange rates or interest rates may have a material adverse effect on us.

We conduct business across the globe with a significant portion of our revenue derived from operations outside the United States. Our operations in international markets are affected by changes in the exchange rates for local currencies, in particular the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar.

We are exposed to changes in interest rates, primarily on our short-term debt and that portion of our long-term debt that carries floating interest rates. The impact of a 100-basis-point change in interest rates affecting our debt is discussed in Part II, “Item 7A - Quantitative and Qualitative Disclosures about Market Risk” section of this report. Additionally, changes in interest rates impact the valuation of our pension and postretirement benefit obligations and the related benefit cost recognized in the statements of consolidated income. The impact of changes in interest rates on our pension and postretirement benefit obligations and costs is discussed further in Part I, "Item 7 - Critical Accounting Policies and Estimates" section of this report.

We monitor and manage our exposures to changes in currency exchange rates and interest rates, and use derivative instruments to mitigate the impact of changes in these rates on our financial condition and results of operations; however, changes in exchange rates and interest rates cannot always be predicted or hedged and may have a material adverse effect on us.

The proposed phase out of the London Interbank Offer Rate ("LIBOR") could have a material adverse effect on us.

Certain of our debt and other financial instruments have interest rates tied to LIBOR. The Chief Executive of the United Kingdom Financial Conduct Authority ("FCA"), which regulates LIBOR, has announced that the FCA will no longer persuade or compel banks to submit rates for the calculation of LIBOR after 2021. However, the ICE Benchmark Administration, in its capacity as administrator of U.S. Dollar LIBOR, has announced that it intends to extend publication of certain U.S. Dollar LIBOR rates to June 2023. Notwithstanding this possible extension, a joint statement by key regulatory authorities calls on banks to cease entering into new contracts that use U.S. Dollar LIBOR as a reference rate after 2021.

At this time, it is not possible to predict the effect any discontinuance, modification or other reforms to LIBOR, or the establishment of alternative reference rates, may have on our cost of capital. Any further changes or reforms to the determination or supervision of LIBOR may result in a sudden or prolonged increase or decrease in reported LIBOR, which could have an adverse impact on extensions of credit held by us and could have a material adverse effect on us.

We are required to make significant capital and other investments in our business, of which a significant portion is tied to projected volume levels.

We require significant capital investments in our business consisting of aircraft, vehicles, technology, facilities and sorting and other types of equipment. In addition to forecasting our capital investment requirements, we adjust other elements of our operations and cost structure in response to economic conditions. These investments support both our existing business and anticipated growth. Forecasting projected volume involves many factors which are subject to uncertainty, such as general economic trends, changes in governmental regulation and competition. If we do not accurately forecast our future capital investment needs, we could have excess capacity or insufficient capacity, either of which would negatively affect our revenues and profitability.

Employee health and retiree health and pension benefit costs represent a significant expense to us; further cost increases could materially adversely affect us.

Our expenses relating to employee health and retiree health and pension benefits are significant. In recent years, we have experienced significant increases in some of these costs, largely as a result of economic factors beyond our control, including, in particular, ongoing increases in healthcare costs in excess of the rate of inflation and historically low discount rates that we use to value our company-sponsored benefit plan obligations. Continually increasing healthcare costs, volatility in investment returns and discount rates, as well as changes in laws, regulations and assumptions used to calculate retiree health and pension benefit expenses, may adversely affect our business, financial condition, or results of operations, and may require significant contributions to our benefit plans. Our national master agreement with the Teamsters includes provisions that are designed to mitigate certain healthcare expenses, but there can be no assurance that our efforts will be successful or that the failure or success of these efforts will not materially adversely affect us.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans will be determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts. However, in future collective bargaining negotiations, we could agree to make significantly higher future contributions to improve the funded status of one or more of these plans. The funded status of these multiemployer plans is impacted by various factors, including investment performance, healthcare inflation, changes in demographics and changes in participant benefit levels. At this time, we are unable to determine the amount of additional future contributions, if any, or whether any material adverse effect on us could result from our participation in these plans.

In addition to our on-going multiemployer pension plan obligations, we may have an obligation to pay significant coordinating benefits that were earned by UPS employees in the Central States Pension Fund (the "CSPF"). For additional information on our potential liabilities related to the CSPF, see note 6 to the audited, consolidated financial statements.

We may have significant additional tax liabilities.

We are subject to income taxes in the U.S. and many foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain.

We are regularly under audit by tax authorities in different jurisdictions. Economic and political pressures to increase tax revenue in various jurisdictions may make resolving tax disputes more difficult. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation in the jurisdictions where we are subject to taxation could be materially different from our historical income tax provisions and accruals. In addition, changes in U.S. federal and state or international tax laws applicable to corporate multinationals, other fundamental law changes currently being considered by many countries, and changes in taxing jurisdictions' administrative interpretations, decisions, policies and positions may materially adversely impact our tax expense and cash flows.

Regulatory and Legal Risks

Increasingly complex and stringent laws, regulations and policies could materially increase our operating costs.

We are subject to complex and stringent aviation, transportation, environmental, security, labor, employment, safety, privacy and data protection and other governmental laws, regulations and policies, both in the U.S. and in other countries in which we operate. In addition, we are impacted by laws, regulations and policies that affect global trade, including tariff and trade policies, export requirements, taxes, monetary policies and other restrictions and charges. Recently, trade discussions between the U.S. and various of its trading partners have been fluid, and existing and future trade agreements are, and are expected to continue to be, subject to a number of uncertainties, including the imposition of new tariffs or adjustments and changes to the products covered by existing tariffs. The impact of new laws, regulations and policies or decisions or interpretations by authorities applying those laws and regulations, cannot be predicted. Compliance with any new laws, regulations or policies may increase our operating costs or require significant capital expenditures. Any failure to comply with applicable laws, regulations or policies in the U.S. or in any of the other countries in which we operate could result in substantial fines or possible revocation of our authority to conduct our operations, which could adversely affect us.

Increasingly stringent regulations related to climate change could materially increase our operating costs.

Regulation of greenhouse gas ("GHG") emissions exposes our transportation and logistics businesses to potentially significant new taxes, fees and other costs. Compliance with such regulation, and any increased or additional regulation, or the associated costs is further complicated by the fact that various countries and regions are following different approaches to the regulation of climate change.

For example, in 2009, the European Commission approved the extension to the airline industry of the E.U. Emissions Trading Scheme ("ETS") for GHG emissions. Under this decision, all of our flights operating within the E.U. are covered by the ETS requirements, and we are required annually to purchase emission allowances in an amount exceeding the number of free allowances allocated to us under the ETS. Similarly, in 2016, the International Civil Aviation Organization ("ICAO") passed a resolution adopting the Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA"), which is a global, market-based emissions offset program to encourage carbon-neutral growth beyond 2020. A pilot phase is scheduled to begin in 2021 in which countries may voluntarily participate, and full mandatory participation is scheduled to begin in 2027. ICAO continues to develop details regarding implementation, but compliance with CORSIA will increase our operating costs.

In the U.S., Congress in the past several years has considered various bills that would regulate GHG emissions, but these bills so far have not received sufficient Congressional support for enactment. Nevertheless, some form of federal climate change legislation is possible in the future. Even in the absence of such legislation, the Environmental Protection Agency could determine to regulate GHG emissions, especially aircraft or diesel engine emissions, and this could impose substantial costs on us.

In addition, the impact that the recent re-entry into the Paris climate accord may have on future U.S. policy regarding GHG emissions, on CORSIA and on other GHG regulation is uncertain. The extent to which other countries implement that accord could also have an adverse direct or indirect effect on us.

Potential costs to us of increased regulation regarding GHG emissions in the U.S. or abroad, especially aircraft or diesel engine emissions, include an increase in the cost of the fuel and other energy we purchase and capital costs associated with updating or replacing our aircraft or vehicles prematurely. We cannot predict the impact any future regulation would have on our cost structure or our operating results. It is possible that such regulation could significantly increase our operating costs and that we may not be willing or able to pass such costs along to our customers. Moreover, even without such regulation, increased awareness and any adverse publicity in the global marketplace about the GHGs emitted by companies in the airline and transportation industries could harm our reputation and reduce customer demand for our services, especially our air services.

We may be subject to various claims and lawsuits that could result in significant expenditures.

The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, property damage, business practices, environmental liability and other matters. Any material litigation or a catastrophic accident or series of accidents could result in significant expenditures and have a material adverse effect on us.

Item 1B. *Unresolved Staff Comments*

None.

Information About Our Executive Officers

For information about our executive officers, see Part III, "Item 10. Directors, Executive Officers and Corporate Governance".

Item 2. *Properties*

Operating Facilities

We own our corporate headquarters in Atlanta, Georgia, our UPS Supply Chain Solutions headquarters, located in Alpharetta, Georgia and our information technology headquarters, located in Parsippany, New Jersey. Our primary information technology operations are consolidated in an owned facility in New Jersey and we own a backup facility in Georgia.

We own or lease over 1,000 package operating facilities in the U.S., with approximately 81 million square feet of floor space. These facilities have vehicles and drivers stationed for the pickup and delivery of packages, and capacity to sort and transfer packages. Our larger facilities also service our vehicles and equipment, and employ specialized mechanical equipment for the sorting and handling of packages. We own or lease approximately 800 facilities that support our international package operations, with approximately 23 million square feet of floor space.

Our aircraft are operated in a hub and spoke pattern in the U.S., with our principal air hub, Worldport, located in Louisville, Kentucky. Our major air hub in Europe is located in Germany, and in Asia we operate two major air hubs in China and one in Hong Kong.

We own or lease more than 500 facilities, with approximately 40 million square feet of floor space, which support our freight forwarding and logistics operations. We own and operate a logistics campus consisting of approximately 4 million square feet in Louisville, Kentucky. In addition, we own or lease approximately 200 UPS Freight service centers with approximately 6 million square feet of floor space which are classified as held for sale in the consolidated balance sheet as of December 31, 2020. For additional information see note 4 to the audited, consolidated financial statements.

Fleet

Aircraft

The following table shows information about our aircraft fleet as of December 31, 2020:

Description	Owned & Finance Leases	Operating Leases & Charters From Others	On Order	Under Option
Boeing 757-200	75	—	—	—
Boeing 767-300	69	—	3	—
Boeing 767-300BCF	4	—	—	—
Boeing 767-300BDSF	4	—	—	
Airbus A300-600	52	—	—	—
Boeing MD-11	40	—	2	—
Boeing 747-400F	11	—	—	—
Boeing 747-400BCF	2	—	—	—
Boeing 747-8F	20	—	8	—
Other	—	311	—	—
Total	277	311	13	—

Vehicles

We operate a global ground fleet of approximately 127,000 package cars, vans, tractors and motorcycles, of which approximately 5,700 tractors used in our UPS Freight operations are classified as held for sale in the consolidated balance sheet as of December 31, 2020.

Our ground support fleet consists of 38,000 pieces of equipment designed specifically to support our aircraft fleet, ranging from non-powered container dollies and racks to powered aircraft main deck loaders and cargo tractors. We also have 58,000 containers used to transport cargo in our aircraft.

Item 3. *Legal Proceedings*

See note 6 to the audited, consolidated financial statements for a discussion of pension related matters and note 10 to the audited, consolidated financial statements for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of our class A common stock is convertible into one share of our class B common stock. Our class B common stock is listed on the New York Stock Exchange under the symbol "UPS".

As of February 8, 2021, there were 159,333 and 19,412 shareowners of record of class A and class B common stock, respectively.

Our practice has been to pay dividends on a quarterly basis. The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors.

On February 10, 2021, our Board declared a dividend of $1.02 per share, which is payable on March 10, 2021 to shareowners of record on February 22, 2021.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion for shares of class A and class B common stock. In the first quarter of 2020, our share repurchases totaled approximately $217 million. On April 28, 2020, we announced our intention to suspend share repurchases under our stock repurchase program. There were no repurchases of class A or class B common stock during the last nine months of 2020 and we do not currently anticipate any share repurchases in 2021. As of December 31, 2020, we had $2.1 billion available under our share repurchase authorization.

For additional information on our share repurchase activities, see note 12 to the audited, consolidated financial statements.

Shareowner Return Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates such information by reference into such filing.

The following graph shows a five-year comparison of cumulative total shareowners' returns for our class B common stock, the Standard & Poor's 500 Index and the Dow Jones Transportation Average. The comparison of the total cumulative return on investment, which is the change in the stock price plus reinvested dividends for each of the quarterly periods, assumes that $100 was invested on December 31, 2015 in the Standard & Poor's 500 Index, the Dow Jones Transportation Average and our class B common stock.

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	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020
United Parcel Service, Inc.	$ 100.00	$ 122.71	$ 131.47	$ 111.12	$ 139.45	$ 207.36
Standard & Poor's 500 Index	$ 100.00	$ 111.95	$ 136.38	$ 130.40	$ 172.92	$ 204.72
Dow Jones Transportation Average	$ 100.00	$ 121.86	$ 145.04	$ 127.15	$ 154.68	$ 180.23

For information regarding our equity compensation plans, see Item 12 of this report.

Item 6. Selected Financial Data

The following table sets forth selected financial data for each of the five years in the period ended December 31, 2020 (in millions, except per share amounts). This financial data should be read together with our consolidated financial statements and related notes, Management's Discussion and Analysis of Financial Condition and Results of Operations, including the *Supplemental Information - Items Affecting Comparability* section, and other financial data appearing elsewhere in this report.

	Years Ended December 31,				
	2020	**2019**	**2018**	**2017**	**2016**
Selected Income Statement Data					
Revenue:					
U.S. Domestic Package	$ 53,499	$ 46,493	$ 43,593	$ 40,761	$ 38,284
International Package	15,945	14,220	14,442	13,342	12,346
Supply Chain & Freight	15,184	13,381	13,826	12,482	10,980
Total Revenue	84,628	74,094	71,861	66,585	61,610
Operating Expenses:					
Compensation and benefits	44,529	38,908	37,235	34,577	32,534
Other	32,415	27,388	27,602	24,479	21,388
Total Operating Expenses	76,944	66,296	64,837	59,056	53,922
Operating Profit:					
U.S. Domestic Package	3,891	4,164	3,643	4,303	4,628
International Package	3,436	2,657	2,529	2,429	2,417
Supply Chain & Freight	357	977	852	797	643
Total Operating Profit	7,684	7,798	7,024	7,529	7,688
Other Income and (Expense):					
Investment income (expense) and other	(5,139)	(1,493)	(400)	61	(2,186)
Interest expense	(701)	(653)	(605)	(453)	(381)
Income Before Income Taxes	1,844	5,652	6,019	7,137	5,121
Income Tax Expense	501	1,212	1,228	2,232	1,699
Net Income	$ 1,343	$ 4,440	$ 4,791	$ 4,905	$ 3,422
Per Share Amounts:					
Basic Earnings Per Share	$ 1.55	$ 5.14	$ 5.53	$ 5.63	$ 3.88
Diluted Earnings Per Share	$ 1.54	$ 5.11	$ 5.51	$ 5.61	$ 3.86
Dividends Declared Per Share	$ 4.04	$ 3.84	$ 3.64	$ 3.32	$ 3.12
Weighted Average Shares Outstanding:					
Basic	867	864	866	871	883
Diluted	871	869	870	875	887

	As of December 31,				
	2020	**2019**	**2018**	**2017**	**2016**
Selected Balance Sheet Data:					
Cash and marketable securities	$ 6,316	$ 5,741	$ 5,035	$ 4,069	$ 4,567
Total assets	62,408	57,857	50,016	45,574	40,545
Long-term debt and finance leases	22,031	21,818	19,931	20,278	12,394
Shareowners' equity	669	3,283	3,037	1,024	430

This table reflects the impact of the adoption of new accounting standards in 2018 and 2019. Refer to note 1 to the audited, consolidated financial statements.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

Overview

As described above, during 2020 we began implementing our *Customer First, People Led, Innovation Driven* strategy, as we seek to transform nearly every aspect of our business, improve our financial performance, provide the best customer experience and benefit our shareowners. We focused on, among other things, enhancing the capabilities that we believe our customers value the most; speed and ease of access to our services. We completed enhancements to our U.S. ground network to improve time-in-transit and continued to deploy our digital access program into e-commerce platforms.

Beginning in the first quarter of 2020, unexpected business shutdowns and government restrictions implemented in many countries in response to the COVID-19 pandemic have significantly impacted the mix of demand for our services. In our global small package business, business-to-business activity has declined, while we continue to experience a significant increase in the level of business-to-consumer shipping, which we partially attribute to the capability enhancements described above. While business-to-business activity began to recover in the latter part of 2020, we believe that the market shift towards e-commerce will persist, with a continuing high level of residential deliveries that may continue to increase demand, but also drive higher operating costs. The pandemic also resulted in a reduction in global air cargo capacity. This caused market rates in the industry to increase and we experienced increased demand for our services.

On January 24, 2021, we entered into a definitive agreement to divest our UPS Freight business. This will allow us to be even more focused on the core parts of our business that drive the greatest value for our shareholders. The transaction, which is subject to customary closing conditions and regulatory approvals, is expected to close during the second quarter of 2021. We expect this divestiture to result in an improvement to our operating margin and return on invested capital.

We believe that we are well positioned for long-term growth, however we cannot reasonably estimate the duration or severity of the COVID-19 pandemic or the timing and extent of the anticipated economic recovery, and the resulting impacts on our business results or liquidity. For additional information on these risks and uncertainties, see Part I, "Item 1A. Risk Factors" of this report.

Highlights of our results for the years ended December 31, 2020 and 2019, which are discussed in more detail in the sections that follow, include:

	Year Ended December 31,		Change	
	2020	2019	$	%
Revenue (in millions)	$ 84,628	$ 74,094	$ 10,534	14.2 %
Operating Expenses (in millions)	76,944	66,296	10,648	16.1 %
Operating Profit (in millions)	$ 7,684	$ 7,798	$ (114)	(1.5)%
Operating Margin	9.1 %	10.5 %		
Net Income (in millions)	$ 1,343	$ 4,440	$ (3,097)	(69.8)%
Basic Earnings Per Share	$ 1.55	$ 5.14	$ (3.59)	(69.8)%
Diluted Earnings Per Share	$ 1.54	$ 5.11	$ (3.57)	(69.9)%
Operating Days	255	253		
Average Daily Package Volume (in thousands)	24,676	21,880		12.8 %
Average Revenue Per Piece	$ 10.94	$ 10.87	$ 0.07	0.6 %

- Revenue increased in all segments.
- Average daily package volume increased due to increases in business-to-consumer shipping.
- Operating expenses increased due to volume growth.

- Operating profit and operating margin were relatively flat, and included goodwill and other asset impairment charges of $686 million related to the anticipated divestiture of UPS Freight.
- We reported net income of $1.3 billion and diluted earnings per share of $1.54. Adjusted diluted earnings per share was $8.23 after adjusting for the after-tax impacts of:
    - goodwill and other asset impairment charges of $629 million or $0.72 per share;
    - transformation strategy costs of $265 million or $0.31 per share; and
    - pension mark-to-market losses recognized outside of a 10% corridor of $4.9 billion or $5.66 per share.

In the U.S. Domestic Package segment, volume and revenue growth was highest in our residential ground products. The increase in residential delivery volume drove increases in headcount, delivery stops per day, average daily miles driven and average daily union labor hours, all of which increased expense and compressed operating margins as described below. Operating expenses also increased as a result of the investments we made to improve our ground network.

The International Package segment experienced volume and revenue growth, driven by strong outbound demand from Asia as well as growth from e-commerce within Europe. Residential delivery volume growth drove an increase in third-party pickup and delivery expense.

In the Supply Chain & Freight segment, growth was primarily driven by our Forwarding and mail services businesses. The Forwarding business benefited from strong outbound demand from Asia and the implementation of capacity surcharges as COVID-19 led to reduced capacity in the air cargo market. Mail services benefited from the increase in e-commerce activity and favorable changes in shipment characteristics. We also experienced growth in demand for our healthcare logistics and distribution solutions, partly driven by the impacts of the COVID-19 pandemic.

2019 compared to 2018

See *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* of the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed with the Securities and Exchange Commission on February 20, 2020.

Supplemental Information - Items Affecting Comparability

We supplement the reporting of our financial information determined under generally accepted accounting principles in the United States ("GAAP") with certain non-GAAP financial measures including "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, other income and (expense), income before income taxes, income tax expense, effective tax rate, net income and earnings per share. Adjusted financial measures may exclude the impact of period over period exchange rate changes and hedging activities, amounts related to mark-to-market gains or losses, restructuring costs, including transformation strategy costs, and costs related to certain legal contingencies and expenses, as described below. We believe that these adjusted financial measures provide additional meaningful information to assist users of our financial statements in understanding our financial results and cash flows and assessing our ongoing performance. We believe these adjusted financial measures are important indicators of our recurring results of operations because they exclude items that may not be indicative of, or are unrelated to, our underlying operations, and may provide a useful baseline for analyzing trends in our underlying businesses. Additionally, these adjusted financial measures are used internally by management for business unit operating performance analysis, business unit resource allocation and in connection with incentive compensation award determination.

Adjusted financial measures should be considered in addition to, and not as an alternative for, our reported results prepared in accordance with GAAP. Our adjusted financial measures do not represent a comprehensive basis of accounting. Therefore, our adjusted financial measures may not be comparable to similarly titled measures reported by other companies.

Year over year comparisons of our financial results are affected by the following (in millions):

	Year Ended Dece	
Non-GAAP Adjustments	**2020**	
Operating Expenses:		
Transformation Strategy Costs	$ 348	$
Goodwill and Other Asset Impairment Charges	686	
Legal Contingencies and Expenses	—	
Total Adjustments to Operating Expenses	$ 1,034	$
Other Income and (Expense):		
Defined Benefit Plans Mark-to-Market Charges	$ 6,484	$
Total Adjustments to Other Income and (Expense)	$ 6,484	$
Total Adjustments to Income Before Income Taxes	$ 7,518	$
Income Tax Benefit from Defined Benefit Plans Mark-to-Market Charges	$ (1,555)	$
Income Tax Benefit from Transformation Strategy Costs	(83)	
Income Tax Benefit from Goodwill and Other Asset Impairment Charges	(57)	
Income Tax Benefit from Legal Contingencies and Expenses	—	
Total Adjustments to Income Tax Expense	$ (1,695)	$
Total Adjustments to Net Income	$ 5,823	$

These items have been excluded from comparisons of "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, other income and (expense), income tax expense and effective tax rate in the discussion that follows. The income tax benefit from restructuring and other costs, legal contingencies and expenses and mark-to-market charges are calculated by multiplying the statutory tax rates applicable in each tax jurisdiction, including the U.S. federal jurisdiction and various U.S. state and non-U.S. jurisdictions, by the tax-deductible adjustments. The blended average of the effective tax rates in 2020 and 2019 was 22.5% and 23.2%, respectively.

Impact of Changes in Foreign Currency Exchange Rates and Hedging Activities

We supplement the reporting of our revenue, revenue per piece and operating profit with non-GAAP measures that exclude the period over period impact of foreign currency exchange rate changes and hedging activities.

Currency-neutral revenue, revenue per piece and operating profit are calculated by dividing current period reported U.S. dollar revenue, revenue per piece and operating profit by the current period average exchange rates to derive current period local currency revenue, revenue per piece and operating profit. The derived amounts are then multiplied by the average foreign currency exchange rates used to translate the comparable results for each month in the prior year period (including the period over period impact of foreign currency hedging activities). The difference between the current period reported U.S. dollar revenue, revenue per piece and operating profit and the derived current period U.S. dollar revenue, revenue per piece and operating profit is the period over period impact of currency fluctuations.

Restructuring and Other Charges

We supplement the presentation of our operating profit, operating margin, income before income taxes, net income and earnings per share with similar non-GAAP measures that exclude the impact of charges related to restructuring activities, including transformation strategy costs and asset impairments. For more information regarding transformation strategy costs, see note 18 to the audited, consolidated financial statements. For more information regarding asset impairments, see note 4 to the audited, consolidated financial statements.

Costs Related to Certain Legal Contingencies and Expenses

We supplement the presentation of our operating profit, operating margin, income before income taxes, net income and earnings per share with similar non-GAAP measures that exclude the impact of costs related to certain legal contingencies and expenses.

Defined Benefit Plans Mark-to-Market Charges

We recognize changes in the fair value of plan assets and net actuarial gains and losses in excess of a 10% corridor for our pension and postretirement defined benefit plans immediately as part of other pension income (expense). We supplement the presentation of our income before income taxes, net income and earnings per share with non-GAAP measures that exclude the impact of gains and losses recognized in excess of the 10% corridor and the related income tax effects. We believe excluding these mark-to-market impacts provides important supplemental information by removing the volatility associated with short-term changes in market interest rates, equity values and similar factors.

This adjusted net periodic benefit cost ($641 million in 2020 and $754 million in 2019) utilizes the expected return on plan assets (7.70% in 2020 and 7.68% in 2019) and the discount rate used to determine net periodic benefit cost (3.55% in 2020 and 4.45% in 2019). The unadjusted net periodic benefit cost reflects the actual return on plan assets (12.54% in 2020 and 17.57% in 2019) and the discount rate used to measure the projected benefit obligation at the December 31st measurement date (2.87% in 2020 and 3.55% in 2019).

We recognized pre-tax mark-to-market losses outside of a 10% corridor related to the remeasurement of our pension and postretirement defined benefit plans' assets and liabilities in "Other Income and (Expense)" of $6.5 and $2.4 billion for 2020 and 2019, respectively. In 2019, we refined the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans by implementing advances in technology and modeling techniques discussed in note 6 to the audited, consolidated financial statements.

The table below shows the amounts associated with each component of the pre-tax mark-to-market loss, as well as the weighted-average actuarial assumptions used to determine our net periodic benefit cost, for each year:

	Year Ended December 31,	
Components of mark-to-market gain (loss) (in millions):	**2020**	**2019**
Discount rates	$ (6,540)	$ (5,670)
Return on assets	2,390	3,850
Demographic and other assumption changes	(381)	(24)
Coordinating benefits attributable to the Central States Pension Fund	(1,953)	(543)
Total mark-to-market gain (loss)	$ (6,484)	$ (2,387)

	Year Ended December 31,	
Weighted-average actuarial assumptions used to determine net periodic benefit cost:	**2020**	**2019**
Expected rate of return on plan assets	7.70 %	7.68 %
Actual rate of return on plan assets	12.54 %	17.57 %
Discount rate used for net periodic benefit cost	3.55 %	4.45 %
Discount rate at measurement date	2.87 %	3.55 %

The pre-tax mark-to-market losses for the years ended December 31, 2020 and 2019 were comprised of the following:

<u>2020 - $6.5 billion pre-tax mark-to-market loss:</u>

- *Discount Rates* ($6.5 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 3.55% as of December 31, 2019 to 2.87% as of December 31, 2020, primarily due to a decline in U.S. treasury yields that was slightly offset by an increase in credit spreads on AA-rated corporate bonds.
- *Return on Assets* ($2.4 billion pre-tax gain): In 2020, the actual rate of return on plan assets was higher than our expected rate of return, primarily due to strong global equity and U.S. bond market performance.
- *Demographic and Other Assumption Changes* ($381 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.
- *Coordinating benefits attributable to the Central States Pension Fund* ($2.0 billion pre-tax loss): This represents our current best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

<u>2019 - $2.4 billion pre-tax mark-to-market loss:</u>

- *Discount Rates* ($5.7 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.45% as of December 31, 2018 to 3.55% as of December 31, 2019, primarily due to a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2019. This was partially offset by a refinement to the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans as described in note 6 to the audited, consolidated financial statements.
- *Return on Assets* ($3.9 billion pre-tax gain): In 2019, the actual rate of return on plan assets was higher than our expected rate of return, primarily due to strong global equity and U.S. bond market performance.

- *Demographic and Other Assumption Changes* ($24 million pre-tax loss): This represented the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.
- *Coordinating benefits attributable to the Central States Pension Fund* ($543 million pre-tax loss): This represented our then-best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

Expense Allocations

Certain operating expenses are allocated between our reporting segments using activity-based costing methods. These activity-based costing methods require us to make estimates that impact the amount of each expense category that is attributed to each segment. Changes in these estimates would directly impact the amount of expense allocated to each segment, and therefore the operating profit of each reporting segment. Our allocation methodologies are refined periodically, as necessary, to reflect changes in our businesses. Beginning in 2020, we updated our cost allocation methodology for the Ground with Freight Pricing ("GFP") product. The cost associated with GFP that is allocated from the U.S. Domestic Package segment to UPS Freight, within the Supply Chain & Freight segment, was adjusted to better reflect operational activities associated with this product. This change in methodology had only an immaterial impact on the expense allocated to UPS Freight for 2020. There were no significant changes in our expense allocation methodologies during 2019 or 2018.

U.S. Domestic Package Operations

	Year Ended December 31,		Change	
	2020	2019	$	%
Average Daily Package Volume (in thousands):				
Next Day Air	1,987	1,889		5.2 %
Deferred	1,783	1,622		9.9 %
Ground	17,371	15,176		14.5 %
Total Average Daily Package Volume	21,141	18,687		13.1 %
Average Revenue Per Piece:				
Next Day Air	$ 16.82	$ 17.74	$ (0.92)	(5.2)%
Deferred	12.46	12.62	(0.16)	(1.3)%
Ground	8.87	8.55	0.32	3.7 %
Total Average Revenue Per Piece	$ 9.92	$ 9.83	$ 0.09	0.9 %
Operating Days in Period	255	253		
Revenue (in millions):				
Next Day Air	$ 8,522	$ 8,479	$ 43	0.5 %
Deferred	5,665	5,180	485	9.4 %
Ground	39,312	32,834	6,478	19.7 %
Total Revenue	$ 53,499	$ 46,493	$ 7,006	15.1 %
Operating Expenses (in millions):				
Operating Expenses	$ 49,608	$ 42,329	$ 7,279	17.2 %
Transformation Strategy Costs	(237)	(108)	(129)	119.4 %
Legal Contingencies and Expenses	—	(97)	97	N/M
Adjusted Operating Expenses	$ 49,371	$ 42,124	$ 7,247	17.2 %
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 3,891	$ 4,164	$ (273)	(6.6)%
Adjusted Operating Profit	$ 4,128	$ 4,369	$ (241)	(5.5)%
Operating Margin	7.3 %	9.0 %		
Adjusted Operating Margin	7.7 %	9.4 %		

Revenue

The change in total revenue was due to the following:

Revenue Change Drivers:	**Volume**	**Rates / Product Mix**	**Fuel Surcharges**	**Total Revenue Change**
2020 vs. 2019	14.0 %	1.8 %	(0.7)%	15.1 %

Volume

2020 compared to 2019

Volume increased across all products, with growth strongest in residential ground services. Volume growth was primarily driven by business-to-consumer e-commerce, which grew by approximately 33%, partly due to the impact of the COVID-19 pandemic. We also benefited from the impact of two additional operating days in 2020. Volume growth was led by our largest customer, Amazon, with growth stronger in the first half of the year. We also experienced growth from SMBs, as well as other large customers. Volume from SMBs grew 14.8% for the year, with growth accelerating in the second half of the year as a result of our investments to improve both time-in-transit and our digital access platform.

Business-to-consumer shipments represented approximately 64% of total average daily volume for the year compared to approximately 54% in 2019. We believe that the COVID-19 pandemic has accelerated a change in consumer behavior, speeding up what we believe will be a long-term market shift towards e-commerce. Business-to-business shipments decreased 10% for the year, primarily in our ground products, as many businesses experienced disruption and periods of closure due to the pandemic. Business-to-business activity began to recover in the latter part of 2020.

Average daily volume increased in both our Next Day Air and Deferred products, driven by increased residential demand as a result of the growth in e-commerce. This was slightly offset by declines in business-to-business shipments, primarily as a result of COVID-19, as well as continued declines in Second Day Letter volume due to ongoing shifts in customer preferences.

Residential Ground and SurePost average daily volumes increased by 35% and 39%, respectively for the year, driven by changes in customer mix and the growth in e-commerce activity. Ground commercial average daily volume declined, as many businesses temporarily closed or operated on a limited basis as a result of COVID-19.

Rates and Product Mix

2020 compared to 2019

Overall revenue per piece increased due to changes in base rates, customer and product mix and residential surcharges that went into effect in October 2020, partially offset by declines in fuel surcharges. Rates for UPS ground and UPS air services increased an average net 4.9% in December 2019. SurePost rates increased effective October 2020.

Revenue per piece for our Next Day Air and Deferred products decreased primarily due to shifts in customer and product mix, lower fuel surcharges and a decrease in average billable weight per piece. Revenue per piece for our Ground products increased primarily due to the shift in customer mix, with a significant increase in SMB volume, and higher residential surcharges. These benefits were partially offset by shifts in product mix, lower fuel surcharges and a decrease in average billable weight per piece.

Fuel Surcharges

We apply a fuel surcharge on our domestic air and ground services. The air fuel surcharge is based on the U.S. Department of Energy's ("DOE") Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the ground fuel surcharge is based on the DOE's On-Highway Diesel Fuel Price. Based on published rates, the average fuel surcharge rates for domestic Air and Ground products were as follows:

	Year Ended December 31,		**% Point Change**
	2020	**2019**	**2020 vs. 2019**
Next Day Air / Deferred	3.9 %	7.3 %	(3.4)%
Ground	6.6 %	7.2 %	(0.6)%

While fluctuations in fuel surcharges can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of products sold, the base price and any additional charges or discounts on these services.

Total domestic fuel surcharge revenue decreased by $344 million for the year as a result of lower fuel surcharge indices, partially offset by increases in volume and shifts in product mix.

Operating Expenses

2020 compared to 2019

Operating expenses, and operating expenses excluding the impact of transformation strategy costs and legal contingencies and expenses, increased largely due to higher pickup and delivery costs (up $4.2 billion). In addition, the costs of operating our domestic integrated air and ground network increased $1.4 billion, costs of package sorting increased $927 million and other indirect operating costs increased $744 million. The overall increase in expense was driven by several factors:

- Employee compensation and benefit costs increased $5.0 billion, largely resulting from:
    - residential volume growth that negatively impacted our delivery density, driving an increase in package delivery stops per day and in average daily miles driven. This drove an increase in average daily union labor hours of 14.1%;
    - union pay rate increases;
    - growth in the overall size of the workforce; and
    - acceleration of certain previously-issued incentive compensation awards for certain non-executive employees that resulted in additional expense of approximately $104 million.

  We also incurred higher employee benefit expenses due to additional headcount, contractual contribution rate increases to union multiemployer plans, and higher service costs for our company-sponsored pension and postretirement plans, primarily driven by lower discount rates used to measure the projected benefit obligations of these plans. Workers' compensation expense increased $114 million as a result of additional hours, medical and wage inflation and claims experience.
- Higher third-party transportation costs were driven by increased SurePost volume and utilization of outside carriers as part of our improvements to time-in-transit within our U.S. ground network.
- We incurred lower fuel costs for the year, driven by lower prices for jet fuel, diesel and gasoline that were partially offset by increased usage as a result of volume growth and higher average daily miles driven.

Total cost per piece, and adjusted cost per piece excluding the year over year impact of transformation strategy costs and legal contingencies and expenses, increased 2.8% as a result of the factors described above.

Operating Profit and Margin

2020 compared to 2019

As a result of the factors described above, operating profit decreased $273 million, with operating margins decreasing 170 basis points to 7.3%. Excluding the year over year impact of transformation strategy costs and legal contingencies and expenses, adjusted operating profit decreased $241 million, with operating margins decreasing 170 basis points to 7.7%.

International Package Operations

	Year Ended December 31,		Change	
	2020	2019	$	%
Average Daily Package Volume (in thousands):				
Domestic	1,863	1,721		8.3 %
Export	1,672	1,472		13.6 %
Total Average Daily Package Volume	3,535	3,193		10.7 %
Average Revenue Per Piece:				
Domestic	$ 6.65	$ 6.51	$ 0.14	2.2 %
Export	28.52	29.10	(0.58)	(2.0)%
Total Average Revenue Per Piece	$ 16.99	$ 16.93	$ 0.06	0.4 %
Operating Days in Period	255	253		
Revenue (in millions):				
Domestic	$ 3,160	$ 2,836	$ 324	11.4 %
Export	12,159	10,837	1,322	12.2 %
Cargo & Other	626	547	79	14.4 %
Total Revenue	$ 15,945	$ 14,220	$ 1,725	12.1 %
Operating Expenses (in millions):				
Operating Expenses	$ 12,509	$ 11,563	$ 946	8.2 %
Transformation Strategy Costs	(96)	(122)	26	(21.3)%
Adjusted Operating Expenses	$ 12,413	$ 11,441	$ 972	8.5 %
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 3,436	$ 2,657	$ 779	29.3 %
Adjusted Operating Profit	$ 3,532	$ 2,779	$ 753	27.1 %
Operating Margin	21.5 %	18.7 %		
Adjusted Operating Margin	22.2 %	19.5 %		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ 129	
Operating Expenses			(59)	
Operating Profit			$ 70	

* Net of currency hedging; amount represents the change compared to the prior year.

Revenue

The change in total revenue was due to the following:

Revenue Change Drivers:	Volume	Rates / Product Mix	Fuel Surcharges	Currency	Total Revenue Change
2020 vs. 2019	11.6 %	1.5 %	(1.9)%	0.9 %	12.1 %

Volume

2020 compared to 2019

Average daily volume increased for both domestic and export products. Business-to-consumer volume increased as the COVID-19 pandemic drove growth in e-commerce. Business-to-business volume declined as the pandemic negatively impacted business operations globally, however we experienced a slight increase in volumes in the fourth quarter.

Average daily volume growth was driven primarily by strong demand from the retail and technology sectors due to the increase in e-commerce activity. This was partially offset by lower volumes in manufacturing and other sectors as COVID-19 caused a decline in commercial activity.

Export volume increased across most major trade lanes, driven by Europe and Asia. Europe export volume growth was highest on the Europe to U.S. trade lane, with intra-Europe volumes also growing significantly. Asia export volume growth was strongest on the Asia to U.S. trade lane. We experienced volume growth from both our large customers and SMBs, with SMB growth accelerating during the second half of the year. Our premium products saw volume growth, primarily driven by our Worldwide Express product, however growth was stronger in our non-premium products, such as World Wide Expedited and Transborder Standard due to shifts in customer preference for these products.

Domestic volume increased in many of our markets, driven by growth in Canada and several European countries that was primarily due to residential volume growth resulting from the increase in e-commerce.

Rates and Product Mix

2020 compared to 2019

Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market. In response to market capacity constraints resulting from the COVID-19 pandemic, we implemented surcharges on certain lanes during the year. In December 2019, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States.

Total revenue per piece increased 0.4% as a result of changes in customer and product mix, the impact of demand surcharges and currency movements, which were largely offset by a decline in fuel surcharges. Excluding the impact of currency, revenue per piece decreased 0.5%.

Domestic revenue per piece increased 2.2% due to changes in customer and product mix, demand surcharges and currency movements that were partially offset by a decline in fuel surcharges. Excluding the impact of currency, revenue per piece increased 1.2%.

Export revenue per piece decreased 2.0% primarily due to a decline in fuel surcharges that were partially offset by changes in demand surcharges. Excluding the impact of currency, revenue per piece decreased 2.8%.

Fuel Surcharges

We apply fuel surcharges on our international air and ground services. The fuel surcharge for international air services originating inside or outside the U.S. is largely indexed to the DOE's Gulf Coast spot price for a gallon of kerosene-type jet fuel. The fuel surcharges for ground services originating outside the U.S. are indexed to fuel prices in the region or country where the shipment originates.

While fluctuations can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of services sold, the base price and extra service charges and the pricing discounts offered. Total international fuel surcharge revenue decreased by $263 million in 2020 as a result of declines in fuel surcharge indices, partially offset by volume growth and changes in customer and product mix.

Operating Expenses

2020 compared to 2019

Operating expenses, and operating expenses excluding the year over year impact of transformation strategy costs, increased in 2020. Pickup and delivery costs increased $540 million due to volume growth and an increase in residential deliveries that drove additional third-party pickup and delivery expense.

The costs of operating our integrated international air and ground network increased $66 million, as increased block hours were partially offset by lower fuel prices.

In addition to variability in usage and market prices, the manner in which we purchase fuel also influences the net impact of costs on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term.

The remaining increase in operating expenses in 2020 was due to package sorting and other indirect operating costs.

Operating Profit and Margin

2020 compared to 2019

As a result of the factors described above, operating profit increased $779 million, with operating margin increasing 280 basis points to 21.5%. Excluding the year over year impact of transformation strategy costs, adjusted operating profit increased for the year, with operating margin increasing 270 basis points to 22.2%.

Supply Chain & Freight Operations

	Year Ended December 31,		Change	
	2020	**2019**	**$**	**%**
Freight LTL Statistics:				
Revenue (in millions)	$ 2,566	$ 2,679	$ (113)	(4.2)%
Revenue Per Hundredweight	$ 27.46	$ 26.54	$ 0.92	3.5 %
Shipments (in thousands)	8,847	9,281		(4.7)%
Shipments Per Day (in thousands)	34.8	36.7		(5.2)%
Gross Weight Hauled (in millions of lbs)	9,343	10,096		(7.5)%
Weight Per Shipment (in lbs)	1,056	1,088		(2.9)%
Operating Days in Period	254	253		
Revenue (in millions):				
Forwarding	$ 6,975	$ 5,867	$ 1,108	18.9 %
Logistics	4,073	3,435	638	18.6 %
Freight	3,149	3,265	(116)	(3.6)%
Other	987	814	173	21.3 %
Total Revenue	$ 15,184	$ 13,381	$ 1,803	13.5 %
Operating Expenses (in millions):				
Operating Expenses	$ 14,827	$ 12,404	$ 2,423	19.5 %
Transformation Strategy Costs	(15)	(25)	10	(40.0)%
Goodwill and Other Asset Impairment Charges	(686)	—	(686)	N/M
Adjusted Operating Expenses	$ 14,126	$ 12,379	$ 1,747	14.1 %
Operating Profit (in millions) and Operating Margins:				
Operating Profit	$ 357	$ 977	$ (620)	(63.5)%
Adjusted Operating Profit	$ 1,058	$ 1,002	$ 56	5.6 %
Operating Margin	2.4 %	7.3 %		
Adjusted Operating Margin	7.0 %	7.5 %		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ (92)	
Operating Expenses			90	
Operating Profit			$ (2)	

* Amount represents the change compared to the prior year.

	Year Ended December 31,		Change	
	2020	**2019**	**$**	**%**
Transformation Strategy Costs (in millions):				
Forwarding	$ 8	$ 12	$ (4)	(33.3)%
Logistics	6	13	(7)	(53.8)%
Freight	1	—	1	N/M
Total Transformation Strategy Costs	$ 15	$ 25	$ (10)	(40.0)%

In January 2021, we entered into a definitive agreement to sell our UPS Freight business. As of December 31, 2020, we classified certain assets and liabilities of UPS Freight as held for sale in the consolidated balance sheet. Upon classification as held for sale, we recognized a total impairment charge of $686 million within Other expenses in the statements of consolidated income. This was comprised of a goodwill impairment charge of $494 million and a valuation allowance to adjust the carrying value of the disposal group to fair value less cost to sell of $192 million. See note 4 to the audited, consolidated financial statements for additional information.

Revenue

2020 compared to 2019

Total revenue in the Supply Chain & Freight segment increased $1.8 billion. The impact of the COVID-19 pandemic varied within the segment. Our LTL business faced excess capacity and reduced demand in the first half of the year before market conditions began to improve. Conversely, our international air freight forwarding business benefited from demand for personal protective equipment out of Asia as well as increases in market rates caused by a sharp decline in passenger aircraft cargo capacity. Our Logistics business experienced increased demand from the healthcare and retail sectors, while activity in other sectors declined.

Overall Forwarding revenue increased for the year. In our international air freight business, revenue grew as a result of higher market rates, capacity surcharges and strong demand in Asia. Ocean freight forwarding revenue increased due to Asia-export volume growth in the second half of the year. Revenue in our truckload brokerage business increased as volume levels recovered in the third and fourth quarters. Higher demand, together with capacity constraints in the truckload brokerage market, drove rate increases.

Within Logistics, revenue in our mail services business increased as a result of e-commerce growth, which also led to a favorable shift in product characteristics. In addition, we implemented a peak surcharge in mail services in the fourth quarter which contributed to the overall increase in revenue. In the healthcare sector, we experienced growth in demand for our healthcare logistics and distribution solutions, partly driven by the impacts of the COVID-19 pandemic.

UPS Freight revenue declined due to volume and tonnage declines in our LTL business driven by overall market conditions, as well as volume optimization initiatives that resulted in an increase in revenue per hundredweight. Revenue from the Ground with Freight Pricing product grew as volume levels increased in the second half of the year.

Revenue from the other businesses within the segment increased, driven by growth within UPS Customer Solutions, as well as additional volume from service contracts with the U.S. Postal Service.

Operating Expenses

2020 compared to 2019

Total operating expenses for the segment, and operating expenses excluding the year over year impact of restructuring and other costs, increased in 2020.

Forwarding operating expenses increased $1.1 billion, largely due to higher market rates and additional charter flights out of Asia which increased purchased transportation expense for international air freight. This increase was slightly offset by declines in tonnage and volume. In truckload brokerage, volume growth and higher market rates also contributed to the increase in purchased transportation expense. Other expenses decreased slightly as a result of ongoing cost management initiatives.

Logistics operating expenses increased $582 million, driven by higher purchased transportation expense in mail services as a result of volume growth and carrier rate increases, as well as volume growth in the healthcare sector.

UPS Freight operating expenses increased $607 million, due primarily to an impairment charge of $686 million in respect of goodwill and assets held for sale as a result of entering into an agreement to divest our UPS Freight business. We expect this divestiture to be completed in the second quarter of 2021.

Operating Profit and Margin

2020 compared to 2019

As a result of the factors described above, total operating profit for the Supply Chain & Freight segment decreased $620 million. Excluding the year over year impact of restructuring and other costs, adjusted operating profit increased $56 million. Operating margin decreased 490 basis points to 2.4%, while adjusted operating margin decreased 50 basis points to 7.0%.

Consolidated Operating Expenses

	Year Ended December 31,		Change	
	2020	**2019**	**$**	**%**
Operating Expenses (in millions):				
Compensation and benefits	$ 44,529	$ 38,908	$ 5,621	14.4 %
Transformation strategy costs	(211)	(166)	(45)	27.1 %
Adjusted Compensation and benefits	44,318	38,742	5,576	14.4 %
Repairs and maintenance	2,365	1,838	527	28.7 %
Depreciation and amortization	2,698	2,360	338	14.3 %
Purchased transportation	15,631	12,590	3,041	24.2 %
Fuel	2,582	3,289	(707)	(21.5)%
Other occupancy	1,539	1,392	147	10.6 %
Other expenses	7,600	5,919	1,681	28.4 %
Total Other expenses	32,415	27,388	5,027	18.4 %
Other Transformation strategy costs	(137)	(89)	(48)	53.9 %
Legal contingencies and expenses	—	(97)	97	(100.0)%
Goodwill and other asset impairment charges	(686)	—	(686)	N/M
Adjusted Total Other expenses	$ 31,592	$ 27,202	$ 4,390	16.1 %
Total Operating Expenses	$ 76,944	$ 66,296	$ 10,648	16.1 %
Adjusted Total Operating Expenses	$ 75,910	$ 65,944	$ 9,966	15.1 %
Currency Translation Benefit - (in millions)*			$ 31	

*Amount represents the change in currency translation compared to the prior year.

	Year Ended December 31,		Change	
	2020	**2019**	**$**	**%**
Adjustments to Operating Expenses (in millions):				
Transformation strategy costs:				
Compensation	$ 34	$ 21	$ 13	61.9 %
Benefits	177	145	32	22.1 %
Depreciation and amortization	—	3	(3)	(100.0)%
Other occupancy	8	8	—	— %
Other expenses	129	78	51	65.4 %
Total Transformation strategy costs	$ 348	$ 255	$ 93	36.5 %
Legal contingencies and expenses:				
Other expenses	$ —	$ 97	$ (97)	(100.0)%
Goodwill and other asset impairment charges:				
Other expenses	$ 686	$ —	$ 686	N/M
Total Adjustments to Operating Expenses	$ 1,034	$ 352	$ 682	193.8 %

Compensation and Benefits

2020 compared to 2019

Total compensation and benefits, and total compensation and benefits excluding the year over year impact of transformation strategy costs, increased in 2020.

Total compensation costs, and total compensation costs excluding the year over year impact of transformation strategy costs, increased $3.1 billion or 13.3%, primarily as a result of:

- U.S. Domestic labor costs increased as a result of residential volume growth, driving a 21.5% increase in package delivery stops per day. This drove additional headcount and an increase in average daily union hours of 14.1%. Contractual union wage increases also contributed to the increase in compensation for hourly employees.
- Management compensation expense increased due to salary increases, higher incentive compensation, including the acceleration of certain previously-issued incentive compensation awards, and growth in the overall size of the workforce.

Benefits costs, and benefits costs excluding the year over year impact of transformation strategy costs, increased $2.5 billion as a result of:

- Health and welfare costs increased $558 million, driven by increased contributions to multiemployer plans resulting from growth in the workforce and contractually-mandated contribution rate increases.
- Pension and postretirement benefits increased $798 million. Higher service costs for company-sponsored plans were driven by a reduction in discount rates and an increase in participating employees. Contributions to multiemployer plans increased as a result of contractually-mandated contribution increases and an overall increase in the size of the workforce.
- Vacation, excused absence, payroll taxes and other expenses increased $587 million, primarily driven by salary increases and growth in the overall size of the workforce.
- Workers' compensation expense increased $517 million due to an increase in total hours worked, wage and medical cost inflation and unfavorable claims trends.

Repairs and Maintenance

2020 compared to 2019

The increase in repairs and maintenance expense was driven by additional aircraft engine maintenance cost, primarily due to the replacement of parts on our A300-600 fleet, as well as an increase in routine repairs to buildings and facilities and maintenance of our other transportation equipment.

Depreciation and Amortization

2020 compared to 2019

Depreciation and amortization expense increased as a result of additional investments in facility automation and capacity expansion projects, increases in the size of our vehicle and aircraft fleets and investments in internally developed software.

Purchased Transportation

2020 compared to 2019

The increase in purchased transportation expense charged to us by third-party air, rail, ocean and truck carriers was primarily driven by:

- U.S. Domestic Package expense increased $1.2 billion due to investments to improve time-in-transit in our U.S. ground network, an increase in SurePost volume that drove approximately $480 million of incremental third-party transportation expense and volume growth in our other products.

- Forwarding and Logistics expense increased $1.5 billion due to increased market rates in our international air freight business, as well as volume growth and rate increases in our mail services and truckload brokerage businesses. The rate increases in our international air freight and truckload brokerage businesses were primarily driven by market capacity constraints.
- International Package expense increased $521 million primarily due to volume increases in Asia and Europe that drove higher third-party pickup and delivery cost, as well as additional charter flights originating from Asia.

Fuel

2020 compared to 2019

The decrease in fuel expense was driven by lower prices for jet fuel, diesel and gasoline. These decreases were partially offset by higher consumption due to increases in aircraft block hours and miles driven as a result of increased volume, as well as the impact of higher alternative fuel tax credits in 2019.

Other Occupancy

2020 compared to 2019

The increase in other occupancy expense, and other occupancy expense excluding the year over year impact of transformation strategy costs, was driven by additional operating facilities coming into service, rent and property tax increases and ongoing facility maintenance.

Other Expenses

2020 compared to 2019

Other expenses, and other expenses excluding the year over year impact of transformation strategy costs, legal contingencies and expenses and goodwill and other asset impairment charges, increased as a result of:

- Other operational expenses, including vehicle and equipment rentals, increased $385 million driven by volume growth. This included cleaning and other safety supplies related to COVID-19 amounting to $89 million.
- Professional fees increased $139 million, primarily related to information technology and other business support services.
- Self-insured automobile liability claims increased $125 million as a result of higher average daily miles driven in our U.S. Domestic business and unfavorable claims experience.
- Other increases included reserves for certain tax positions and contingencies, payment processing fees, recruitment costs, telecommunications costs, information technology expenses and allowances for credit losses and other bad debt expense.

Other Income and (Expense)

The following table sets forth investment income (expense) and other and interest expense for the years ended December 31, 2020 and 2019 (in millions):

	Year Ended December 31,		Change	
	2020	2019	$	%
Investment Income (Expense) and Other	$ (5,139)	$ (1,493)	$ (3,646)	N/M
Defined Benefit Plans Mark-to-Market Charges	6,484	2,387	4,097	171.6 %
Adjusted Investment Income (Expense) and Other	$ 1,345	$ 894	$ 451	50.4 %
Interest Expense	(701)	(653)	(48)	7.4 %
Total Other Income and (Expense)	$ (5,840)	$ (2,146)	$ (3,694)	172.1 %
Adjusted Other Income and (Expense)	$ 644	$ 241	$ 403	167.2 %

Investment Income (Expense) and Other

2020 compared to 2019

Investment and other expense for the year increased $3.6 billion, which included a $4.1 billion increase in defined benefit plans mark-to-market charges. Excluding the impact of these mark-to-market charges, adjusted investment and other income increased $451 million for the year, primarily due to an increase in other pension income, which includes expected investment returns on pension assets, net of interest cost on projected benefit obligations and prior service costs. Expected returns on plan assets increased as a result of a higher asset base due to positive asset returns in 2019 and discretionary contributions made in 2020. Pension interest cost decreased due to the impact of lower year end discount rates, partially offset by ongoing plan growth and an increase in the projected benefit obligation as a result of the 2019 year end measurement of our plans. Investment income decreased due to lower yields on higher average invested asset balances and impairments of certain non-current investments, partially offset by foreign currency gains.

Interest Expense

2020 compared to 2019

Interest expense increased as a result of higher average outstanding debt balances and lower capitalization of interest, partially offset by lower effective interest rates on floating rate debt and commercial paper balances.

Income Tax Expense

The following table sets forth income tax expense and our effective tax rate for the years ended December 31, 2020 and 2019 (in millions):

	Year Ended December 31,		Change	
	2020	2019	$	%
Income Tax Expense:	$ 501	$ 1,212	$ (711)	(58.7)%
Income Tax Impact of:				
Defined Benefit Plans Mark-to-Market Charges	1,555	571	984	172.3 %
Transformation Strategy Costs	83	59	24	40.7 %
Goodwill and Other Asset Impairment Charges	57	—	57	N/M
Legal Contingencies and Expenses	—	6	(6)	N/M
Adjusted Income Tax Expense	$ 2,196	$ 1,848	$ 348	18.8 %
Effective Tax Rate	27.2 %	21.4 %		
Adjusted Effective Tax Rate	23.5 %	22.0 %		

For additional information on income tax expense and our effective tax rate, see note 15 to the audited, consolidated financial statements.

Liquidity and Capital Resources

As of December 31, 2020, we had $6.3 billion in cash, cash equivalents and marketable securities. We believe that these positions, expected cash from operations, access to commercial paper programs and capital markets and other available liquidity options will be adequate to fund our operating requirements, planned capital expenditures and pension contributions, transformation strategy costs, debt obligations and planned shareowner returns. We regularly evaluate opportunities to optimize our capital structure, including through issuances of debt to refinance existing debt and to fund operations. We have currently suspended share repurchases under our stock repurchase program.

Cash Flows From Operating Activities

The following is a summary of the significant sources (uses) of cash from operating activities (in millions):

	2020	2019
Net income	$ 1,343	$ 4,440
Non-cash operating activities[a]	11,181	6,405
Pension and postretirement benefit plan contributions (company-sponsored plans)	(3,125)	(2,362)
Hedge margin receivables and payables	(507)	171
Income tax receivables and payables	205	599
Changes in working capital and other non-current assets and liabilities	1,383	(634)
Other operating activities	(21)	20
Net cash from operating activities	$ 10,459	$ 8,639

(a) Represents depreciation and amortization, gains and losses on derivative transactions and foreign currency exchange, deferred income taxes, allowances for expected credit losses, amortization of operating lease assets, pension and postretirement benefit expense, stock compensation expense, changes in casualty self-insurance reserves, goodwill and other asset impairment charges and other non-cash items.

Net cash from operating activities increased $1.8 billion for the year, driven by the following:

- Total contributions to our company-sponsored pension and U.S. postretirement medical benefit plans were $3.1 billion during 2020 compared to $2.4 billion in 2019. We made discretionary contributions of $2.8 billion to our three primary, company-sponsored U.S. pension plans during 2020 compared to $2.0 billion in 2019.
- Our net hedge margin collateral decreased by $678 million due to the change in net fair value of derivative contracts used in our currency and interest rate hedging programs.
- Cash payments for income taxes were $1.1 billion and $514 million for 2020 and 2019, respectively, with changes driven by the timing of deductions related to pension contributions, depreciation and employer payroll taxes.
- Favorable changes in working capital were driven by the deferral of approximately $1.1 billion of employer payroll taxes under the Coronavirus Aid, Relief and Economic Security (CARES) Act that was signed into law on March 27, 2020, as well as changes in incentive compensation plan payouts. These benefits were partially offset by an increase in working capital demand as a result of business growth.

As part of our ongoing efforts to improve our working capital efficiency, certain financial institutions offer a voluntary Supply Chain Finance ("SCF") program to certain of our suppliers. We agree commercial terms with our suppliers, including prices, quantities and payment terms, regardless of whether the supplier elects to participate in the SCF program. Suppliers issue invoices to us based on the agreed-upon contractual terms. Then, if they are participating in the SCF program, our suppliers, at their sole discretion, determine which invoices, if any, to sell to the financial institutions. Our suppliers' voluntary inclusion of invoices in the SCF program has no bearing on our payment terms. No guarantees are provided by us under the SCF program. We have no economic interest in a supplier's decision to participate, and we have no direct financial relationship with the financial institutions, as it relates to the SCF program.

Amounts due to our suppliers that participate in the SCF program are included in accounts payable in our consolidated balance sheets. We have been informed by the participating financial institutions that as of December 31, 2020 and 2019, suppliers sold them $639 and $268 million, respectively, of our outstanding payment obligations. Amounts due to suppliers that participate in the SCF program may be reflected in cash flows from operating activities or cash flows from investing activities in our consolidated statements of cash flows. The amount settled through the SCF program was approximately $1.8 billion for the year ended December 31, 2020.

As of December 31, 2020, our total worldwide holdings of cash, cash equivalents and marketable securities were $6.3 billion, of which approximately $3.0 billion was held by foreign subsidiaries. The amount of cash, cash equivalents and marketable securities held by our U.S. and foreign subsidiaries fluctuates throughout the year due to a variety of factors, including the timing of cash receipts and disbursements in the normal course of business. Cash provided by operating activities in the U.S. continues to be our primary source of funds to finance domestic operating needs, capital expenditures, share repurchases, pension contributions and dividend payments to shareowners. All cash, cash equivalents and marketable securities held by foreign subsidiaries are generally available for distribution to the U.S. without any U.S. federal income taxes. Any such distributions may be subject to foreign withholding and U.S. state taxes. When amounts earned by foreign subsidiaries are expected to be indefinitely reinvested, no accrual for taxes is provided.

Cash Flows From Investing Activities

Our primary sources (uses) of cash for investing activities were as follows (amounts in millions):

	2020	2019
Net cash used in investing activities	$ (5,283)	$ (6,061)
Capital Expenditures:		
Buildings, facilities and plant equipment	$ (2,460)	$ (2,729)
Aircraft and parts	(1,145)	(1,890)
Vehicles	(1,002)	(987)
Information technology	(805)	(774)
Total Capital Expenditures[1]:	$ (5,412)	$ (6,380)
Capital Expenditures as a % of revenue	6.4 %	8.6 %
Other Investing Activities:		
Proceeds from disposals of property, plant and equipment	$ 40	$ 65
Net change in finance receivables	$ 44	$ 13
Net (purchases), sales and maturities of marketable securities	$ 106	$ 322
Cash paid for business acquisitions, net of cash and cash equivalents acquired	$ (20)	$ (6)
Other investing activities	$ (41)	$ (75)

[1] In addition to capital expenditures of $5.4 and $6.4 billion in 2020 and 2019, respectively, there were capital expenditures relating to principal repayments of finance lease obligations of $192 and $140 million. These are included in cash flows from financing activities.

We have commitments for the purchase of aircraft, vehicles, equipment and real estate to provide for the replacement of existing capacity and anticipated future growth. Future capital spending for anticipated growth and replacement assets will depend on a variety of factors, including economic and industry conditions. Our current investment program anticipates maintenance of buildings, facilities and plant equipment, as well as investments in technology initiatives and additional network capabilities. We currently expect that our capital expenditures will be approximately $4.0 billion in 2021.

In 2020, capital expenditures on buildings, facilities and plant equipment decreased in our global small package business, as we reduced spending on facility automation and capacity expansion projects. Capital spending on aircraft decreased due to reductions in contract deposits on open aircraft orders and in final payments associated with the delivery of aircraft.

Proceeds from the disposal of property, plant and equipment were largely attributable to sales of international property in 2020 and 2019. The net change in finance receivables was primarily due to reductions in outstanding balances within our finance portfolios. Purchases and sales of marketable securities are largely determined by liquidity needs and the periodic rebalancing of investment types, and will fluctuate from period to period.

Cash paid for business acquisitions in 2020 related to the acquisition of area franchise rights for The UPS Store. In 2019, we also acquired area franchise rights for The UPS Store, as well as made immaterial acquisitions in our International Small Package and Healthcare Logistics business units. Other investing activities were impacted by changes in our non-current investments, purchase contract deposits and various other items.

We anticipate that the divestiture of UPS Freight will be completed in the second quarter of 2021. We intend to use the proceeds from this divestiture to repay outstanding debt.

Cash Flows From Financing Activities

Our primary sources (uses) of cash for financing activities were as follows (amounts in millions, except per share data):

	2020	2019
Net cash used in financing activities	$ (4,517)	$ (1,727)
Share Repurchases:		
Cash expended for shares repurchased	$ (224)	$ (1,004)
Number of shares repurchased	(2.1)	(9.1)
Shares outstanding at period end	865	857
Percent increase (decrease) in shares outstanding	0.9 %	(0.1)%
Dividends:		
Dividends declared per share	$ 4.04	$ 3.84
Cash expended for dividend payments	$ (3,374)	$ (3,194)
Borrowings:		
Net borrowings (repayments) of debt principal	$ (851)	$ 2,419
Other Financing Activities:		
Cash received for common stock issuances	$ 285	$ 218
Other financing activities	$ (353)	$ (166)
Capitalization:		
Total debt outstanding at year end	$ 24,654	$ 25,238
Total shareowners' equity at year end	669	3,283
Total capitalization	$ 25,323	$ 28,521

We repurchased a total of 2.1 million shares of class A and class B common stock for $217 million in 2020; substantially all of those purchases were in the first quarter of 2020. As previously disclosed, we have suspended share repurchases under our stock repurchase program. We repurchased 9.1 million shares for $1.0 billion throughout 2019 ($224 million and $1.0 billion in repurchases for 2020 and 2019, respectively, are reported on the statement of cash flows due to the timing of settlements). For additional information on our share repurchase activities, see note 12 to the audited, consolidated financial statements.

For the years ended December 31, 2020 and 2019, dividends reported within shareowners' equity include $178 and $147 million, respectively, of non-cash dividends that were settled in shares of class A common stock.

The declaration of dividends is subject to the discretion of the Board of Directors and depends on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors. We expect to continue the practice of paying regular cash dividends. In February 2021, we increased our quarterly dividend payment from $1.01 to $1.02 per share.

Issuances of debt in 2020 and 2019 consisted of borrowings under our commercial paper program and issuances of fixed-rate senior notes as follows (in millions):

		Principal Amount in USD
2020		
Fixed-rate senior notes:		
3.900% senior notes	$	1,000
4.450% senior notes		750
5.200% senior notes		500
5.300% senior notes		1,250
Total	$	3,500

		Principal Amount in USD
2019		
Fixed-rate senior notes:		
2.200% senior notes	$	400
2.500% senior notes		400
3.400% senior notes (multiple issuances)		1,450
4.250% senior notes		750
Total	$	3,000

Repayments of debt in 2020 included our $424 million 8.375% debentures that matured in April 2020 and our €500 million floating rate senior notes that matured in July 2020. We also paid down commercial paper and made scheduled principal payments on our finance lease obligations. Repayments of debt in 2019 included fixed-rate senior notes in the amount of $1.0 billion, commercial paper and scheduled principal payments on our finance lease obligations.

We consider the overall fixed and floating interest rate mix of our portfolio and the related overall cost of borrowing when planning for future issuances and non-scheduled repayments of debt. We have $2.6 billion of senior notes that mature in 2021. We do not currently intend to refinance this debt when it becomes due.

The amount of commercial paper outstanding fluctuates throughout the year based on daily liquidity needs. The following is a summary of our commercial paper program (in millions):

		Functional currency outstanding balance at year end		Outstanding balance at year end ($)		Average balance outstanding		Average balance outstanding ($)	Average interest rate
2020									
USD	$	15	$	15	$	1,426	$	1,426	0.78 %
EUR	€	—	$	—	€	432	$	493	(0.39)%
Total			$	15					

	Functional currency outstanding balance at year end		Outstanding balance at year end ($)		Average balance outstanding		Average balance outstanding ($)		Average interest rate
2019									
USD	$	2,172	$	2,172	$	1,665	$	1,665	2.24 %
EUR	€	949	$	1,062	€	903	$	1,011	(0.39)%
Total			$	3,234					

The variation in cash received from common stock issuances was primarily due to the number of stock option exercises by employees in 2020 and 2019.

Other financing activities includes cash used to repurchase shares from employees sold to satisfy tax withholding obligations on vested stock awards of $340 and $180 million in 2020 and 2019, respectively. The increase in cash used was driven by changes in the vesting schedule for certain of our awards. Net cash inflows from premium payments and settlements of capped call options for the purchase of UPS class B shares were $0 and $21 million in 2020 and 2019, respectively.

Sources of Credit

See note 9 to the audited, consolidated financial statements for a discussion of our available credit and debt covenants.

Guarantees and Other Off-Balance Sheet Financing Arrangements

Except as disclosed in note 9 to the audited, consolidated financial statements, we do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, which we believe could have a material impact on financial condition or liquidity.

Contractual Commitments

We have contractual obligations and commitments in the form of finance leases, operating leases, debt obligations, purchase commitments and certain other liabilities. We intend to satisfy these obligations primarily through the use of cash flows from operations. The following table summarizes the expected cash outflow to satisfy our contractual obligations and commitments as of December 31, 2020 (in millions):

Commitment Type	**2021**	**2022**	**2023**	**2024**	**2025**	**After 2025**	**Total**
Finance Leases	$ 69	$ 64	$ 50	$ 30	$ 27	$ 188	$ 428
Operating Leases (1)	815	557	458	335	259	1,468	3,892
Debt Principal	2,568	2,001	2,360	1,485	1,860	14,198	24,472
Debt Interest	754	725	671	633	638	7,703	11,124
Purchase Commitments	2,730	1,415	404	201	60	1	4,811
Tax Act Repatriation Liability	—	—	13	49	61	—	123
Pension Funding	252	—	—	—	—	—	252
Total	$ 7,188	$ 4,762	$ 3,956	$ 2,733	$ 2,905	$ 23,558	$ 45,102

(1) Operating lease commitments for 2021 include $184 million of committed leases that have not yet commenced.

Our finance lease obligations relate primarily to leases on aircraft and real estate. Finance leases and operating leases are discussed further in note 11 to the audited, consolidated financial statements. Purchase commitments, as well as our debt principal obligations, are discussed further in note 9 to the audited, consolidated financial statements. The amount of interest on our debt was calculated as the contractual interest payments due on our fixed-rate debt and variable rate debt based on interest rates as of December 31, 2020. The calculations of debt interest take into account the effect of any interest rate swap agreements. For debt denominated in a foreign currency, the U.S. Dollar equivalent principal amount of the debt at the end of the year was used as the basis to calculate future interest payments.

Purchase commitments represent contractual agreements to purchase assets, goods or services that are legally binding, including contracts for aircraft, construction of new or expanded facilities and orders for technology equipment and vehicles. As of December 31, 2020, we had firm commitments to purchase three new Boeing 767-300 aircraft to be delivered in 2021 and 8 new Boeing 747-8F aircraft to be delivered between 2021 and 2022. We also had a firm commitment to purchase two Boeing MD-11 aircraft to be delivered in 2021. We paid a deposit equal to the full purchase price for these MD-11 aircraft in December 2019; therefore these aircraft are not included in the commitment table above.

In December 2017, the United States enacted into law the Tax Act, requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. We elected to pay the tax over eight years based on an installment schedule outlined in the Tax Act and, as required, have reflected our remaining transition tax due by year as a contractual obligation.

There are no anticipated required minimum cash contributions to our qualified U.S. pension plans (these plans are discussed further in note 6 to the audited, consolidated financial statements). The amount of any minimum funding requirement, as applicable, for these plans could change significantly in future periods depending on many factors, including future plan asset returns, discount rates, other actuarial assumptions and changes to pension plan funding regulations. A decline in discount rates or a sustained significant decline in equity or bond returns could result in our U.S. pension plans being subject to significantly higher minimum funding requirements. Actual contributions made in future years could materially differ and consequently required minimum contributions beyond 2021 cannot be reasonably estimated.

As discussed in note 7 to the audited, consolidated financial statements, we are not currently subject to any minimum contributions or surcharges with respect to the multiemployer pension and health and welfare plans in which we participate. Contribution rates to these multiemployer pension and health and welfare plans are established through the collective bargaining process. As we are not subject to any minimum contribution levels, we have not included any amounts in the contractual commitments table with respect to these multiemployer plans.

The table above does not include approximately $398 million of liabilities for uncertain tax positions because we are uncertain if or when such amounts will ultimately be settled in cash. Uncertain tax positions are further discussed in note 15 to the audited, consolidated financial statements.

As of December 31, 2020, we had outstanding letters of credit totaling approximately $1.4 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2020, we had $1.3 billion of surety bonds written. As of December 31, 2020, we had unfunded loan commitments totaling $52 million associated with UPS Capital.

We believe that funds from operations and borrowing programs will provide adequate sources of liquidity and capital resources to meet our expected long-term needs for the operation of our business, including anticipated capital expenditures, transformation strategy costs and pension contributions for the foreseeable future.

Contingencies

See note 6 to the audited, consolidated financial statements for a discussion of pension related matters and note 10 to the audited, consolidated financial statements for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Collective Bargaining Agreements

Status of Collective Bargaining Agreements

See note 7 to the audited, consolidated financial statements for a discussion of the status of collective bargaining agreements.

Multiemployer Benefit Plans

We contribute to a number of multiemployer pension and health and welfare plans under the terms of collective bargaining agreements that cover our union represented employees. Our current collective bargaining agreements set forth the annual contribution increases allotted to the plans that we participate in, and we are in compliance with these contribution rates. These limitations will remain in effect throughout the terms of the existing collective bargaining agreements.

New Accounting Pronouncements

Recently Adopted Accounting Standards

See note 1 to the audited, consolidated financial statements for a discussion of recently adopted accounting standards.

Accounting Standards Issued But Not Yet Effective

See note 1 to the audited, consolidated financial statements for a discussion of accounting standards issued, but not yet effective.

Rate Adjustments

We announced various adjustments to our peak surcharges during the fourth quarter as follows:

- Effective October 25, 2020, surcharges applied to China and Hong Kong origin international shipments increased.
- Effective November 1, 2020, surcharges for certain Europe origin shipments increased.
- Effective November 8, 2020, surcharges increased for China Mainland, Hong Kong Special Administrative Region, Australia, New Zealand and other Asia origin shipments and a surcharge was applied to international shipments from Korea.
- Effective November 15, 2020, surcharges for certain Europe origin shipments increased.
- Effective December 27, 2020, surcharges for shipments from China Mainland and Hong Kong Special Administrative Region to the U.S. decreased.
- Effective January 17, 2021, updated surcharges were applied to U.S. shipments.

The following changes took effect on December 27, 2020:

- The rates for UPS Ground, UPS Air and International services increased by an average net 4.9%.
- UPS Air Freight rates within and between the U.S., Canada and Puerto Rico increased an average net 4.8%.
- Rates for all UPS SurePost services increased.

Additionally, effective January 10, 2021, an additional handling charge was applied to any package with a combined length plus girth exceeding 105 inches. Effective April 11, 2021, additional handling and large package surcharge rates for non-Hundredweight service packages will differ by zone and effective July 11, 2021, additional handling and large package surcharge rates for Hundredweight Service packages will differ by zone.

Critical Accounting Estimates

This discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which are prepared in accordance with GAAP. As indicated in note 1 to the audited, consolidated financial statements, the amounts of assets, liabilities, revenue and expenses reported in our financial statements are affected by estimates and judgments that are necessary to comply with GAAP. We base our estimates on prior experience, current trends, various other assumptions and third-party input that we consider reasonable to our circumstances. Actual results could differ materially from our estimates, which would affect the related amounts reported in our consolidated financial statements. While estimates and judgments are applied in arriving at many reported amounts, we believe that the following critical accounting policies involve a higher degree of judgment and complexity.

Contingencies

As discussed in note 10 to the audited, consolidated financial statements, we are involved in various legal proceedings and subject to various contingencies. The events that may impact our contingent liabilities are often unique and generally are not predictable. At the time a contingency is identified, we consider all relevant facts as part of our evaluation. We record a liability for a loss when the loss is probable of occurring and reasonably estimable. Events may arise that were not anticipated and the outcome of a contingency may result in a loss to us that differs from our previously estimated liability. This difference could be material. Income taxes and self-insurance are discussed below. Except as disclosed in note 10 to the audited, consolidated financial statements, other contingent losses that were probable and estimable were not material to our financial position or results of operations as of, or for the year ended, December 31, 2020. In addition, we have certain contingent liabilities that have not been recognized as of, or for the year ended, December 31, 2020, because a loss was not reasonably estimable.

Goodwill and Intangible Asset Impairments

We test goodwill and indefinite-lived intangible assets for impairment on an annual basis as of July 1st and between annual tests if an event occurs or circumstances change that would indicate that it is more likely than not that the carrying amount may be impaired. We assess goodwill for impairment at the reporting unit level, initially evaluating qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive, we calculate the fair value of a reporting unit to test goodwill for impairment. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we record the excess amount as goodwill impairment, not to exceed the total amount of goodwill allocated to the reporting unit. Our reporting units are set out in note 8 to the audited, consolidated financial statements.

We primarily determine the fair value of our reporting units using a discounted cash flow ("DCF") model and supplement this with observable valuation multiples for comparable companies, as appropriate. The completion of the DCF model requires that we make a number of significant assumptions to produce an estimate of future cash flows. These assumptions include projections of future revenue, costs, capital expenditures, working capital and our cost of capital. We are also required to make assumptions relating to our overall business and operating strategy, and the regulatory and market environment. The projections that we use in our DCF model are updated annually and will change over time based on the historical performance and changing business conditions for each of our reporting units.

The determination of whether goodwill is impaired involves a significant level of judgment in these assumptions, and changes in our forecasts, business strategy, government regulations, or economic or market conditions could significantly impact these judgments, potentially decreasing the fair value of one or more reporting units. Any resulting impairment charges could have a material impact on our results of operations.

We recognized a goodwill impairment charge of $494 million for our UPS Freight reporting unit in 2020 in conjunction with our evaluation of assets held for sale, which is discussed in note 4 to the audited, consolidated financial statements. Based on the most recent tests, the fair value of our remaining reporting units exceeds their carrying value. None of our reporting units incurred any goodwill impairment charges in 2019.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2020 are considered to be indefinite-lived intangibles. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method to estimate the fair value of the trade name. This valuation approach requires that we make a number of assumptions to estimate fair value. These assumptions include projections of future revenues, market royalty rates, tax rates, discount rates and other relevant variables. The projections we use in the model are updated annually and will change over time based on the historical performance and changing business conditions. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge would be recognized for the excess amount.

All of our remaining intangible assets are deemed to be finite-lived and are amortized over their estimated useful lives. Impairment tests for these assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable based on its undiscounted future cash flows. If the carrying amount of the intangible is determined not to be recoverable, a write-down to fair value is recorded. Fair values are estimated using a DCF model. If impairment indicators are present, the resulting impairment charges could have a material impact on our results of operations. See note 8 to the audited, consolidated financial statements for details of finite-lived intangible asset impairments.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are based on third-party actuarial estimates, which incorporate historical loss experience and judgments about the present and expected cost per claim. Trends in actual experience are a significant factor in the determination of our reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve a claim. A number of factors can affect the actual cost of a claim, including the severity and length of time the claim remains open, trends in healthcare costs, the results of any related litigation and changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior year at a rate that differs from actuarial projections. All of these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. Based on our historical experience, in 2019 we changed our self-insurance reserves from the central estimate to the low end of the actuarial range of losses. We believe our estimated reserves for such claims are adequate; actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations. For additional information on our self-insurance reserves, refer to note 1 of the audited, consolidated financial statements.

We sponsor a number of health and welfare insurance plans for our employees. Liabilities and expenses related to these plans are based on estimates of, among other things, the number of employees and eligible dependents covered under the plans, global health events, anticipated medical usage by participants and overall trends in medical costs and inflation. We believe our estimates are reasonable/appropriate. Actual experience may differ from these estimates and, therefore, produce a material difference between estimated and actual operating results.

Pension and Other Postretirement Medical Benefits

Our pension and other postretirement medical benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, healthcare cost trend rates, inflation, compensation increases, expected returns on plan assets, mortality rates, regulatory requirements and other factors. The assumptions utilized in recording the obligations under our plans represent our best estimates, and we believe that they are reasonable, based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Differences in actual experience or changes in assumptions may affect our pension and other postretirement obligations and future expenses. The primary factors contributing to actuarial gains and losses each year are (1) changes in the discount rate used to value pension and postretirement benefit obligations as of the measurement date, (2) differences between the expected and the actual return on plan assets, (3) changes in demographic assumptions including mortality, (4) participant experience different from demographic assumptions and (5) changes in coordinating benefits with plans not sponsored by UPS. In 2019, we refined the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans by implementing advances in technology and modeling techniques as discussed in note 6 to the audited, consolidated financial statements.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense (herein referred to as "ongoing net periodic benefit cost"), primarily service and interest costs and the expected return on plan assets, are reported on a quarterly basis.

The following sensitivity analysis shows the impact of a 25 basis point change in the assumed discount rate and return on assets for our pension and postretirement benefit plans, and the resulting increase (decrease) on our obligations and expense as of, and for the year ended, December 31, 2020 (in millions):

Pension Plans	**25 Basis Point Increase**	**25 Basis Point Decrease**
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ (41)	$ 42
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(2,434)	2,618
Effect on projected benefit obligation	(2,761)	2,942
Return on Assets:		
Effect on ongoing net periodic benefit cost(1)	(118)	118
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor(2)	(115)	115
Postretirement Medical Plans		
Discount Rate:		
Effect on ongoing net periodic benefit cost	3	(3)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(54)	64
Effect on accumulated postretirement benefit obligation	(60)	71
Healthcare Cost Trend Rate:		
Effect on ongoing net periodic benefit cost	1	(1)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	13	(14)
Effect on accumulated postretirement benefit obligation	14	(16)

(1) Amount calculated based on 25 basis point increase / decrease in the expected return on assets.
(2) Amount calculated based on 25 basis point increase / decrease in the actual return on assets.

Refer to note 6 to the audited, consolidated financial statements for information on our potential liability for coordinating benefits related to the Central States Pension Fund.

Depreciation, Residual Value and Impairment of Fixed Assets

As of December 31, 2020, we had $32.3 billion of net fixed assets, the most significant category of which is aircraft. In accounting for fixed assets, we make estimates of the expected useful lives and residual values. We review long-lived assets for impairment at either the individual asset level or the asset group for which the lowest level of independent cash flows can be identified. Impairment reviews occur when circumstances indicate the carrying amount of an asset or asset group may not be recoverable based on undiscounted future cash flows. The circumstances that would indicate potential impairment may include, but are not limited to, a significant change in the extent to which an asset is utilized and operating or cash flow losses associated with the use of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. There were no material impairment charges on our fixed assets during 2020 or 2019.

In estimating the lives and expected residual values of aircraft, we rely upon actual experience with the same or similar aircraft types. Revisions to these estimates could be caused by changes to our maintenance programs, changes in the utilization of the aircraft, governmental regulations on aging aircraft and changing market prices of new and used aircraft of the same or similar types. We periodically evaluate these estimates and assumptions, and adjust them as necessary. Adjustments are accounted for on a prospective basis through depreciation expense. In estimating cash flows, we project future volume levels for our different air products in all geographic regions in which we do business. Adverse changes in these volume forecasts, or a shortfall of our actual volume compared with our projections, could result in our current aircraft capacity exceeding current or projected demand. This situation could lead to an excess of a particular aircraft, resulting in an impairment charge or a reduction of the expected useful life of an aircraft that may result in increased depreciation expense.

We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. See note 1 to the audited, consolidated financial statements for a discussion of our accounting policies for long-lived assets.

Fair Value Measurements

In the normal course of business, we hold and issue financial instruments that contain elements of market risk, including derivatives, marketable securities, finance receivables, pension assets, other investments and debt. Certain of these financial instruments are required to be recorded at fair value, principally derivatives, marketable securities, pension assets and certain other investments. Fair values are based on listed market prices, when such prices are available. To the extent that listed market prices are not available, fair value is determined based on other relevant factors, including dealer price quotations. If listed market prices or other relevant factors are not available, inputs are developed from unobservable data reflecting our own assumptions and include situations where there is little or no market activity for the asset or liability. Certain financial instruments, including over-the-counter derivative instruments, are valued using pricing models that consider, among other factors, contractual and market prices, correlations, time value, credit spreads and yield curve volatility factors. Changes in the fixed income, foreign currency exchange and commodity markets will impact our estimates of fair value in the future, potentially affecting our results of operations. A quantitative sensitivity analysis of our exposure to changes in commodity prices, foreign currency exchange rates and interest rates is presented in the “Quantitative and Qualitative Disclosures about Market Risk” section of this report.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment or when an asset or disposal group is classified as held for sale.

For business acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, technology and trade names from a market participant perspective, useful lives and discount rates. Management’s estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. As a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Income Taxes

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of income by legal entity and jurisdiction, tax credits, benefits and deductions, and in the calculation of deferred tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes, as well as tax, interest and penalties related to uncertain tax positions. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover a substantial majority of the deferred tax assets recorded on our consolidated balance sheets. However, should there be a change in our ability to recover our deferred tax assets, our tax provision would increase in the period in which we determined that the recovery was not likely.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk*

We are exposed to market risk from changes in certain commodity prices, foreign currency exchange rates, interest rates and equity prices. All of these market risks arise in the normal course of business, as we do not engage in speculative trading activities. In order to manage the risk arising from these exposures, we may utilize a variety of commodity, foreign currency exchange rate and interest rate forward contracts, options and swaps. A discussion of our accounting policies for derivative instruments and further disclosures are provided in note 1 to the audited, consolidated financial statements.

Commodity Price Risk

We are exposed to changes in the prices of refined fuels, principally jet-A, diesel and unleaded gasoline, as well as changes in the price of natural gas and other alternative fuels. Currently, the fuel surcharges that we apply to our domestic and international package and LTL services are the primary means of reducing the risk of adverse fuel price changes. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our results either positively or negatively in the short-term. As of December 31, 2020 and 2019, we had no commodity contracts outstanding.

Foreign Currency Exchange Rate Risk

We have foreign currency risks related to our revenue, operating expenses and financing transactions in currencies other than the local currencies in which we operate. We are exposed to currency risk from the potential changes in functional currency values of our foreign currency-denominated assets, liabilities and cash flows. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We use forward contracts as well as a combination of purchased and written options to hedge forecasted cash flow currency exposures. These derivative instruments generally cover forecasted foreign currency exposures for periods of 12 to 48 months. We also utilize forward contracts to hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement.

Interest Rate Risk

We have issued debt instruments, including debt associated with finance leases, that accrue expense at fixed and floating rates of interest. We use a combination of interest rate swaps as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment and maturity dates of the swaps match the terms of the associated debt. We also utilize forward starting swaps and similar instruments to lock in all or a portion of the borrowing cost of anticipated debt issuances. Our floating-rate debt and interest rate swaps subject us to risk resulting from changes in short-term interest rates. For a discussion of the risks associated with the anticipated cessation of LIBOR, see Part I, "Item 1A. Risk Factors - Financial Risks - The proposed phase out of the London Interbank Offer Rate ("LIBOR") could have a material adverse effect on us".

We also are subject to interest rate risk with respect to our pension and postretirement benefit obligations, as changes in interest rates will effectively increase or decrease our liabilities associated with these benefit plans, which also results in changes to the amount of pension and postretirement benefit expense recognized in future periods.

We have investments in debt securities, as well as cash-equivalent instruments, some of which accrue income at variable rates of interest. Additionally, we hold a portfolio of finance receivables that accrue income at fixed and floating rates of interest.

Sensitivity Analysis

The following analysis provides quantitative information regarding our exposure to foreign currency exchange risk, interest rate risk and equity price risk embedded in our existing financial instruments. We utilize valuation models to evaluate the sensitivity of the fair value of financial instruments with exposure to market risk that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves and commodity and equity prices. For options and instruments with non-linear returns, models appropriate to the instrument are utilized to determine the impact of market shifts.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that foreign currency exchange rates change in a parallel fashion and that interest rates change instantaneously. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is our best estimate of the impact of the specified interest rate scenarios, these estimates should not be viewed as forecasts. We adjust the fixed and floating interest rate mix of our interest rate sensitive assets and liabilities in response to changes in market conditions. Additionally, changes in the fair value of foreign currency derivatives and commodity derivatives are offset by changes in the cash flows of the underlying hedged foreign currency and commodity transactions.

	Shock-Test Result As of December 31,	
(in millions)	**2020**	**2019**
Change in Fair Value:		
Currency Derivatives[1]	$ (809)	$ (786)
Change in Annual Interest Expense:		
Variable Rate Debt[2]	$ 26	$ 64
Interest Rate Derivatives[2]	$ 33	$ 37

(1) The potential change in fair value from a hypothetical 10% weakening of the U.S. Dollar against local currency exchange rates across all maturities.

(2) The potential change in annual interest expense resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate debt and swap instruments (excluding hedges of anticipated debt issuances).

The sensitivity of our pension and postretirement benefit obligations to changes in interest rates is quantified in “Critical Accounting Estimates”. The sensitivity in the fair value and interest income of our finance receivables and marketable securities due to changes in interest rates was not material as of December 31, 2020 or 2019.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of income, comprehensive income, and cash flows, for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 22, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company changed its method of accounting for leases due to the adoption of Financial Accounting Standards Board Accounting Standards Update 2016-02, *Leases (Topic 842)*. This change has been applied on a modified retrospective basis effective on January 1, 2019.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Central States Pension Fund coordinating benefit obligation assumptions - Refer to Note 6, Company-Sponsored Employee Benefit Plans (Actuarial Assumptions - Central States Pension Fund), to the financial statements

Critical Audit Matter Description

The Company was a contributing employer to the Central States Pension Fund ("CSPF") until 2007 when it withdrew and fully funded its allocable share of unvested benefits. The Company agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") to CSPF participants whose last employer was the Company and who had not retired as of January 1, 2008 (the "UPS Transfer Group") if the CSPF were to lawfully reduce benefits consistent with the terms of its withdrawal agreement with the Company. The CSPF has asserted that, absent legislative reform, it will become insolvent in 2025. If the CSPF were to become insolvent consistent with that assertion, the Company may be required to provide coordinating benefits through the UPS/IBT Plan to the UPS Transfer Group.

Under accounting standards generally accepted in the United States of America ("GAAP"), the Company is required to determine its best estimate of the eventual outcome of this matter and is prohibited from anticipating potential changes in law in making that best estimate. The Company considered potential outcomes based on the existing legislative framework, including the eventual insolvency of the CSPF or an approved application to reduce benefits under the U.S. Multiemployer Pension Reform Act ("MPRA"). Due to the passage of time and further deterioration of the CSPF's funded status, the Company believes the trustees of the CSPF (the "Trustees") can no longer submit and implement another benefit reduction plan under MPRA. As such, the Company developed a deterministic cash flow projection that reflects updated estimated CSPF cash flows and investment earnings, the lack of legislative action, and the projected financial assistance to the CSPF from the Pension Benefit Guaranty Corporation ("PBGC") to fund the PBGC's guaranteed benefit levels.

As a result, at the December 31, 2020 measurement date, the best estimate of the Company's projected benefit obligation for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group increased by $2.9 billion. At the December 31, 2020 measurement date, the total obligation for the CSPF coordinating benefits was $5.5 billion.

The assumptions require significant management judgment and the following audit considerations:

1. Auditing management's assumption related to the level of financial assistance that CSPF may receive from the PBGC based on enacted law is subjective.
2. Auditing the actuarial assumptions used to estimate the timing and present value of future CSPF cash flows is challenging because the underlying data is limited to information made publicly available by the CSPF.
3. Auditing the sufficiency of the Company's disclosure of this matter in the footnotes to the financial statements is challenging due to the number of uncertainties associated with the obligation.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures to address the Company's assumptions used to measure its obligation to pay for CSPF coordinating benefits to the UPS Transfer Group (the "Coordinating Benefits") included the following, among others:

- We tested the effectiveness of controls over Coordinating Benefits assumptions, including those over the determination of the accounting model, the key legal position relevant to the level of financial assistance guaranteed by the PBGC based upon enacted law, the other actuarial assumptions used to project the Coordinating Benefits obligation; and the related financial statement disclosures.
- With the assistance of professionals in our firm having expertise in pension accounting, we evaluated the Company's conclusions regarding the accounting model applied to the Coordinating Benefits obligation.
- With the assistance of our actuarial specialists, we tested the underlying data and actuarial model used by management to estimate the obligation to provide Coordinating Benefits, including consideration of (1) the discount rate; (2) the projected contributions and benefit payments, including PBGC contributions to the CSPF and (3) the expected return on CSPF assets. Further, because the data used by management is limited

to publicly available CSPF information, we considered whether other available sources of data may yield a more precise estimate.

- We compared the Company’s footnote disclosure relating to this matter to the information communicated between management and the Company’s audit committee to evaluate whether significant uncertainties had been omitted from the disclosure.

Valuation of U.S. hedge fund, risk parity, private debt, private equity and real estate investments - Refer to Note 6, Company-Sponsored Employee Benefit Plans (Fair Value Measurements), to the financial statements

Critical Audit Matter Description

The Company's U.S. pension and postretirement medical benefit plans (the "U.S. Plans") held hedge fund, risk parity, private debt, private equity and real estate investments valued at $7.9 billion as of December 31, 2020.

The Company determines the reported values of the U.S. Plans' investments in hedge, risk parity, private debt, private equity and real estate funds primarily based on the estimated net asset value ("NAV") of the fund. In order to estimate NAV, the Company evaluates audited and unaudited financial reports from fund managers, and makes adjustments, as appropriate, for investment activity between the date of the financial reports and December 31st. These investments are not actively traded, and their values can only be estimated using these subjective assumptions.

Auditing the estimated NAV of these hedge fund, risk parity, private debt, private equity and real estate investments requires a high degree of auditor judgment and subjectivity to evaluate the completeness, reliability and relevance of the inputs used by management.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the inputs used by management to estimate the NAV of the U.S. Plans' hedge fund, risk parity, private debt, private equity and real estate investments included the following, among others:

- We tested the effectiveness of controls, including those related to the reliability of values reported by fund managers, the relevance of asset class benchmark returns, and the completeness and accuracy of unobservable inputs related to the underlying assets of the funds.
- For certain investments, we confirmed directly with the respective fund manager its preliminary estimate of the fund's NAV as of December 31, 2020.
- For certain investments, we inquired of management to understand year over year changes in the fund manager's estimate of NAV and compared the fund's return on investment to other available qualitative and quantitative information relevant to the fund.
- We evaluated the Company's historical ability to accurately estimate NAV for these funds by comparing each fund's recorded valuation as of its prior fiscal year end to the NAV per the audited fund financial statements (which are received in arrears of the Company's reporting timetable).

Revenue - Refer to Note 2, Revenue Recognition, to the financial statements

Critical Audit Matter Description

Approximately 82 percent of the Company's revenues are from its global small package operations that provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. The Company's global small package revenues are comprised of a significant volume of low-dollar transactions sourced from systems that were primarily developed by the Company. The processing of transactions, including the recording of them, is highly automated and based on contractual terms with the Company's customers.

Auditing global small package revenue required a significant extent of effort and the involvement of professionals with expertise in information technology ("IT") necessary for us to identify, test, and evaluate the Company's systems, software applications, and automated controls.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company’s systems to process global small package revenue transactions included the following, among others:

- With the assistance of our IT specialists, we:
  - Identified the significant systems used to process global small package revenue transactions and tested the effectiveness of the general IT controls over each of these systems, including testing of user access controls, change management controls, and IT operations controls.
  - Tested the effectiveness of system interface controls and automated controls within the global small package revenue stream, as well as the controls designed to ensure the accuracy and completeness of revenue.
- We tested the effectiveness of controls over the relevant global small package revenue business processes, including those in place to reconcile the various systems to the Company’s general ledger.
- We performed analytical procedures to evaluate the Company’s recorded revenue and evaluate trends.
- For a sample of customers, we read the Company’s contract with the customer and evaluated the Company’s pattern of revenue recognition for the customer. In addition, we evaluated the accuracy of the Company’s recorded global small package revenue for a sample of customer invoices.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 22, 2021

We have served as the Company's auditor since 1969.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

(In millions)

	December 31, 2020	December 31, 2019
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 5,910	$ 5,238
Marketable securities	406	503
Accounts receivable	10,888	9,645
Less: Allowance for credit losses	(138)	(93)
Accounts receivable, net	10,750	9,552
Assets held for sale	1,197	—
Other current assets	1,953	1,810
Total Current Assets	20,216	17,103
Property, Plant and Equipment, Net	32,254	30,482
Operating Lease Right-Of-Use Assets	3,073	2,856
Goodwill	3,367	3,813
Intangible Assets, Net	2,274	2,167
Investments and Restricted Cash	25	24
Deferred Income Tax Assets	527	330
Other Non-Current Assets	672	1,082
Total Assets	$ 62,408	$ 57,857
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Current maturities of long-term debt, commercial paper and finance leases	$ 2,623	$ 3,420
Current maturities of operating leases	560	538
Accounts payable	6,455	5,555
Accrued wages and withholdings	3,569	2,552
Self-insurance reserves	1,085	914
Accrued group welfare and retirement plan contributions	927	793
Liabilities to be disposed of	347	—
Other current liabilities	1,450	1,641
Total Current Liabilities	17,016	15,413
Long-Term Debt and Finance Leases	22,031	21,818
Non-Current Operating Leases	2,540	2,391
Pension and Postretirement Benefit Obligations	15,817	10,601
Deferred Income Tax Liabilities	488	1,632
Other Non-Current Liabilities	3,847	2,719
Shareowners' Equity:		
Class A common stock (147 and 156 shares issued in 2020 and 2019)	2	2
Class B common stock (718 and 701 shares issued in 2020 and 2019)	7	7
Additional paid-in capital	865	150
Retained earnings	6,896	9,105
Accumulated other comprehensive loss	(7,113)	(5,997)
Deferred compensation obligations	20	26
Less: Treasury stock (0.4 shares in 2020 and 2019)	(20)	(26)
Total Equity for Controlling Interests	657	3,267
Noncontrolling Interests	12	16
Total Shareowners' Equity	669	3,283
Total Liabilities and Shareowners' Equity	$ 62,408	$ 57,857

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED INCOME
(In millions, except per share amounts)

	Years Ended December 31,		
	2020	2019	2018
Revenue	$ 84,628	$ 74,094	$ 71,861
Operating Expenses:			
Compensation and benefits	44,529	38,908	37,235
Repairs and maintenance	2,365	1,838	1,732
Depreciation and amortization	2,698	2,360	2,207
Purchased transportation	15,631	12,590	13,409
Fuel	2,582	3,289	3,427
Other occupancy	1,539	1,392	1,362
Other expenses	7,600	5,919	5,465
Total Operating Expenses	76,944	66,296	64,837
Operating Profit	7,684	7,798	7,024
Other Income and (Expense):			
Investment income (expense) and other	(5,139)	(1,493)	(400)
Interest expense	(701)	(653)	(605)
Total Other Income and (Expense)	(5,840)	(2,146)	(1,005)
Income Before Income Taxes	1,844	5,652	6,019
Income Tax Expense	501	1,212	1,228
Net Income	$ 1,343	$ 4,440	$ 4,791
Basic Earnings Per Share	$ 1.55	$ 5.14	$ 5.53
Diluted Earnings Per Share	$ 1.54	$ 5.11	$ 5.51

STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)
(In millions)

	Years Ended December 31,		
	2020	2019	2018
Net Income	$ 1,343	$ 4,440	$ 4,791
Change in foreign currency translation adjustment, net of tax	97	48	(149)
Change in unrealized gain (loss) on marketable securities, net of tax	2	6	—
Change in unrealized gain (loss) on cash flow hedges, net of tax	(335)	72	485
Change in unrecognized pension and postretirement benefit costs, net of tax	(880)	(1,129)	272
Comprehensive Income (Loss)	$ 227	$ 3,437	$ 5,399

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED CASH FLOWS
(In millions)

	Years Ended December 31,		
	2020	2019	2018
Cash Flows From Operating Activities:			
Net income	$ 1,343	$ 4,440	$ 4,791
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	2,698	2,360	2,207
Pension and postretirement benefit expense	7,125	3,141	2,242
Pension and postretirement benefit contributions	(3,125)	(2,362)	(186)
Self-insurance reserves	503	(185)	(86)
Deferred tax (benefit) expense	(858)	100	758
Stock compensation expense	796	915	634
Other (gains) losses	917	74	293
Changes in assets and liabilities, net of effects of business acquisitions:			
Accounts receivable	(1,562)	(717)	(421)
Other assets	218	698	754
Accounts payable	904	419	1,034
Accrued wages and withholdings	1,631	(446)	505
Other liabilities	(110)	182	170
Other operating activities	(21)	20	16
Net cash from operating activities	10,459	8,639	12,711
Cash Flows From Investing Activities:			
Capital expenditures	(5,412)	(6,380)	(6,283)
Proceeds from disposals of property, plant and equipment	40	65	37
Purchases of marketable securities	(254)	(561)	(973)
Sales and maturities of marketable securities	360	883	886
Net change in finance receivables	44	13	4
Cash paid for business acquisitions, net of cash and cash equivalents acquired	(20)	(6)	(2)
Other investing activities	(41)	(75)	1
Net cash (used in) investing activities	(5,283)	(6,061)	(6,330)
Cash Flows From Financing Activities:			
Net change in short-term debt	(2,462)	310	63
Proceeds from long-term borrowings	5,003	5,205	1,202
Repayments of long-term borrowings	(3,392)	(3,096)	(2,887)
Purchases of common stock	(224)	(1,004)	(1,011)
Issuances of common stock	285	218	240
Dividends	(3,374)	(3,194)	(3,011)
Other financing activities	(353)	(166)	(288)
Net cash (used in) financing activities	(4,517)	(1,727)	(5,692)
Effect Of Exchange Rate Changes On Cash, Cash Equivalents and Restricted Cash	13	20	(91)
Net Increase (Decrease) In Cash, Cash Equivalents and Restricted Cash	672	871	598
Cash, Cash Equivalents and Restricted Cash:			
Beginning of period	5,238	4,367	3,769
End of period	$ 5,910	$ 5,238	$ 4,367
Cash Paid During The Period For:			
Interest (net of amount capitalized)	$ 691	$ 628	$ 595
Income taxes (net of refunds and overpayments)	$ 1,138	$ 514	$ 2

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF ACCOUNTING POLICIES

Basis of Financial Statements and Business Activities

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"), and include the accounts of United Parcel Service, Inc., and all of its consolidated subsidiaries (collectively "UPS" or the "Company"). All intercompany balances and transactions have been eliminated.

We provide transportation services, primarily domestic and international letter and package delivery. Through our Supply Chain & Freight subsidiaries, we are also a global provider of transportation, logistics and financial services.

Use of Estimates

The preparation of our consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingencies. Estimates have been prepared on the basis of the most current and best information, and actual results could differ materially from those estimates. In particular, a number of estimates have been and will continue to be affected by the ongoing COVID-19 pandemic. The severity, magnitude and duration of the pandemic, and the resulting economic consequences, remain uncertain, rapidly changing and difficult to predict. As a result, our accounting estimates and assumptions may change over time.

Revenue Recognition

U.S. Domestic and International Package Operations: Revenue is recognized over time as we perform the services in the contract.

Forwarding: Freight forwarding revenue and the expense related to the transportation of freight are recognized over time as we perform the services. Truckload brokerage revenue and related transportation costs are recognized over time as we perform the services. Customs brokerage revenue is recognized upon completing documents necessary for customs entry purposes.

Logistics & Distribution: In our Logistics & Distribution business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

UPS Freight: Revenue is recognized over time as we perform the services in the contract.

Financial Services: Income on loans and direct finance leases is recognized on the effective interest method. Accrual of interest income is suspended at the earlier of the time at which collection of an account becomes doubtful or the account becomes 90 days delinquent. Income on operating leases is recognized on the straight-line method over the terms of the underlying leases.

Principal vs. Agent Considerations: We utilize independent contractors and third-party carriers in the performance of some transportation services. GAAP requires us to evaluate whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent) using a control model. Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. Revenue and the associated purchased transportation costs are reported on a gross basis within our statements of consolidated income.

Refer to note 2 for further discussion of our revenue recognition policies.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments that are readily convertible into cash. We consider securities with maturities of three months or less, when purchased, to be cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

Investments

Debt securities are either classified as trading or available-for-sale securities and are carried at fair value. Unrealized gains and losses on trading securities are reported as Investment income (expense) and other on the statements of consolidated income. Unrealized gains and losses on available-for-sale securities are reported as accumulated other comprehensive income ("AOCI"), a separate component of shareowners' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in Investment income (expense) and other, along with interest and dividends. The cost of securities sold is based on the specific identification method; realized gains and losses resulting from such sales are included in Investment income (expense) and other.

We periodically review our available-for-sale investments for indications of other-than-temporary impairment considering many factors, including the extent and duration to which a security's fair value has been less than its cost, overall economic and market conditions and the financial condition and specific prospects for the issuer. Impairment of available-for-sale securities results in a charge to income when a market decline below cost is other-than-temporary.

Inventories

Fuel and other materials and supplies inventories are recognized as inventory when purchased, and then charged to expense when used in our operations. Jet fuel, diesel and unleaded gasoline inventories are valued at the lower of average cost or net realizable value. Total inventories were $620 and $511 million as of December 31, 2020 and 2019, respectively, and are included in "Other current assets" in the consolidated balance sheets.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets.

Depreciation and amortization are provided by the straight-line method over the estimated useful lives of the assets, which are as follows:

- Aircraft: 12 to 40 years
- Buildings: 10 to 40 years
- Leasehold Improvements: lesser of asset useful life or lease term
- Plant Equipment: 3 to 20 years
- Technology Equipment: 3 to 10 years
- Vehicles: 5 to 15 years

For substantially all of our aircraft, the costs of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred.

Interest incurred during the construction period of certain property, plant and equipment is capitalized until the underlying assets are placed in service, at which time amortization of the capitalized interest begins, straight-line, over the estimated useful lives of the related assets. Capitalized interest was $87 and $91 million in 2020 and 2019, respectively.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on its undiscounted future cash flows. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset level or the asset group for which the lowest level of independent cash flows can be identified.

Leased Assets

For a discussion of our accounting policies related to leased assets, refer to note 11.

Goodwill and Intangible Assets

Costs of purchased businesses in excess of net identifiable assets acquired (goodwill), and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. We are required to test goodwill on a reporting unit basis. A reporting unit is the operating segment unless, for businesses within that operating segment, discrete financial information is prepared and regularly reviewed by management, in which case such a component business is the reporting unit.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We consider several factors, including macroeconomic conditions, industry and market conditions, overall financial performance of the reporting unit, changes in management, strategy or customers and relevant reporting unit-specific events such as a change in the carrying amount of net assets, a more likely than not expectation of selling or disposing of all, or a portion of, a reporting unit, and the testing for recoverability of a significant asset group within a reporting unit. If this qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed for that reporting unit.

If the qualitative assessment is not conclusive, we calculate the fair value of a reporting unit to test goodwill for impairment. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we record the excess amount as goodwill impairment, not to exceed the total amount of goodwill allocated to the reporting unit. We primarily determine the fair value of our reporting units using a discounted cash flow model and supplement this with observable valuation multiples for comparable companies, as appropriate.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2020 are considered to be indefinite-lived intangibles, and therefore are not amortized. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method to estimate the fair value of the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value.

Finite-lived intangible assets, including trademarks, licenses, patents, customer lists, non-compete agreements and franchise rights are amortized on a straight-line basis over the estimated useful lives of the assets, which range from 2 to 22 years. Capitalized software is generally amortized over 7 years.

Assets Held for Sale

We classify long-lived assets or disposal groups as held for sale in the period when all of the following conditions have been met:

- we have approved and committed to a plan to sell the assets or disposal group;
- the asset or disposal group is available for immediate sale in its present condition;
- an active program to locate a buyer and other actions required to complete the sale have been initiated;
- the sale of the asset or disposal group is probable and expected to be completed within one year;
- the asset or disposal group is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and
- it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

We initially measure a long-lived asset or disposal group that is classified as held for sale at the lower of its carrying value or fair value less any costs to sell and recognize any loss in the period in which the held for sale criteria are met. Gains are not recognized until the date of sale. We cease depreciation and amortization of a long-lived asset, or assets within a disposal group, upon their designation as held for sale and subsequently assess fair value less any costs to sell at each reporting period until the asset or disposal group is no longer classified as held for sale.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. The expected ultimate cost for claims incurred is estimated based upon historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of our reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve a claim. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs, the results of any related litigation and with respect to workers' compensation claims, changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior year at a rate that differs from actuarial projections. All of these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. Based on our historical experience, in 2019 we changed our self-insurance reserves from the central estimate to the low end of the actuarial range of losses. The principal result of this change was a decrease in expense of $94 million and an increase in net income of $72 million, or $0.08 per share on a basic and diluted basis. We believe our estimated reserves for such claims are adequate, but actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation.

Pension and Postretirement Benefits

We incur certain employment-related expenses associated with pension and postretirement medical benefits. These pension and postretirement medical benefit costs for company-sponsored defined benefit plans are calculated using various actuarial assumptions and methodologies, including discount rates, expected returns on plan assets, healthcare cost trend rates, inflation, compensation increase rates, mortality rates and coordination of benefits with plans not sponsored by UPS. Actuarial assumptions are reviewed on an annual basis, unless circumstances require an interim remeasurement of any of our plans.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plan's projected benefit obligation) in Investment income (expense) and other annually at December 31st each year. The remaining components of pension expense, primarily service and interest costs and the expected return on plan assets, are recorded on a quarterly basis.

For eligible employees hired after July 1, 2016, UPS contributes annually to a defined contribution plan. We recognize expense for the required contribution quarterly, and we recognize a liability for any contributions due and unpaid within Other current liabilities.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. Our contributions to these plans are determined in accordance with the respective collective bargaining agreements. We recognize expense for the contractually required contribution for each period, and we recognize a liability for any contributions due and unpaid within Other current liabilities.

Income Taxes

Income taxes are accounted for on an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than proposed changes in the tax law or rates. Valuation allowances are provided if it is more likely than not that a deferred tax asset will not be realized.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

Foreign Currency Translation and Remeasurement

We translate the results of operations of our foreign subsidiaries using average exchange rates during each period, whereas balance sheet accounts are translated using exchange rates at the end of each period. Balance sheet currency translation adjustments are recorded in AOCI. Pre-tax foreign currency transaction gains (losses) from remeasurement, net of hedging, included in Investment income (expense) and other were $9, $(6) and $(19) million in 2020, 2019 and 2018, respectively.

Stock-Based Compensation

All share-based awards to employees are measured based on their fair values and expensed over the period during which an employee is required to provide service in exchange for the award (the vesting period), less estimated forfeitures. We have issued employee share-based awards under the UPS Incentive Compensation Plan that are subject to specific vesting conditions, including service conditions, where the awards cliff vest or vest ratably over a one, three, or five year period (the "nominal vesting period") or at the date the employee retires (as defined by the plan), if earlier. Compensation cost is generally recognized immediately for awards granted to retirement-eligible employees, or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. We estimate forfeiture rates based on historical rates of forfeitures for awards with similar characteristics, historical rates of employee turnover and the nature and terms of the vesting conditions of the awards. We reevaluate our forfeiture rates on an annual basis.

Fair Value Measurements

Our financial assets and liabilities measured at fair value on a recurring basis have been categorized based upon a fair value hierarchy. Level 1 inputs utilize quoted prices in active markets for identical assets or liabilities. Level 2 inputs are based on other observable market data, such as quoted prices for similar assets and liabilities, and inputs other than quoted prices that are observable, such as interest rates and yield curves. Level 3 inputs are developed from unobservable data reflecting our own assumptions, and include situations where there is little or no market activity for the asset or liability.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment. A general description of the valuation methodologies used for assets and liabilities measured at fair value, including the general classification of such assets and liabilities pursuant to the valuation hierarchy, is included in each footnote with fair value measurements present.

For acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Derivative Instruments

We recognize all derivative instruments as assets or liabilities in the consolidated balance sheets at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, we designate the derivative as a cash flow hedge, a fair value hedge or a hedge of a net investment in a foreign operation based upon the exposure being hedged.

A cash flow hedge refers to hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. For derivative instruments that are designated and qualify as cash flow hedges, the gain or loss on the derivative instrument is reported as a component of AOCI, and reclassified into earnings in the period during which the hedged transaction affects earnings.

A fair value hedge refers to hedging the exposure to changes in the fair value of an existing asset or liability that is attributable to a particular risk. For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative instrument is recognized during the current period, as well as the offsetting gain or loss on the hedged item.

A net investment hedge refers to the use of cross currency swaps, forward contracts or foreign currency denominated debt to hedge portions of net investments in foreign operations. For instruments that meet the hedge accounting requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in the foreign currency translation adjustment within AOCI, and are recorded in the income statement when the hedged item affects earnings.

Adoption of New Accounting Standards

In February 2016, the FASB issued Accounting Standards Update ("ASU") 2016-02, Leases (Topic 842), which requires lessees to recognize a right-of-use asset and lease obligation on their balance sheet for all leases with terms beyond twelve months. The new standard also requires enhanced disclosures that provide more transparency and information to financial statement users about lease portfolios. Effective January 1, 2019, we adopted the requirements of this ASU using the modified retrospective approach. We elected the transition package of practical expedients permitted within the standard. As a result, we did not reassess initial direct costs, lease classification, or whether our contracts contain or are leases. We also made an accounting policy election to not recognize right-of-use assets and liabilities for leases with an original lease term of twelve months or less, unless the leases include options to renew or purchase the underlying asset that are reasonably certain to be exercised.

The adoption on January 1, 2019 resulted in the recognition of right-of-use assets for operating leases of approximately $2.7 billion and operating lease liabilities of approximately $2.7 billion. The consolidated financial statements for the years ended December 31, 2020 and 2019 are presented under the new standard, while earlier periods presented have not been adjusted and continue to be reported in accordance with the previous standard. See note 11 for additional disclosures required by this ASU.

In June 2016, the FASB issued an ASU introducing an expected credit loss methodology for the measurement of financial assets not accounted for at fair value. The methodology replaced the probable, incurred loss model for those assets. We adopted this standard on January 1, 2020 by updating our process for calculating our allowance for credit losses to include reasonable and supportable forecasts that could affect expected collectability. In 2020, we increased our allowance for credit losses by $45 million based upon our current forecasts that reflect ongoing economic uncertainty resulting from the COVID-19 pandemic.

In January 2017, the FASB issued an ASU to simplify the accounting for goodwill impairment by eliminating the requirement to calculate the implied fair value of goodwill using a hypothetical purchase price allocation. Under this ASU, goodwill impairment is the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. We adopted this standard on January 1, 2020, applying the simplified approach to calculate the goodwill impairment charge of $494 million that we recorded in conjunction with the pending divestiture of UPS Freight.

In March 2017, the FASB issued an ASU requiring the premium on callable debt securities to be amortized to the earliest call date. We adopted this standard on January 1, 2019. It did not have a material impact on our consolidated financial position, results of operations or cash flows.

In August 2017, the FASB issued an ASU to enhance recognition of the economic results of hedging activities in the financial statements. In addition, the update made certain targeted improvements to simplify the application of hedge accounting guidance and increase transparency regarding the scope and results of hedging activities. We adopted this standard on January 1, 2019. It did not have a material impact on our consolidated financial position, results of operations or cash flows but did require additional disclosures. See note 17 for disclosures required by this ASU.

In February 2018, the FASB issued an ASU that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act. Effective January 1, 2018, we early adopted this ASU and elected to reclassify the income tax effects of the Tax Act from AOCI to retained earnings. This resulted in a $735 million increase to retained earnings and a $735 million decrease to AOCI. Our current accounting policy for releasing income tax effects from other comprehensive income is based on a portfolio approach.

In December 2019, the FASB issued an ASU to simplify the accounting for income taxes. The update removes certain exceptions to the general income tax principles. Effective October 1, 2020, we early adopted this ASU. It did not have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2020, the FASB issued ASU 2020-04, Reference Rate Reform (Topic 848), to temporarily ease the potential burden in accounting for reference rate reform. The standard provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform. The guidance was effective upon issuance and generally can be applied through December 31, 2022. We are evaluating the potential impacts of reference rate reform on our various contractual positions to determine whether we may apply any of the practical expedients set forth in this standard.

Other accounting pronouncements adopted during the periods covered by the consolidated financial statements did not have a material impact on our consolidated financial position, results of operations or cash flows.

Accounting Standards Issued But Not Yet Effective

Accounting pronouncements issued, but not effective until after December 31, 2020, are not expected to have a material impact on our consolidated financial position, results of operations or cash flows.

NOTE 2. REVENUE RECOGNITION

Revenue Recognition

Substantially all of our revenues are from contracts associated with the pickup, transportation and delivery of packages and freight ("transportation services"), whether carried out by or arranged by UPS, either domestically or internationally, which generally occurs over a short period of time. Additionally, we provide value-added logistics services to customers, both domestically and internationally, through our global network of company-owned and leased distribution centers and field stocking locations.

Disaggregation of Revenue

	Year Ended December 31,		
	2020	2019	2018
Revenue:			
Next Day Air	$ 8,522	$ 8,479	$ 7,618
Deferred	5,665	5,180	4,752
Ground	39,312	32,834	31,223
U.S. Domestic Package	$ 53,499	$ 46,493	$ 43,593
Domestic	$ 3,160	$ 2,836	$ 2,874
Export	12,159	10,837	10,973
Cargo & Other	626	547	595
International Package	$ 15,945	$ 14,220	$ 14,442
Forwarding	$ 6,975	$ 5,867	$ 6,580
Logistics	4,073	3,435	3,234
Freight	3,149	3,265	3,218
Other	987	814	794
Supply Chain & Freight	$ 15,184	$ 13,381	$ 13,826
Consolidated revenue	$ 84,628	$ 74,094	$ 71,861

We account for a contract when both parties have approved the contract and are committed to perform their obligations, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the basis of revenue recognition in accordance with GAAP. To determine the proper revenue recognition method for contracts, we evaluate whether two or more contracts should be combined and accounted for as a single contract, and whether the combined or single contract should be accounted for as more than one performance obligation. This evaluation requires judgment, and the decision to combine a group of contracts or separate the combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period. Within most of our contracts, the customer contracts with us to provide distinct services, such as transportation services. The vast majority of our contracts with customers for transportation services include only one performance obligation; the transportation services themselves. However, if a contract is separated into more than one performance obligation, we allocate the total transaction price to each performance obligation based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. We frequently sell standard transportation services with observable standalone sales prices. In these instances, the observable standalone sales are used to determine the standalone selling price.

In certain business units, such as Logistics, we sell customized, customer-specific solutions in which we integrate a complex set of tasks and components into a single capability (even if that single capability results in the delivery of multiple units). Hence, the entire contract is accounted for as one performance obligation. In these cases we typically use the expected cost plus a margin approach to estimate the standalone selling price of each performance obligation.

Satisfaction of Performance Obligations

We generally recognize revenue over time as we perform the services in the contract because of the continuous transfer of control to the customer. Our customers receive the benefit of our services as the goods are transported from one location to another. Further, if we were unable to complete delivery to the final location, another entity would not need to reperform the transportation service already performed.

As control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. We use the cost-to-cost measure of progress for our package delivery contracts because it best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including ancillary or accessorial fees and reductions for estimated customer incentives, are recorded proportionally as costs are incurred. Costs to fulfill include labor and other direct costs and an allocation of indirect costs. For our freight and freight forwarding contracts, an output method of progress based on time-in-transit is utilized as the timing of costs incurred does not best depict the transfer of control to the customer. In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such, we recognize revenue in the amount to which we have a right to invoice the customer.

Variable Consideration

It is common for our contracts to contain customer incentives, guaranteed service refunds or other provisions that can either increase or decrease the transaction price. These variable amounts are generally dependent upon achievement of certain incentive tiers or performance metrics. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts of revenue, which may be reduced by incentives or other contract provisions, in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of anticipated customer spending and all information (historical, current and forecasted) that is reasonably available to us.

Contract Modifications

Contracts are often modified to account for changes in the rates we charge our customers or to add additional distinct services. We consider contract modifications to exist when the modification either creates new, or changes the existing, enforceable rights and obligations. Contract modifications that add additional distinct goods or services are treated as separate contracts. Contract modifications that do not add distinct goods or services typically change the price of existing services. These contract modifications are accounted for prospectively as the remaining performance obligations are distinct.

Payment Terms

Under the typical payment terms of our customer contracts, the customer pays at periodic intervals, which are generally seven days within our U.S. Domestic Package business, for shipments included on invoices received. Invoices are generated each week on the week-ending day, which is Saturday for the majority of our U.S. Domestic Package business, but could be another day depending on the business unit or the specific agreement with the customer. It is not customary business practice to extend payment terms past 90 days, and as such, we do not have a practice of including a significant financing component within our contracts with customers.

Principal vs. Agent Considerations

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. GAAP requires us to evaluate, using a control model, whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent). Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. Revenue and the associated purchased transportation costs are both reported on a gross basis within our statements of consolidated income.

Accounts Receivable, Net

Accounts receivable, net, include amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. Losses on accounts receivable are recognized when reasonable and supportable forecasts affect the expected collectability. This requires us to make our best estimate of the current expected losses inherent in our accounts receivable at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, forwarding-looking indicators, trends in customer payment frequency, and judgments about the probable effects of relevant observable data, including present and future economic conditions and the financial health of specific customers and market sectors. Our risk management process includes standards and policies for reviewing major account exposures and concentrations of risk.

We increased our allowance for expected credit losses by $45 million during 2020 based upon current forecasts that anticipate a slight decline in the economic outlook. Our allowance for credit losses as of December 31, 2020 and 2019 was $138 and $93 million, respectively. Amounts for credit losses charged to expense before recoveries during the twelve months ended December 31, 2020 and 2019 were $254 and $194 million, respectively.

Contract Assets and Liabilities

Contract assets include billed and unbilled amounts resulting from in-transit packages, as we have an unconditional right to payment only once all performance obligations have been completed (i.e. packages have been delivered), and our right to payment is not solely based on the passage of time. Amounts may not exceed their net realizable value. Contract assets are generally classified as current and the full balance is converted each quarter based on the short-term nature of the transactions.

Contract liabilities consist of advance payments and billings in excess of revenue as well as deferred revenue. Advance payments and billings in excess of revenue represent payments received from our customers that will be earned over the contract term. Deferred revenue represents the amount of consideration due from customers related to in-transit shipments that has not yet been recognized as revenue based on our selected measure of progress. We classify advance payments and billings in excess of revenue as either current or long-term, depending on the period over which the advance payment will be earned. We classify deferred revenue as current based on the timing of when we expect to recognize revenue, which typically occurs within a short window after period-end. The full balance of deferred revenue is converted each quarter based on the short-term nature of the transactions. Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. In order to determine revenue recognized in the period from contract liabilities, we first allocate revenue to the individual contract liability balance outstanding at the beginning of the period until the revenue exceeds that deferred revenue balance.

Contract assets related to in-transit packages were $279 and $272 million as of December 31, 2020 and 2019, respectively, net of deferred revenue related to in-transit packages of $279 and $264 million as of December 31, 2020 and 2019, respectively. Contract assets are included within "Other current assets" in the consolidated balance sheets. Short-term contract liabilities related to advance payments from customers were $21 and $7 million as of December 31, 2020 and 2019, respectively. Short-term contract liabilities are included within "Other current liabilities" in the consolidated balance sheets. Long-term contract liabilities related to advance payments from customers were $26 million as of both December 31, 2020 and 2019. Long-term contract liabilities are included within "Other Non-Current Liabilities" in the consolidated balance sheets.

NOTE 3. INVESTMENTS AND RESTRICTED CASH

The following is a summary of marketable securities classified as trading and available-for-sale as of December 31, 2020 and 2019 (in millions):

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2020				
Current trading marketable securities:				
Corporate debt securities	$ —	$ —	$ —	$ —
Equity securities	2	—	—	2
Total trading marketable securities	2	—	—	2
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	181	3	—	184
Mortgage and asset-backed debt securities	30	1	—	31
Corporate debt securities	174	4	—	178
Non-U.S. government debt securities	11	—	—	11
Total available-for-sale marketable securities	396	8	—	404
Total current marketable securities	$ 398	$ 8	$ —	$ 406

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2019				
Current trading marketable securities:				
Corporate debt securities	$ 112	$ —	$ —	$ 112
Equity securities	2	—	—	2
Total trading marketable securities	114	—	—	114
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	191	2	—	193
Mortgage and asset-backed debt securities	46	1	—	47
Corporate debt securities	130	3	—	133
Non-U.S. government debt securities	16	—	—	16
Total available-for-sale marketable securities	383	6	—	389
Total current marketable securities	$ 497	$ 6	$ —	$ 503

Total current marketable securities that were pledged as collateral for our self-insurance requirements had an estimated fair value of $404 and $389 million as of December 31, 2020 and 2019, respectively.

The gross realized gains on sales of available-for-sale marketable securities totaled $5 and $8 million in 2020 and 2019, respectively. There were no gross realized gains on sales of available-for-sale marketable securities in 2018. The gross realized losses on sales of available-for-sale marketable securities totaled $0, $2 and $4 million in 2020, 2019 and 2018, respectively.

There were no material impairment losses recognized on marketable securities during 2020, 2019 or 2018.

Investment Impairments

We have concluded that no material impairment losses existed as of December 31, 2020. In making this determination, we considered the financial condition and prospects of each issuer, the magnitude of the losses compared with the cost, the probability that we will be unable to collect all amounts due according to the contractual terms of the security, the credit rating of the security and our ability and intent to hold these investments until the anticipated recovery in market value occurs.

Unrealized Losses

The following table presents the age of gross unrealized losses and fair value by investment category for all securities in a loss position as of December 31, 2020 (in millions):

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. government and agency debt securities	$ 31	$ —	$ —	$ —	$ 31	$ —
Mortgage and asset-backed debt securities	—	—	1	—	1	—
Corporate debt securities	16	—	—	—	16	—
Non-U.S. government debt securities	—	—	—	—	—	—
Total marketable securities	$ 47	$ —	$ 1	$ —	$ 48	$ —

The unrealized losses for the U.S. government and agency debt securities, mortgage and asset-backed debt securities, and corporate debt securities are primarily due to changes in market interest rates. We have both the intent and ability to hold these securities for the time necessary to recover the cost basis.

Maturity Information

The amortized cost and estimated fair value of marketable securities as of December 31, 2020, by contractual maturity, are shown below (in millions). Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations with or without prepayment penalties.

	Cost	Estimated Fair Value
Due in one year or less	$ 27	$ 27
Due after one year through three years	323	327
Due after three years through five years	10	10
Due after five years	36	40
	396	404
Equity securities	2	2
	$ 398	$ 406

Non-Current Investments and Restricted Cash

We previously held various marketable securities and cash equivalents as collateral under an escrow agreement to guarantee our self-insurance obligations which were reflected in "Cash, Cash Equivalents and Restricted Cash" in the statements of consolidated cash flows. In 2019 we fully liquidated our investment balance associated with this agreement and pledged the required collateral with a surety bond. For additional information on surety bonds written as of December 31, 2020, see note 9.

We held a $23 and $21 million investment in a variable life insurance policy to fund benefits for the UPS Excess Coordinating Benefit Plan as of December 31, 2020 and 2019, respectively. The change in investment fair value is recognized in "Investment income (expense) and other" in the statements of consolidated income. Additionally, we held escrowed cash related to the acquisition and disposition of certain assets of $2 and $3 million as of December 31, 2020 and 2019, respectively. These amounts are classified as “Investments and Restricted Cash” in the consolidated balance sheets.

A reconciliation of cash and cash equivalents and restricted cash from the consolidated balance sheets to the statements of consolidated cash flows is shown below (in millions):

	December 31, 2020	December 31, 2019	December 31, 2018
Cash and cash equivalents	$ 5,910	$ 5,238	$ 4,225
Restricted cash	—	—	142
Total cash, cash equivalents and restricted cash	$ 5,910	$ 5,238	$ 4,367

Fair Value Measurements

Marketable securities valued utilizing Level 1 inputs include active exchange-traded equity securities and equity index funds, and most U.S. government debt securities, as these securities all have quoted prices in active markets. Marketable securities valued utilizing Level 2 inputs include asset-backed securities, corporate bonds and municipal bonds. These securities are valued using market corroborated pricing, matrix pricing or other models that utilize observable inputs such as yield curves.

The following table presents information about our investments measured at fair value on a recurring basis as of December 31, 2020 and 2019, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2020				
Marketable Securities:				
U.S. government and agency debt securities	$ 184	$ —	$ —	$ 184
Mortgage and asset-backed debt securities	—	31	—	31
Corporate debt securities	—	178	—	178
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	11	—	11
Total marketable securities	184	222	—	406
Other non-current investments	23	—	—	23
Total	$ 207	$ 222	$ —	$ 429

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2019				
Marketable Securities:				
U.S. government and agency debt securities	$ 193	$ —	$ —	$ 193
Mortgage and asset-backed debt securities	—	47	—	47
Corporate debt securities	—	245	—	245
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	16	—	16
Total marketable securities	193	310	—	503
Other non-current investments	21	—	1	22
Total	$ 214	$ 310	$ 1	$ 525

There were no transfers of investments between Level 1 and Level 2 during 2020 or 2019.

NOTE 4. ASSETS HELD FOR SALE

On January 24, 2021, we entered into a definitive agreement to divest our UPS Freight business to TFI International Inc. for $800 million, subject to working capital and other adjustments. The following table summarizes the carrying values of the assets and liabilities classified as held for sale in our consolidated balance sheet as of December 31, 2020 (in millions):

		2020
Assets:		
Accounts receivable, net	$	263
Other current assets		62
Property, plant and equipment, net		940
Other non-current assets		124
Total assets		1,389
Valuation allowance		(192)
Total assets held for sale	$	1,197
Liabilities:		
Accounts payable	$	50
Other current liabilities		112
Other non-current liabilities		185
Total liabilities to be disposed of	$	347
Net assets held for sale	$	850

Self-insurance reserves for the UPS Freight business and obligations for benefits earned within UPS-sponsored pension and postretirement medical benefit plans will be retained by us at closing and are not included in the amounts presented above.

Upon classification as held for sale, we recognized a total impairment charge of $686 million within Other expenses in the statements of consolidated income. This was comprised of a goodwill impairment charge of $494 million and a valuation allowance to adjust the carrying value of the disposal group to fair value less cost to sell of $192 million.

We expect the transaction, which is subject to customary closing conditions and regulatory approvals, to close during the second quarter of 2021.

NOTE 5. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including both owned assets as well as assets subject to finance leases, consists of the following as of December 31, 2020 and 2019 (in millions):

	2020	2019
Vehicles	$ 9,786	$ 10,613
Aircraft	20,549	19,045
Land	2,052	2,087
Buildings	5,425	5,046
Building and leasehold improvements	4,921	4,898
Plant equipment	14,684	13,849
Technology equipment	2,626	2,206
Construction-in-progress	2,048	1,983
	62,091	59,727
Less: Accumulated depreciation and amortization	(29,837)	(29,245)
Property, Plant and Equipment, Net	$ 32,254	$ 30,482

Property, plant and equipment purchased on account was $319 and $372 million as of December 31, 2020 and 2019, respectively.

We continually monitor our aircraft fleet utilization in light of current and projected volume levels, aviation fuel prices and other factors. Additionally, we monitor all other property, plant and equipment categories for any indicators that the carrying value of the assets may not be recoverable. There were no material impairment charges during the years ended December 31, 2020 or 2019.

NOTE 6. COMPANY-SPONSORED EMPLOYEE BENEFIT PLANS

We sponsor various retirement and pension plans, including defined benefit and defined contribution plans which cover our employees worldwide.

U.S. Pension Benefits

In the U.S. we maintain the following single-employer defined benefit pension plans: the UPS Retirement Plan, the UPS Pension Plan, the UPS/IBT Full-Time Employee Pension Plan and the UPS Excess Coordinating Benefit Plan, a non-qualified plan.

The UPS Retirement Plan is noncontributory and includes substantially all eligible employees of participating domestic subsidiaries hired prior to July 1, 2016 who are not members of a collective bargaining unit, as well as certain employees covered by a collective bargaining agreement. This plan generally provides for retirement benefits based on average compensation earned by employees prior to retirement. Benefits payable under this plan are subject to maximum compensation limits and the annual benefit limits for a tax-qualified defined benefit plan as prescribed by the Internal Revenue Service (“IRS”).

The UPS Pension Plan is noncontributory and includes certain eligible employees of participating domestic subsidiaries and members of collective bargaining units that elect to participate in the plan. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS/IBT Full-Time Employee Pension Plan is noncontributory and includes employees that were previously members of the Central States Pension Fund ("CSPF"), a multiemployer pension plan, in addition to other eligible employees who are covered under certain collective bargaining agreements. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS Excess Coordinating Benefit Plan is a non-qualified plan that provides benefits to certain participants in the UPS Retirement Plan, hired prior to July 1, 2016, for amounts that exceed the benefit limits described above.

In the year ended December 31, 2017, we amended the UPS Retirement Plan and the UPS Excess Coordinating Benefit Plan to cease accruals of additional benefits for future service and compensation for non-union participants effective January 1, 2023.

During the fourth quarter of 2019, certain former U.S. employees were offered the option to receive a one-time payment of their vested pension benefit. Approximately 18,800 former employees accepted this option, accelerating $820 million in benefit payments during 2019 while reducing the number of participants who are due future payments from U.S. pension plans. As the cost of these settlements did not exceed the plans' service cost and interest cost for the year, the impact of the settlement was not recognized in earnings.

On January 24, 2021, we entered into a definitive agreement to divest our UPS Freight business as discussed in note 4. Upon closing, our U.S. pension and postretirement plans may be subject to remeasurement of plan assets and pension benefit obligations.

International Pension Benefits

We also sponsor various defined benefit plans covering certain of our international employees. The majority of our international obligations are for defined benefit plans in Canada and the United Kingdom. In addition, many of our international employees are covered by government-sponsored retirement and pension plans. We are not directly responsible for providing benefits to participants of government-sponsored plans.

U.S. Postretirement Medical Benefits

We also sponsor postretirement medical plans in the U.S. that provide healthcare benefits to our non-union retirees, as well as select union retirees who meet certain eligibility requirements and who are not otherwise covered by multiemployer plans. Generally, this includes employees with at least 10 years of service who have reached age 55 and employees who are eligible for postretirement medical benefits from a Company-sponsored plan pursuant to collective bargaining agreements. We have the right to modify or terminate certain of these plans. These benefits have been provided to certain retirees on a noncontributory basis; however, in many cases, retirees are required to contribute all or a portion of the total cost of the coverage.

Defined Contribution Plans

We sponsor a defined contribution plan for employees not covered under collective bargaining agreements, and several smaller defined contribution plans for certain employees covered under collective bargaining agreements. We match, in shares of UPS common stock or cash, a portion of the participating employees' contributions. Matching contributions charged to expense were $139, $130 and $127 million for 2020, 2019 and 2018, respectively.

In addition to current benefits under the UPS 401(k) Savings Plan, non-union employees hired after July 1, 2016, receive a retirement contribution. UPS contributes 3% to 8% of eligible pay to the UPS 401(k) Savings Plan based on years of vesting service and business unit. Contributions under this plan are subject to maximum compensation and contribution limits for a tax-qualified defined contribution plan as prescribed by the IRS. Contributions charged to expense were $84, $67 and $28 million for 2020, 2019 and 2018 respectively.

Effective June 23, 2017, the Company amended the UPS 401(k) Savings Plan so that non-union employees who currently participate in the UPS Retirement Plan will, in addition to current benefits under the UPS 401(k) Savings Plan, earn a retirement contribution beginning January 1, 2023. UPS will contribute 5% to 8% of eligible compensation to the UPS 401(k) Savings Plan based on years of vesting service. The amendment also provides for transition contributions for certain participants. There was no impact to the statements of consolidated income for 2020, 2019 and 2018 as a result of this change.

The UPS Restoration Savings Plan is a non-qualified plan that provides benefits to certain participants in the UPS 401(k) Savings Plan for amounts that exceed the benefit limits described above.

Contributions are also made to defined contribution money purchase plans under certain collective bargaining agreements. Amounts charged to expense were $107, $97 and $92 million for 2020, 2019 and 2018, respectively.

Net Periodic Benefit Cost

Information about net periodic benefit cost for the company-sponsored pension and postretirement defined benefit plans is as follows (in millions):

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Net Periodic Benefit Cost:									
Service cost	$ 1,853	$ 1,439	$ 1,661	$ 29	$ 23	$ 29	$ 67	$ 57	$ 62
Interest cost	1,977	2,067	1,799	91	108	104	40	47	45
Expected return on plan assets	(3,549)	(3,130)	(3,201)	(8)	(8)	(8)	(86)	(76)	(77)
Amortization of prior service cost	218	218	193	7	7	7	2	2	1
Actuarial (gain) loss	6,211	2,296	1,603	246	37	—	27	54	24
Curtailment and settlement loss	—	—	—	—	—	—	—	—	—
Net periodic benefit cost	$ 6,710	$ 2,890	$ 2,055	$ 365	$ 167	$ 132	$ 50	$ 84	$ 55

Actuarial Assumptions

The table below provides the weighted-average actuarial assumptions used to determine the net periodic benefit cost:

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
Service cost discount rate	3.60 %	4.50 %	3.84 %	3.59 %	4.51 %	3.82 %	3.01 %	3.58 %	3.35 %
Interest cost discount rate	3.60 %	4.50 %	3.84 %	3.59 %	4.51 %	3.82 %	2.67 %	3.25 %	3.01 %
Rate of compensation increase	4.22 %	4.25 %	4.25 %	N/A	N/A	N/A	3.00 %	3.24 %	3.22 %
Expected return on plan assets	7.77 %	7.75 %	7.75 %	7.20 %	7.20 %	7.20 %	5.55 %	5.69 %	5.76 %
Cash balance interest credit rate	2.50 %	2.98 %	2.50 %	N/A	N/A	N/A	2.59 %	3.17 %	3.07 %

The table below provides the weighted-average actuarial assumptions used to determine the benefit obligations of our plans:

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2020	**2019**	**2020**	**2019**	**2020**	**2019**
Discount rate	2.90 %	3.60 %	2.88 %	3.59 %	1.94 %	2.21 %
Rate of compensation increase	4.21 %	4.22 %	N/A	N/A	2.93 %	3.00 %
Cash balance interest credit rate	2.50 %	2.50 %	N/A	N/A	2.74 %	2.59 %

A discount rate is used to determine the present value of our future benefit obligations. To determine the discount rate for our U.S. pension and postretirement benefit plans, we use a bond matching approach to select specific bonds that would satisfy our projected benefit payments. We believe the bond matching approach reflects the process we would employ to settle our pension and postretirement benefit obligations. In 2019, we refined the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans. Following a routine, periodic review of their standard bond matching tool which we reference to support discount rates, our external consultants refined their model to reflect the increased availability of longer duration high-quality corporate bonds, changes in the content and sources of available data and improvements in computational capabilities. We believe these refinements enhance the simulation of bond portfolios that match the plans' expected cash flows and result in a better estimate of the plan discount rates. These refinements resulted in an increase of approximately 10 basis points in the discount rates used to measure our plans, decreasing the total projected benefit obligation in our consolidated balance sheet at the December 31, 2019 measurement date by approximately $900 million and the resulting pre-tax mark-to-market charge within Other income and (expense) in our statements of consolidated income by approximately $810 million, and increasing net income by $616 million, or $0.71 per share on a basic and diluted basis. For our international plans, the discount rate is determined by matching the expected cash flows of the plan, where available, or of a sample plan of similar duration, to a yield curve based on long-term, high quality fixed income debt instruments available as of the measurement date. These assumptions are updated each measurement date, which is typically annually.

As of December 31, 2020, the impact of each basis point change in the discount rate on the projected benefit obligation of our pension and postretirement medical benefit plans is as follows (in millions):

	Increase (Decrease) in the	
		Pension Benefits
One basis point increase in discount rate	$	(110)
One basis point decrease in discount rate		118

The Society of Actuaries ("SOA") published mortality tables and improvement scales are used in developing the best estimate of mortality for our U.S. plans. In October 2020, the SOA published an updated improvement scale which reduced expected mortality improvements from previously published improvement scales. Based on our perspective of future longevity, we updated the mortality assumptions to incorporate the improvement scale for purposes of measuring pension and other postretirement benefit obligations.

Assumptions for the expected return on plan assets are used to determine a component of net periodic benefit cost for the year. The assumption for our U.S. plans is developed using a long-term projection of returns for each asset class. Our asset allocation targets are reviewed and, if necessary, updated taking into consideration plan changes, funded status and actual performance. The expected return for each asset class is a function of passive, long-term capital market assumptions and excess returns generated from active management. The capital market assumptions used are provided by independent investment advisors, while excess return assumptions are supported by historical performance, fund mandates and investment expectations.

For plans outside the U.S., consideration is given to local market expectations of long-term returns. Strategic asset allocations are determined by plan, based on the nature of liabilities and considering the demographic composition of the plan participants.

Actuarial Assumptions - Central States Pension Fund

UPS was a contributing employer to the CSPF until 2007 when we withdrew from the CSPF and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters ("IBT"), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 ("the UPS Transfer Group") in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF.

Under our withdrawal agreement with the CSPF, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law.

In 2014, Congress passed the Multiemployer Pension Reform Act ("MPRA"). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury ("Treasury"). In 2016, Treasury rejected the proposed plan submitted by the CSPF. In 2018, Congress established a Joint Select Committee to develop a recommendation to improve the solvency of multiemployer plans and the Pension Benefit Guaranty Corporation ("PBGC") before a November 30, 2018 deadline. While the Committee's efforts failed to meet its deadline, the Committee made significant progress towards finding solutions that would address the long term solvency of multiemployer pension plans. In 2019, the U.S. House of Representatives passed the Rehabilitation for Multiemployer Pensions Act of 2019 to provide assistance to critical and declining multiemployer pension plans. Additionally, in 2020, the U.S. House of Representatives passed two versions of the Health and Economic Recovery Omnibus Emergency Solutions Act ("HEROES Act"), which would provide financial support to those same plans. These bills remain with the U.S. Senate for consideration. UPS continues to work with all stakeholders, including legislators and regulators, to implement an acceptable solution.

The CSPF has said that it believes a legislative solution to its funded status is necessary or that it will become insolvent in 2025. We expect that the CSPF will continue to explore options to avoid insolvency. Numerous factors could affect the CSPF's funded status and UPS's potential obligation to pay coordinating benefits under the UPS/IBT Plan, including whether the CSPF submits a revised benefit reduction plan under MPRA and the terms thereof, or whether it otherwise seeks federal government assistance, as well as the terms of any applicable legislation, the extent to which benefits are paid by the PBGC and our ability to successfully defend legal positions we may take in the future under the MPRA, including the suspension ordering provisions, our withdrawal agreement and other applicable law.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under Accounting Standards Codification Topic 715- Compensation- Retirement Benefits ("ASC 715"), which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely outcome to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities. As such, our best estimate in accordance with ASC 715 at the December 31, 2020 measurement date is that the CSPF can no longer submit and implement another benefit reduction plan under the MPRA.

We developed our best estimate using a deterministic cash flow projection that reflects updated estimated CSPF cash flows and investment earnings, the lack of legislative action, payment of guaranteed benefits by the PBGC and the absence of a benefit reduction plan under MPRA having been filed by the CSPF. As a result, at the December 31, 2020 measurement date, the best estimate of our projected benefit obligation for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group increased by $2.3 billion. Since 2018, we have recorded $4.9 billion for coordinating benefits that the UPS/IBT Plan may be required to pay. At the December 31, 2020 measurement date, discount rate changes increased this liability to $5.5 billion.

The future value of this estimate will be influenced by a number of factors, including the terms and timing of any benefit reduction plan under MPRA, changes in our discount rate, rate of return on assets and other actuarial assumptions, the ability of the PBGC to sustain its commitments, as well as potential solutions resulting from federal government intervention. Any such event may result in a decrease or an increase in the best estimate of our projected benefit obligation. If a future change in law occurs, it may be a significant event requiring an interim remeasurement of the UPS/IBT Plan at the date the law is enacted. We will continue to assess the impact of these uncertainties on our projected benefit obligation in accordance with ASC 715.

Other Actuarial Assumptions

Healthcare cost trends are used to project future postretirement medical benefits payable from our plans. For 2020 U.S. plan obligations, future postretirement medical benefit costs were forecasted assuming an initial annual rate of increase of 6.5%, decreasing to 4.5% by the year 2029 and with consistent annual increases at that ultimate level thereafter.

Funded Status

The following table discloses the funded status of our plans and the amounts recognized in our consolidated balance sheets as of December 31 (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2020	**2019**	**2020**	**2019**	**2020**	**2019**
Funded Status:						
Fair value of plan assets	$ 52,997	$ 46,172	$ 49	$ 37	$ 1,835	$ 1,558
Benefit obligation	(65,922)	(54,039)	(2,759)	(2,616)	(2,177)	(1,906)
Funded status	$ (12,925)	$ (7,867)	$ (2,710)	$ (2,579)	$ (342)	$ (348)
Funded Status Recognized in our Balance Sheet:						
Other non-current assets	$ —	$ —	$ —	$ —	$ 51	$ 34
Other current liabilities	(22)	(22)	(184)	(200)	(5)	(5)
Pension and postretirement benefit obligations	(12,903)	(7,845)	(2,526)	(2,379)	(388)	(377)
Net liability	$ (12,925)	$ (7,867)	$ (2,710)	$ (2,579)	$ (342)	$ (348)
Amounts Recognized in AOCI:						
Unrecognized net prior service cost	$ (753)	$ (800)	$ (9)	$ (16)	$ (11)	$ (12)
Unrecognized net actuarial gain (loss)	(6,592)	(5,404)	(276)	(240)	(151)	(162)
Gross unrecognized cost	(7,345)	(6,204)	(285)	(256)	(162)	(174)
Deferred tax assets (liabilities)	1,770	1,497	69	62	38	40
Net unrecognized cost	$ (5,575)	$ (4,707)	$ (216)	$ (194)	$ (124)	$ (134)

The accumulated benefit obligation for our pension plans as of the measurement dates in 2020 and 2019 was $66.9 and $55.0 billion, respectively. The accumulated benefit obligation for our postretirement medical benefit plans as of the measurement dates in 2020 and 2019 was $2.8 and $2.6 billion, respectively.

Benefit payments under the pension plans include $26 and $27 million paid from employer assets in 2020 and 2019, respectively. Benefit payments (net of participant contributions) under the postretirement medical benefit plans include $77 and $82 million paid from employer assets in 2020 and 2019, respectively. Such benefit payments from employer assets are also categorized as employer contributions.

As of December 31, 2020 and 2019, the projected benefit obligation, the accumulated benefit obligation and the fair value of plan assets for pension plans with benefit obligations in excess of plan assets were as follows (in millions):

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	
	2020	2019	2020	2019
U.S. Pension Benefits:				
Projected benefit obligation	$ 65,922	$ 54,039	$ 65,922	$ 54,039
Accumulated benefit obligation	64,937	53,194	64,937	53,194
Fair value of plan assets	52,997	46,172	52,997	46,172
International Pension Benefits:				
Projected benefit obligation	$ 845	$ 1,319	$ 845	$ 1,319
Accumulated benefit obligation	728	1,210	728	1,210
Fair value of plan assets	452	948	452	948

The accumulated postretirement benefit obligation presented in the funded status table exceeds plan assets for all U.S. postretirement medical benefit plans.

Benefit Obligations and Fair Value of Plan Assets

The following tables provide a reconciliation of the changes in the plans' benefit obligations and fair value of plan assets as of the respective measurement dates in each year (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2020	**2019**	**2020**	**2019**	**2020**	**2019**
Benefit Obligations:						
Projected benefit obligation at beginning of year	$ 54,039	$ 45,333	$ 2,616	$ 2,510	$ 1,906	$ 1,552
Service cost	1,853	1,439	29	23	67	57
Interest cost	1,977	2,067	91	108	40	47
Gross benefits paid	(1,846)	(2,394)	(274)	(288)	(38)	(40)
Plan participants' contributions	—	—	32	30	3	3
Plan amendments	171	—	—	—	1	1
Actuarial (gain)/loss	9,728	7,594	265	233	123	213
Foreign currency exchange rate changes	—	—	—	—	80	47
Curtailments and settlements	—	—	—	—	(6)	(2)
Other	—	—	—	—	1	28
Projected benefit obligation at end of year	$ 65,922	$ 54,039	$ 2,759	$ 2,616	$ 2,177	$ 1,906

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2020	**2019**	**2020**	**2019**	**2020**	**2019**
Fair Value of Plan Assets:						
Fair value of plan assets at beginning of year	$ 46,172	$ 39,554	$ 37	$ 26	$ 1,558	$ 1,284
Actual return on plan assets	5,878	6,991	(9)	(5)	184	171
Employer contributions	2,793	2,021	263	274	69	67
Plan participants' contributions	—	—	32	30	3	3
Gross benefits paid	(1,846)	(2,394)	(274)	(288)	(38)	(40)
Foreign currency exchange rate changes	—	—	—	—	62	49
Curtailments and settlements	—	—	—	—	(3)	(2)
Other	—	—	—	—	—	26
Fair value of plan assets at end of year	$ 52,997	$ 46,172	$ 49	$ 37	$ 1,835	$ 1,558

2020 - $10.1 billion pre-tax actuarial loss related to benefit obligation:

- *Discount Rates* ($7.3 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 3.55% as of December 31, 2019 to 2.87% as of December 31, 2020, primarily due to a decline in U.S. treasury yields that was slightly offset by an increase in credit spreads on AA-rated corporate bonds.

- *Coordinating benefits attributable to the Central States Pension Fund* ($2.3 billion pre-tax loss): This represents our current best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund before taking into account the impact of the change in discount rates.

- *Demographic and Assumption Changes* ($513 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation changes, rates of termination, retirement, mortality and other changes.

2019 - $8.0 billion pre-tax actuarial loss related to benefit obligation:

- *Discount Rates* ($7.5 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.45% as of December 31, 2018 to 3.55% as of December 31, 2019, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds. This was partially offset by a refinement to the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans discussed above.
- *Coordinating benefits attributable to the Central States Pension Fund* ($603 million pre-tax loss): This represents our current best estimate of additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund before taking into account the impact of the change in discount rates.
- *Demographic and Assumption Changes* ($40 million pre-tax gain): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation changes, rates of termination, retirement, mortality and other changes.

Pension and Postretirement Plan Assets

Under the governance of plan trustees, the Investment Committee establishes investment guidelines and strategies and regularly monitors the performance of investments and investment managers. The investment guidelines address items such as establishing appropriate governance provisions; defining investment objectives; determining strategic asset allocation; monitoring and reporting the investments on a regular basis; appointing/dismissing investment managers, custodians, consultants and advisors; risk management; determining/defining the mandates for investment managers; rebalancing of assets and determining investment restrictions/prohibited investments.

Plan assets are invested in accordance with applicable laws and regulations. The primary long-term investment objective for pension assets is to provide for a reasonable amount of long-term growth of capital given prudent levels of risk exposure while minimizing permanent loss of capital. To meet this objective, investment managers are engaged to actively manage assets within the guidelines and strategies set forth by the Investment Committee. Active managers are monitored regularly and their performance is compared to applicable benchmarks.

Fair Value Measurements

Plan assets valued utilizing Level 1 inputs include equity investments, corporate debt instruments and U.S. government securities. Fair values were determined by closing prices for those securities traded on national stock exchanges, while securities traded in the over-the-counter market and listed securities for which no sale was reported on the valuation date are valued at the mean between the last reported bid and ask prices.

Level 2 assets include certain bonds that are valued based on yields currently available on comparable securities of other issues with similar credit ratings; mortgage-backed securities that are valued based on cash flow and yield models using acceptable modeling and pricing conventions; and certain investments that are pooled with other investments in a commingled fund. We value our investments in commingled funds by taking the percentage ownership of the underlying assets, each of which has a readily determinable fair value.

Fair value estimates for certain investments are based on unobservable inputs that are not corroborated by observable market data and are thus classified as Level 3.

Investments that do not have a readily determinable fair value, and which provide a net asset value ("NAV") or its equivalent developed consistent with FASB measurement principles, are valued using NAV as a practical expedient. These investments are not classified in Levels 1, 2, or 3 of the fair value hierarchy but instead included within the subtotals by asset category. Such investments include hedge funds, risk parity funds, real estate investments, private debt and private equity funds. Investments in hedge funds and risk parity funds are valued using the reported NAV as of December 31st. Real estate investments, private debt and private equity funds are valued at NAV per the most recent partnership audited financial reports, and adjusted, as appropriate, for investment activity between the date of the financial reports and December 31st. Due to the inherent limitations in obtaining a readily determinable fair value measurement for alternative investments, the fair values reported may differ from the values that would have been used had readily available market information for the alternative investments existed. These investments are described further below:

- Hedge Funds: Plan assets are invested in hedge funds that pursue multiple strategies to diversify risk and reduce volatility. Most of these hedge funds allow redemptions either quarterly or semi-annually after a two to three month notice period, while others allow for redemption after only a brief notification period with no restriction on redemption frequency. No unfunded commitments existed with respect to hedge funds as of December 31, 2020.
- Risk Parity Funds: Plan assets are invested in risk parity strategies in order to provide diversification and balance risk/return objectives. These strategies reflect a multi-asset class balanced risk approach generally consisting of equity, interest rates, credit and commodities. These funds allow for monthly redemptions with only a brief notification period. No unfunded commitments existed with respect to risk parity funds as of December 31, 2020.
- Real Estate, Private Debt and Private Equity Funds: Plan assets are invested in limited partnership interests in various private equity, private debt and real estate funds. Limited provision exists for the redemption of these interests by the limited partners that invest in these funds until the end of the term of the partnerships, typically ranging between 10 and 15 years from the date of inception. An active secondary market exists for similar partnership interests, although no particular value (discount or premium) can be guaranteed. As of December 31, 2020, unfunded commitments to such limited partnerships totaling approximately $3.3 billion are expected to be contributed over the remaining investment period, typically ranging between three and six years.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2020 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations:

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 1,593	$ 1,510	$ 83	$ —	3.0 %	1-5
Equity Securities:						
U.S. Large Cap	8,294	4,272	4,022	—		
U.S. Small Cap	370	370	—	—		
Emerging Markets	2,106	1,503	603	—		
Global Equity	3,940	3,624	316	—		
International Equity	4,335	2,043	2,292	—		
Total Equity Securities	19,045	11,812	7,233	—	35.9	25-55
Fixed Income Securities:						
U.S. Government Securities	16,145	14,646	1,499	—		
Corporate Bonds	6,146	—	6,143	3		
Global Bonds	42	—	42	—		
Municipal Bonds	27	—	27	—		
Total Fixed Income Securities	22,360	14,646	7,711	3	42.2	35-55
Other Investments:						
Hedge Funds	3,518	—	1,652	—	6.6	5-15
Private Equity	3,424	—	—	—	6.5	1-10
Private Debt	695	—	—	—	1.3	1-10
Real Estate	1,986	244	82	—	3.7	1-10
Structured Products[2]	161	—	161	—	0.3	1-5
Risk Parity Funds	264	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 53,046	$ 28,212	$ 16,922	$ 3	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 84	$ 45	$ 39	—	4.6	1-10
Equity Securities:						
Local Markets Equity	214	—	214	—		
U.S. Equity	59	—	59	—		
Emerging Markets	55	41	14	—		
International / Global Equity	534	210	324	—		
Total Equity Securities	862	251	611	—	47.0	25-55
Fixed Income Securities:						
Local Government Bonds	102	—	102	—		
Corporate Bonds	215	22	193	—		
Global Bonds	125	125	—	—		
Total Fixed Income Securities	442	147	295	—	24.1	20-40
Other Investments:						
Real Estate	154	—	80	21	8.3	5-10
Other	293	—	236	41	16.0	1-20
Total International Plan Assets	$ 1,835	$ 443	$ 1,261	$ 62	100.0 %	
Total Plan Assets	$ 54,881	$ 28,655	$ 18,183	$ 65		

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

(2) Represents mortgage and asset-backed securities.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2019 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations:

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 964	$ 818	$ 146	$ —	2.1 %	1-5
Equity Securities:						
U.S. Large Cap	6,607	2,889	3,718	—		
U.S. Small Cap	505	376	129	—		
Emerging Markets	2,039	1,523	516	—		
Global Equity	2,892	2,553	339	—		
International Equity	4,591	2,499	2,092	—		
Total Equity Securities	16,634	9,840	6,794	—	36.0	25-55
Fixed Income Securities:						
U.S. Government Securities	14,077	12,980	1,097	—		
Corporate Bonds	5,051	—	5,051	—		
Global Bonds	50	—	50	—		
Municipal Bonds	24	—	24	—		
Total Fixed Income Securities	19,202	12,980	6,222	—	41.5	35-55
Other Investments:						
Hedge Funds	3,273	—	1,380	—	7.1	5-15
Private Equity	3,030	—	—	—	6.6	1-10
Private Debt	772	—	—	—	1.7	1-10
Real Estate	1,940	149	74	—	4.2	1-10
Structured Products[2]	153	—	153	—	0.3	1-5
Risk Parity Funds	241	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 46,209	$ 23,787	$ 14,769	$ —	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 72	$ 32	$ 40	—	4.6	1-10
Equity Securities:						
Local Markets Equity	209	—	209	—		
U.S. Equity	47	—	47	—		
Emerging Markets	33	33	—	—		
International / Global Equity	441	179	262	—		
Total Equity Securities	730	212	518	—	46.8	30-60
Fixed Income Securities:						
Local Government Bonds	94	—	94	—		
Corporate Bonds	177	20	157	—		
Global Bonds	110	110	—	—		
Total Fixed Income Securities	381	130	251	—	24.5	25-45
Other Investments:						
Real Estate	128	—	80	—	8.2	5-10
Other	247	—	218	12	15.9	1-20
Total International Plan Assets	$ 1,558	$ 374	$ 1,107	$ 12	100.0 %	
Total Plan Assets	$ 47,767	$ 24,161	$ 15,876	$ 12		

[1] Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

[2] Represents mortgage and asset-backed securities.

The following table presents the changes in the Level 3 instruments measured on a recurring basis for the years ended December 31, 2020 and 2019 (in millions):

	Corporate Bonds	Other	Total
Balance on January 1, 2019	$ 2	$ 4	$ 6
Actual Return on Assets:			
Assets Held at End of Year	—	1	1
Assets Sold During the Year	(4)	—	(4)
Purchases	4	7	11
Sales	(2)	—	(2)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2019	$ —	$ 12	$ 12
Actual Return on Assets:			
Assets Held at End of Year	—	3	3
Assets Sold During the Year	(5)	—	(5)
Purchases	10	51	61
Sales	(2)	(4)	(6)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2020	$ 3	$ 62	$ 65

There were no shares of UPS class A or B common stock directly held in plan assets as of December 31, 2020 or 2019.

Expected Cash Flows

Information about expected cash flows for the pension and postretirement medical benefit plans is as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Expected Employer Contributions:			
2021 to plan trusts	$ —	$ 186	$ 66
2021 to plan participants	23	70	6
Expected Benefit Payments:			
2021	$ 1,758	$ 236	$ 37
2022	1,892	227	42
2023	2,022	216	47
2024	2,156	205	54
2025	2,395	195	60
2026 - 2030	14,745	831	406

Our funding policy for U.S. plans is to contribute amounts annually that are at least equal to the amounts required by applicable laws and regulations, or to directly fund payments to plan participants, as applicable. International plans will be funded in accordance with local regulations. Additional discretionary contributions may be made when deemed appropriate to meet the long-term obligations of the plans. Expected benefit payments for pensions will be primarily paid from plan trusts. Expected benefit payments for postretirement medical benefits will be paid from plan trusts and corporate assets.

NOTE 7. MULTIEMPLOYER EMPLOYEE BENEFIT PLANS

We contribute to a number of multiemployer defined benefit plans under the terms of collective bargaining agreements that cover our union-represented employees. These plans generally provide for retirement, death and/or termination benefits for eligible employees within the applicable collective bargaining units, based on specific eligibility/participation requirements, vesting periods and benefit formulas. The risks of participating in multiemployer plans are different from single-employer plans in the following respects:

- Assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If we negotiate to cease participating in a multiemployer plan, we may be required to pay that plan an amount based on our allocable share of its underfunded status, referred to as a "withdrawal liability". However, cessation of participation in a multiemployer plan and subsequent payment of any withdrawal liability is subject to the collective bargaining process.
- If any of the multiemployer pension plans in which we participate enter critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule, we could be required under the Pension Protection Act of 2006 to make additional surcharge contributions to the multiemployer pension plan in the amount of five to ten percent of the existing contributions required by our labor agreement. Such surcharges would cease upon the ratification of a new collective bargaining agreement, and could not recur unless a plan re-entered critical status at a later date.

The discussion that follows sets forth the financial impact on our results of operations and cash flows for 2020, 2019 and 2018, from our participation in multiemployer benefit plans. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans are determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 described above).

The number of employees covered by our multiemployer pension plans has increased with the growth in our business. There have been no other significant changes that affect the comparability of 2020, 2019 and 2018 contributions. We recognize expense for the contractually-required contribution for each period, and we recognize a liability for any contributions due and unpaid at the end of a reporting period.

Status of Collective Bargaining Agreements

As of December 31, 2020, we had approximately 327,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters, of which approximately 11,000 are employees of UPS Freight. These agreements run through July 31, 2023.

We have approximately 3,000 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"). This collective bargaining agreement becomes amendable September 1, 2023.

We have approximately 1,600 airline mechanics who are covered by a collective bargaining agreement with Teamsters Local 2727 which becomes amendable November 1, 2023. In addition, approximately 3,400 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers ("IAM"). The collective bargaining agreement with the IAM runs through July 31, 2024.

Multiemployer Pension Plans

The following table outlines our participation in multiemployer pension plans for 2020, 2019 and 2018, and sets forth our calendar year contributions and accruals for each plan. The “EIN/Pension Plan Number” column provides the Employer Identification Number (“EIN”) and the three-digit plan number. The most recent Pension Protection Act zone status available in 2020 and 2019 relates to the plans’ two most recent fiscal year ends. The zone status is based on information that we received from the plans’ administrators and is certified by each plan’s actuary. Plans certified in the red zone are generally less than 65% funded; plans certified in the orange zone are both less than 80% funded and have an accumulated funding deficiency, or are expected to have a deficiency in any of the next six plan years; plans certified in the yellow zone are less than 80% funded; and plans certified in the green zone are at least 80% funded. The “FIP/RP Status Pending/Implemented” column indicates whether a financial improvement plan (“FIP”) for yellow/orange zone plans, or a rehabilitation plan (“RP”) for red zone plans, is either pending or has been implemented. As of December 31, 2020, all plans that have either a FIP or RP requirement have had the respective plan implemented.

Our collectively-bargained contributions satisfy the requirements of all implemented FIPs and RPs and do not currently require the payment of any surcharges. In addition, minimum contributions outside of the agreed upon contractual rates are not required. For the plans detailed in the following table, the expiration date of the associated collective bargaining agreements is July 31, 2023, with the exception of the IAM National Pension Fund / National Pension Plan, which has a July 31, 2024 expiration date. For all plans detailed in the following table, we provided more than 5% of the total plan contributions from all employers for 2020, 2019 and 2018 (as disclosed in the annual filing with the Department of Labor for each respective plan).

Certain plans have been aggregated in the “All Other Multiemployer Pension Plans” line in the following table, as the contributions to each of these individual plans are not material.

Pension Fund	EIN / Pension Plan Number	Pension Protection Act Zone Status 2020	2019	FIP / RP Status Pending / Implemented		(in millions) UPS Contributions and Accruals 2020	2019	2018	Surcharge Imposed
Central Pennsylvania Teamsters Defined Benefit Plan	23-6262789-001	Green	Green	No	NA	$ 57	$ 48	$ 44	No
Employer-Teamsters Local Nos. 175 & 505 Pension Trust Fund	55-6021850-001	Red	Red	Yes	Implemented	16	14	13	No
Hagerstown Motor Carriers and Teamsters Pension Fund	52-6045424-001	Red	Red	Yes	Implemented	11	10	9	No
I.A.M. National Pension Fund / National Pension Plan	51-6031295-002	Red	Green	Yes	Implemented	44	41	38	No
International Brotherhood of Teamsters Union Local No. 710 Pension Fund	36-2377656-001	Green	Green	No	NA	161	142	129	No
Local 705, International Brotherhood of Teamsters Pension Plan	36-6492502-001	Yellow	Yellow	Yes	Implemented	120	113	104	No
Local 804 I.B.T. & Local 447 I.A.M.—UPS Multiemployer Retirement Plan	51-6117726-001	Yellow	Yellow	Yes	Implemented	124	112	116	No
Milwaukee Drivers Pension Trust Fund	39-6045229-001	Green	Green	No	NA	53	48	42	No
New England Teamsters & Trucking Industry Pension Fund	04-6372430-001	Red	Red	Yes	Implemented	140	120	121	No
New York State Teamsters Conference Pension and Retirement Fund	16-6063585-074	Red	Red	Yes	Implemented	135	119	108	No
Teamster Pension Fund of Philadelphia and Vicinity	23-1511735-001	Yellow	Yellow	Yes	Implemented	85	74	66	No
Teamsters Joint Council No. 83 of Virginia Pension Fund	54-6097996-001	Green	Green	No	NA	82	75	69	No
Teamsters Local 639—Employers Pension Trust	53-0237142-001	Green	Green	No	NA	74	68	61	No
Teamsters Negotiated Pension Plan	43-6196083-001	Green	Green	No	NA	40	37	34	No
Truck Drivers and Helpers Local Union No. 355 Retirement Pension Plan	52-6043608-001	Green	Green	No	NA	27	24	22	No
United Parcel Service, Inc.—Local 177, I.B.T. Multiemployer Retirement Plan	13-1426500-419	Red	Red	Yes	Implemented	107	100	95	No
Western Conference of Teamsters Pension Plan	91-6145047-001	Green	Green	No	NA	1,138	939	868	No
Western Pennsylvania Teamsters and Employers Pension Fund	25-6029946-001	Red	Red	Yes	Implemented	37	34	31	No
All Other Multiemployer Pension Plans						104	102	72	
					Total Contributions	$2,555	$2,220	$2,042	

Agreement with the New England Teamsters and Trucking Industry Pension Fund

In 2012, we reached an agreement with the New England Teamsters and Trucking Industry Pension Fund ("NETTI Fund"), a multiemployer pension plan in which UPS is a participant, to restructure the pension liabilities for approximately 10,200 UPS employees represented by the Teamsters. As of December 31, 2020 and 2019, we had $837 and $845 million, respectively, recognized in "Other Non-Current Liabilities" as well as $7 million as of December 31, 2020 and 2019 recorded in "Other current liabilities" in our consolidated balance sheets, representing the remaining balance of the NETTI Fund withdrawal liability. This liability is payable in equal monthly installments over a remaining term of approximately 42 years. Based on the borrowing rates currently available to us for long-term financing of a similar maturity, the fair value of the NETTI Fund withdrawal liability as of December 31, 2020 and 2019 was $1.0 billion and $929 million, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of this liability.

Multiemployer Health and Welfare Plans

We also contribute to a number of multiemployer health and welfare plans covering both active and retired employees. Healthcare benefits are provided to participants who meet certain eligibility requirements as covered under the applicable collective bargaining unit. The following table sets forth our calendar year plan contributions and accruals. Certain plans have been aggregated in the “All Other Multiemployer Health and Welfare Plans” line, as the contributions to each of these individual plans are not material.

Health and Welfare Fund	(in millions) UPS Contributions and Accruals 2020	2019	2018
Bay Area Delivery Drivers	$ 39	$ 37	$ 40
Central Pennsylvania Teamsters Health & Pension Fund	35	31	29
Central States, South East & South West Areas Health and Welfare Fund	3,202	2,899	2,530
Delta Health Systems—East Bay Drayage Drivers	37	30	30
Joint Council #83 Health & Welfare Fund	50	45	40
Local 804 Welfare Trust Fund	110	101	90
Milwaukee Drivers Pension Trust Fund—Milwaukee Drivers Health and Welfare Trust Fund	53	48	43
New York State Teamsters Health & Hospital Fund	84	71	62
Northern California General Teamsters (DELTA)	188	157	153
Northern New England Benefit Trust	72	59	54
Oregon / Teamster Employers Trust	59	51	43
Teamsters 170 Health & Welfare Fund	22	19	18
Teamsters Benefit Trust	57	47	48
Teamsters Local 251 Health & Insurance Plan	23	18	17
Teamsters Local 638 Health Fund	60	53	48
Teamsters Local 639—Employers Health & Pension Trust Funds	39	32	29
Teamsters Local 671 Health Services & Insurance Plan	23	20	19
Teamsters Union 25 Health Services & Insurance Plan	69	59	56
Teamsters Western Region & Local 177 Health Care Plan	859	769	656
Truck Drivers and Helpers Local 355 Baltimore Area Health & Welfare Fund	22	19	18
Utah-Idaho Teamsters Security Fund	45	37	32
Washington Teamsters Welfare Trust	76	67	57
All Other Multiemployer Health and Welfare Plans	175	141	156
Total Contributions	$ 5,399	$ 4,810	$ 4,268

NOTE 8. GOODWILL AND INTANGIBLE ASSETS

The following table indicates the allocation of goodwill by segment (in millions):

	U.S. Domestic Package	International Package	Supply Chain & Freight	Consolidated
Balance on January 1, 2019	$ 715	$ 417	$ 2,679	$ 3,811
Acquired	—	2	3	5
Currency / Other	—	(3)	—	(3)
Balance on December 31, 2019	$ 715	$ 416	$ 2,682	$ 3,813
Acquired	—	—	—	—
Impairments	—	—	(494)	(494)
Currency / Other	—	6	42	48
Balance on December 31, 2020	$ 715	$ 422	$ 2,230	$ 3,367

2020 Goodwill Activity

As of December 31, 2020 we classified our UPS Freight reporting unit as held for sale, which resulted in a goodwill impairment charge of $494 million for the Supply Chain & Freight segment.

The remaining change in goodwill for both the Supply Chain & Freight and International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

2019 Goodwill Activity

The change in goodwill acquired for the International Package segment was due to our January 2019 acquisition of Transmodal Services Private Limited in India. The goodwill acquired in the Supply Chain & Freight segment was primarily due to our July 2019 acquisitions by Marken in Europe.

The remaining change in goodwill for the International Package segment was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

Goodwill Impairment

We completed our annual goodwill impairment evaluation as of July 1st on a reporting unit basis. Except as discussed below, no triggering events were identified for the periods presented that required an interim impairment test.

U.S. Domestic Package is our largest reporting segment and reporting unit. In our International Package reporting segment, we have the following reporting units: Europe, Asia, Americas and ISMEA. In our Supply Chain & Freight reporting segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive, we calculate the fair value of a reporting unit to test goodwill for impairment. We primarily determine the fair value of our reporting units using a discounted cash flow model, and supplement this with observable valuation multiples for comparable companies, as applicable. A comparison of the fair value of the reporting unit with its aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds its fair value, we record the excess amount as goodwill impairment, not to exceed the total amount of goodwill allocated to the reporting unit.

In 2020, we utilized a qualitative assessment to determine that it was more likely than not that the reporting unit fair value exceeded the carrying value for U.S. Domestic Package, Europe Package, Asia Package, Americas Package, ISMEA Package, The UPS Store and UPS Capital. For the remaining reporting units owned at the annual goodwill impairment testing date, we utilized the quantitative process to test goodwill for impairment.

In the fourth quarter of 2020, we determined that our UPS Freight reporting unit should be classified as held for sale. Accordingly, we tested goodwill for impairment as of December 31, 2020, and determined that the fair value of the reporting unit had decreased. A goodwill impairment charge of $494 million, representing the remaining goodwill balance for UPS Freight, is included within Other expenses in the statements of consolidated income. We did not record any goodwill impairment charges in 2019 or 2018. Cumulatively, our Supply Chain & Freight segment has recorded $1.1 billion of goodwill impairment charges, while our International and U.S. Domestic Package segments have not recorded any goodwill impairment charges. For additional information on the pending divestiture of UPS Freight, see note 4.

Intangible Assets

The following is a summary of intangible assets as of December 31, 2020 and 2019 (in millions):

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted-Average Amortization Period (in years)
December 31, 2020				
Capitalized software	$ 4,531	$ (2,962)	$ 1,569	6.9
Licenses	100	(37)	63	3.8
Franchise rights	165	(113)	52	20.0
Customer relationships	729	(344)	385	10.6
Trade name	200	—	200	N/M
Trademarks, patents and other	18	(13)	5	12.0
Total Intangible Assets	$ 5,743	$ (3,469)	$ 2,274	7.7
December 31, 2019				
Capitalized software	$ 4,125	$ (2,704)	$ 1,421	
Licenses	117	(64)	53	
Franchise rights	146	(109)	37	
Customer relationships	730	(282)	448	
Trade name	200	—	200	
Trademarks, patents and other	29	(21)	8	
Total Intangible Assets	$ 5,347	$ (3,180)	$ 2,167	

A trade name and licenses with carrying values of $200 and $5 million, respectively, as of December 31, 2020 are deemed to be indefinite-lived intangible assets, and therefore are not amortized. Impairment tests for indefinite-lived intangible assets are performed on an annual basis. All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that may indicate that the carrying value of the intangible may not be recoverable. Impairments of finite-lived intangible assets were $13 and $2 million in 2020 and 2019, respectively.

Amortization of intangible assets was $416, $377 and $339 million during 2020, 2019 and 2018, respectively. Expected amortization of finite-lived intangible assets recorded as of December 31, 2020 for the next five years is as follows (in millions): 2021—$512; 2022—$437; 2023—$372; 2024—$297; 2025—$222. Amortization expense in future periods will be affected by business acquisitions and divestitures, software development, licensing agreements, franchise rights purchased and other factors.

NOTE 9. DEBT AND FINANCING ARRANGEMENTS

The carrying value of our outstanding debt obligations, as of December 31, 2020 and 2019 consists of the following (in millions):

	Principal Amount	Maturity	Carrying Value 2020	Carrying Value 2019
Commercial paper	$ 15	2021	$ 15	$ 3,234
Fixed-rate senior notes:				
3.125% senior notes	1,500	2021	1,507	1,524
2.050% senior notes	700	2021	700	699
2.450% senior notes	1,000	2022	1,028	1,003
2.350% senior notes	600	2022	599	598
2.500% senior notes	1,000	2023	997	995
2.800% senior notes	500	2024	498	497
2.200% senior notes	400	2024	398	398
3.900% senior notes	1,000	2025	995	—
2.400% senior notes	500	2026	498	498
3.050% senior notes	1,000	2027	993	992
3.400% senior notes	750	2029	746	745
2.500% senior notes	400	2029	397	397
4.450% senior notes	750	2030	743	—
6.200% senior notes	1,500	2038	1,483	1,483
5.200% senior notes	500	2040	493	—
4.875% senior notes	500	2040	490	490
3.625% senior notes	375	2042	368	368
3.400% senior notes	500	2046	491	491
3.750% senior notes	1,150	2047	1,137	1,136
4.250% senior notes	750	2049	742	742
3.400% senior notes	700	2049	688	688
5.300% senior notes	1,250	2050	1,231	—
Floating-rate senior notes:				
Floating-rate senior notes	350	2021	350	349
Floating-rate senior notes	400	2022	399	399
Floating-rate senior notes	500	2023	499	499
Floating-rate senior notes	1,039	2049-2067	1,027	1,028
8.375% Debentures:				
8.375% debentures	—	2020	—	426
8.375% debentures	276	2030	281	281
Pound Sterling Notes:				
5.500% notes	90	2031	90	86
5.125% notes	618	2050	586	566
Euro Senior Notes:				
0.375% senior notes	860	2023	857	779
1.625% senior notes	860	2025	856	779
1.000% senior notes	614	2028	611	556
1.500% senior notes	614	2032	611	556
Floating-rate senior notes	—	2020	—	559
Canadian senior notes:				
2.125% senior notes	585	2024	583	571
Finance lease obligations	342	2021 – 2159	342	498
Facility notes and bonds	320	2029 – 2045	320	320
Other debt	6	2021 – 2025	5	8
Total debt	$ 24,814		24,654	25,238
Less: current maturities			(2,623)	(3,420)
Long-term debt			$ 22,031	$ 21,818

Commercial Paper

We are authorized to borrow up to $10.0 billion under a U.S. commercial paper program and €5.0 billion (in a variety of currencies) under a European commercial paper program. As of December 31, 2020 we had U.S. commercial paper outstanding of $15 million with an average interest rate of 0.17% and we had no outstanding balances under our European commercial paper program. As of December 31, 2020, we have classified the entire commercial paper balance as a current liability on our consolidated balance sheets. The amount of commercial paper outstanding under these programs in 2021 is expected to fluctuate.

Debt Repayments

On July 15, 2020 our Euro floating-rate senior notes with a principal balance of €500 million ($566 million) matured and were repaid in full. On April 1, 2020, our 8.375% senior notes with a principal balance of $424 million matured and were repaid in full.

Debt Issuances

On March 24, 2020 we issued four series of notes, in the following principal amounts: $1.0 billion, $750 million, $500 million and $1.25 billion. These notes bear interest at 3.90%, 4.45%, 5.20% and 5.30%, respectively, and will mature on April 1, 2025, April 1, 2030, April 1, 2040 and April 1, 2050, respectively. Interest on the notes is payable semi-annually, beginning October 2020. Each series of notes is callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of scheduled payments of principal and interest, plus accrued and unpaid interest.

In such event, the present values of scheduled principal and interest payments are discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 50 basis points, and are determined as follows:

- On the 3.90% notes, payments from the redemption date until one month prior to maturity
- On the 4.45% notes, payments from the redemption date until three months prior to maturity
- On the 5.20% and 5.30% notes, payments from the redemption date until six months prior to maturity

Fixed-Rate Senior Notes

All of our fixed-rate notes pay interest semi-annually, and allow for redemption by UPS at any time by paying the greater of the principal amount or a "make-whole" amount, plus accrued interest. We subsequently entered into interest rate swaps on several of these notes, which effectively converted the fixed interest rates on the notes to variable LIBOR-based interest rates. The average interest rate payable on the notes where fixed interest rates were swapped to variable-based interest rates, including the impact of the interest rate swaps, for 2020 and 2019 were as follows:

	Principal Value	Maturity	Average Effective Interest Rate 2020	Average Effective Interest Rate 2019
5.125% senior notes	$ 1,000	2019	— %	4.48 %
3.125% senior notes	1,500	2021	1.60 %	2.59 %
2.450% senior notes	1,000	2022	1.55 %	3.03 %

8.375% Debentures

The 8.375% debentures consist of two separate tranches, as follows:

- $276 million of the debentures have a maturity of April 1, 2030. These debentures have an 8.375% interest rate until April 1, 2020, and, thereafter, the interest rate will be 7.62% for the final 10 years. These debentures are redeemable in whole or in part at our option at any time. The redemption price is equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption (at a benchmark treasury yield plus five basis points) plus accrued interest.

- $424 million of the debentures matured and were paid in full on April 1, 2020. These debentures were not subject to redemption prior to maturity.

Interest is payable semi-annually in April and October for both tranches and neither tranche is subject to sinking fund requirements. We subsequently entered into interest rate swaps on the 2020 debentures, which effectively converted the fixed interest rates on the debentures to variable LIBOR-based interest rates. The average interest rate payable on the 2020 debentures, including the impact of the interest rate swaps, for 2020 and 2019 was 6.66% and 7.20%, respectively.

Floating-Rate Senior Notes

The floating-rate senior notes, with principal amounts totaling $1.0 billion, bear interest at either one or three-month LIBOR, less a spread ranging from 30 to 45 basis points. The average interest rate for 2020 and 2019 was 0.40% and 2.05%, respectively. These notes are callable at various times after 30 years at a stated percentage of par value, and putable by the note holders at various times after one year at a stated percentage of par value. The notes have maturities ranging from 2049 through 2067. We classified the floating-rate senior notes that are putable by the note holder as long-term liabilities in our consolidated balance sheets, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

The remaining three floating-rate senior notes in the principal amounts of $350, $400 and $500 million, bear interest at three-month LIBOR, plus a spread ranging from 15 to 45 basis points. The average interest rate for 2020 and 2019 was 1.29% and 2.82%, respectively. These notes are not callable. The notes have maturities ranging from 2021 through 2023.

Finance Lease Obligations

We have certain property, plant and equipment subject to finance leases. For additional information on finance lease obligations, see note 11.

Facility Notes and Bonds

We have entered into agreements with certain municipalities or related entities to finance the construction of, or improvements to, facilities that support our operations in the United States. These facilities are located around airport properties in Louisville, Kentucky; Dallas, Texas; and Philadelphia, Pennsylvania. Under these arrangements, we enter into a lease or loan agreement that covers the debt service obligations on the bonds issued by these entities, as follows:

- Bonds with a principal balance of $149 million issued by the Louisville Regional Airport Authority associated with our Worldport facility in Louisville, Kentucky. The bonds, which are due in January 2029, bear interest at a variable rate, and the average interest rates for 2020 and 2019 were 0.50% and 1.49%, respectively.
- Bonds with a principal balance of $42 million and due in November 2036 issued by the Louisville Regional Airport Authority associated with our air freight facility in Louisville, Kentucky. The bonds bear interest at a variable rate, and the average interest rates for 2020 and 2019 were 0.56% and 1.49%, respectively.
- Bonds with a principal balance of $29 million issued by the Dallas / Fort Worth International Airport Facility Improvement Corporation associated with our Dallas, Texas airport facilities. The bonds are due in May 2032 and bear interest at a variable rate, however the variable cash flows on the obligation have been swapped to a fixed 5.11%.
- Bonds with a principal balance of $100 million issued by the Delaware County, Pennsylvania Industrial Development Authority associated with our Philadelphia, Pennsylvania airport facilities. These bonds, which are due September 2045, bear interest at a variable rate. The average interest rate for 2020 and 2019 was 0.62% and 1.48%, respectively.

Pound Sterling Notes

The Pound Sterling notes consist of two separate tranches, as follows:

- Notes with a principal amount of £66 million accrue interest at a 5.50% fixed rate, and are due in February 2031. These notes are not callable.
- Notes with a principal amount of £455 million accrue interest at a 5.125% fixed rate, and are due in February 2050. These notes are callable at our option at a redemption price equal to the greater of 100% of the

principal amount plus accrued interest, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark U.K. government bond yield plus 15 basis points, plus accrued interest.

Canadian Dollar Senior Notes

The Canadian Dollar notes consist of a single series, as follows:

- Notes in the principal amount of C$750 million, which bear interest at a 2.125% fixed interest rate and mature in May 2024. Interest on the notes is payable semi-annually. The notes are callable at our option, in whole or in part, at the Government of Canada yield plus 21.5 basis points and on or after the par call date, at par value.

Euro Senior Notes

The Euro notes consist of three separate issuances, as follows:

- Notes in the principal amount of €500 million accrue interest at a 1.00% fixed rate and are due in November 2028. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable German government bond yield plus 15 basis points, plus accrued interest.
- Notes with a principal amount of €700 million accrue interest at a 1.625% fixed rate and are due in November 2025. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark German government bond yield plus 20 basis points, plus accrued interest.
- Notes with principal amounts of €700 million and €500 million accrue interest at 0.375% and 1.50% fixed rates, respectively, and are due in November 2023 and November 2032, respectively. Interest on these notes is payable annually. The notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable government bond yield plus 10 and 20 basis points, respectively, plus accrued interest.

Contractual Commitments

The following table sets forth the aggregate annual principal payments due under our long-term debt and the aggregate amounts expected to be spent for purchase commitments (in millions):

Year	**Debt Principal**	**Purchase Commitments**
2021	$ 2,568	$ 2,730
2022	2,001	1,415
2023	2,360	404
2024	1,485	201
2025	1,860	60
After 2025	14,198	1
Total	$ 24,472	$ 4,811

As of December 31, 2020, we had outstanding letters of credit totaling approximately $1.4 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2020, we had $1.3 billion of surety bonds written.

Sources of Credit

We maintain two credit agreements with a consortium of banks. The first of these agreements provides revolving credit facilities of $2.0 billion, and expires on December 7, 2021. Amounts outstanding under this agreement bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus a margin of 0.875%. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; or (3) LIBOR for a one-month interest period plus 1.0%, may be used at our discretion.

The second agreement provides revolving credit facilities of $2.5 billion, and expires on December 11, 2023. Amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion.

The applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our one-year credit default swap spread, subject to a minimum rate of 0.10% and a maximum rate of 0.75% per annum. The rate is interpolated for a period of time from the date of determination of such credit default swap spread in connection with a new interest period until the latest maturity date of the facility then in effect (but not less than a period of one year).

The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not lower than 0%). We are also able to request advances under these facilities based on competitive bids for the applicable interest rate. There were no amounts outstanding under these facilities as of December 31, 2020.

Debt Covenants

Our existing debt instruments and credit facilities subject us to certain financial covenants. As of December 31, 2020 and for all prior periods presented, we have satisfied these financial covenants. These covenants limit the amount of secured indebtedness that we may incur, and limit the amount of attributable debt in sale-leaseback transactions, to 10% of net tangible assets. As of December 31, 2020, 10% of net tangible assets is equivalent to $4.0 billion; however, we have no covered sale-leaseback transactions or secured indebtedness outstanding. We do not expect these covenants to have a material impact on our financial condition or liquidity.

Fair Value of Debt

Based on the borrowing rates currently available to us for long-term debt with similar terms and maturities, the fair value of long-term debt, including current maturities, is approximately $28.3 and $26.9 billion as of December 31, 2020 and 2019, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of all of our debt instruments.

NOTE 10. LEGAL PROCEEDINGS AND CONTINGENCIES

We are involved in a number of judicial proceedings and other matters arising from the conduct of our business.

Although there can be no assurance as to the ultimate outcome, we have generally denied, or believe we have meritorious defenses and will deny, liability in all pending matters, including (except as otherwise noted herein) the matters described below, and we intend to vigorously defend each matter. We accrue amounts associated with legal proceedings when and to the extent a loss becomes probable and can be reasonably estimated. The actual costs of resolving legal proceedings may be substantially higher or lower than the amounts accrued on those claims.

For matters as to which we are not able to estimate a possible loss or range of losses, we are not able to determine whether any such loss will have a material impact on our operations or financial condition. For these matters, we have described the reasons that we are unable to estimate a possible loss or range of losses.

Judicial Proceedings

We are a defendant in a number of lawsuits filed in state and federal courts containing various class action allegations under state wage-and-hour laws. At this time, we do not believe that any loss associated with any such matter will have a material impact on our operations or financial condition. One of these matters, Hughes v. UPS Supply Chain Solutions, Inc. and United Parcel Service, Inc. had previously been certified as a class action in Kentucky state court. In the second quarter of 2019, the court granted our motion for judgment on the pleadings related to the wage-and-hour claims. The plaintiffs have appealed this decision.

Other Matters

In October 2015, the Department of Justice ("DOJ") informed us of an industry-wide inquiry into the transportation of mail under the United States Postal Service ("USPS") International Commercial Air contracts. In October 2017, we received a Civil Investigative Demand seeking certain information relating to our contracts. The DOJ has indicated it is investigating potential violations of the False Claims Act or other statutes. We are cooperating with the DOJ. An immaterial accrual with respect to this matter is included in our consolidated balance sheets. We do not believe that any loss from this matter would have a material impact on our operations or financial condition, although we are unable to predict what action, if any, might be taken in the future by any government authorities as a result of their investigation.

In August 2016, Spain's National Markets and Competition Commission ("CNMC") announced an investigation into 10 companies in the commercial delivery and parcel industry, including UPS, related to alleged nonaggression agreements to allocate customers. In May 2017, UPS received a Statement of Objections issued by the CNMC. In July 2017, UPS received a Proposed Decision from the CNMC. On March 8, 2018, the CNMC adopted a final decision, finding an infringement and imposing an immaterial fine on UPS. UPS appealed the decision and in September 2018, obtained a suspension of the implementation of the decision (including payment of the fine). The appeal is pending. We do not believe that any loss from this matter would have a material impact on our operations or financial condition. We are vigorously defending ourselves and believe that we have a number of meritorious legal defenses. There are also unresolved questions of law and fact that could be important to the ultimate resolution of this matter.

In May 2020, the Environmental Protection Agency ("EPA") sent us an information request related to hazardous waste regulatory compliance at certain of our facilities. The EPA indicated that it was investigating potential recordkeeping violations of the Resource Conservation and Recovery Act at those facilities. We have settled this matter with the payment of an immaterial amount.

We are a party in various other matters that arose in the normal course of business. We do not believe that the eventual resolution of these other matters (either individually or in the aggregate), including any reasonably possible losses in excess of current accruals, will have a material impact on our operations or financial condition.

NOTE 11. LEASES

We recognize a right-of-use ("ROU") asset and lease obligation for all leases. Some of our leases contain both lease and non-lease components, which we have elected to treat as a single lease component. We have also elected not to recognize leases that have an original lease term, including reasonably certain renewal or purchase options, of twelve months or less in our consolidated balance sheets for all classes of underlying assets. Lease costs for short-term leases are recognized on a straight-line basis over the lease term. We elected the package of transition practical expedients for existing contracts, which allowed us to carry forward our historical assessments of whether contracts are, or contain, leases, lease classification and determination of initial direct costs.

We lease property and equipment under finance and operating leases. We have finance and operating leases for package centers, airport facilities, warehouses, office space, aircraft, aircraft engines, information technology equipment (primarily mainframes, servers and copiers), vehicles and various other equipment used in operating our business. Certain leases for real estate and aircraft contain options to purchase, extend or terminate the lease. Determining the lease term and amount of lease payments to include in the calculation of the ROU asset and lease obligation for leases containing options requires the use of judgment to determine whether the exercise of an option is reasonably certain and whether the optional period and payments should be included in the calculation of the associated ROU asset and lease obligation. In making this determination, we consider all relevant economic factors that would compel us to exercise or not exercise an option.

When our leases contain future payments that are dependent on an index or rate, such as the consumer price index, we initially measure the lease obligation and ROU asset using the index or rate at the commencement date. In subsequent periods, lease payments dependent on an index or rate are not remeasured. Rather, changes to payments due to a change in an index or rate are recognized in our statements of consolidated income in the period of the change.

When available, we use the rate implicit in the lease to discount lease payments; however, the rate implicit in the lease is not readily determinable for substantially all of our leases. For these leases, we use an estimate of our incremental borrowing rate to discount lease payments based on information available at lease commencement. The incremental borrowing rate is derived using multiple inputs including our credit rating, the impact of full collateralization, lease term and denominated currency. The remaining lease terms vary from 1 month to 140 years.

Aircraft

In addition to the aircraft that we own, we have leases for 338 aircraft. Of these leased aircraft, 27 are classified as finance leases, 17 are classified as operating leases and the remaining 294 are classified as short-term leases. A majority of the obligations associated with the aircraft classified as finance leases have been legally defeased. Most of our long-term aircraft operating leases are operated by a third party to handle package and cargo volume in geographic regions where, due to government regulations, we are restricted from operating an airline.

In order to meet customers' needs, we charter aircraft to handle package and cargo volume on certain international trade lanes and domestic routes. Due to the nature of these agreements, primarily being that either party can cancel the agreement with short notice, we have classified these as short-term leases. Additionally, the lease payments associated with these charter agreements are variable in nature based on the number of hours flown.

Real Estate

We have operating and finance leases for package centers, airport facilities, warehouses, office space and expansion facilities utilized during peak shipping periods. Many of our leases contain charges for common area maintenance or other expenses that are updated based on landlord estimates. Due to this variability, the cash flows associated with these charges are not included in the minimum lease payments used in determining the ROU asset and associated lease obligation.

Some of our real estate leases contain options to renew or extend the lease or terminate the lease before the expiration date. These options are factored into the determination of the lease term and lease payments when their exercise is considered to be reasonably certain.

We also enter into real estate leases that contain lease incentives, such as tenant improvement allowances or move-in allowances, that are received or receivable at lease commencement. These incentives reduce lease payments for classification purposes and reduce the initial ROU asset. When lease incentives are receivable at lease commencement, they also reduce the initial lease obligation.

From time to time, we enter into leases with the intention of purchasing the property, either through purchase options with a fixed price or a purchase agreement negotiated contemporaneously with the lease agreement. We classify these leases as finance leases and include the purchase date and purchase price in the determination of the lease term and lease payments, respectively, when the option to exercise or purchase is reasonably certain.

Transportation equipment and other equipment

We enter into both long-term and short-term leases for transportation equipment to supplement our capacity or meet contractual demands. Some of these assets are leased on a month-to-month basis and the leases can be terminated without penalty. The lease term for these types of leases is determined by the length of the underlying customer contract or based on the judgment of the business unit. We also enter into multi-year leases for trailers to increase capacity during periods of high demand, which are typically only used for 90-120 days during the year. These leases are treated as short-term as the cumulative right-of-use is less than 12 months over the term of the contract.

The remainder of our leases are primarily related to equipment used in our air operations, vehicles required to meet capacity needs during periods of higher demand for our shipping services, technology equipment and office equipment used in our facilities.

Some of our transportation and technology equipment leases require us to make additional lease payments based on the underlying usage of the assets. Due to the variable nature of these costs, these are expensed as incurred and are not included in the ROU asset and associated lease obligation.

The components of lease expense for the years ended December 31, 2020 and 2019 were as follows (in millions):

	2020	2019
Operating lease costs	$ 711	$ 643
Finance lease costs:		
Amortization of assets	$ 79	$ 73
Interest on lease liabilities	18	19
Total finance lease costs	97	92
Variable lease costs	247	206
Short-term lease costs	1,299	1,122
Total lease costs	$ 2,354	$ 2,063

We perform impairment assessments for our ROU assets when events or changes in circumstances indicate that their carrying values may not be recoverable. In addition to the lease costs disclosed in the table above, impairment charges for ROU assets were $17 million in 2020. We did not record any impairment charges in 2019 or 2018. Rent expense related to our operating leases was $959 million for 2018.

Supplemental information related to leases and location within our consolidated balance sheets as of December 31, 2020 and 2019 are as follows (in millions, except lease term and discount rate):

	2020	2019
Operating Leases:		
Operating lease right-of-use assets	$ 3,073	$ 2,856
Current maturities of operating leases	$ 560	$ 538
Non-current operating leases	2,540	2,391
Total operating lease obligations	$ 3,100	$ 2,929
Finance Leases:		
Property, plant and equipment, net	$ 1,225	$ 1,502
Current maturities of long-term debt, commercial paper and finance leases	$ 56	$ 181
Long-term debt and finance leases	286	317
Total finance lease obligations	$ 342	$ 498
Weighted average remaining lease term (in years):		
Operating leases	11.2	9.7
Finance leases	9.3	8.9
Weighted average discount rate:		
Operating leases	2.28 %	2.78 %
Finance leases	4.14 %	4.03 %

Supplemental cash flow information related to leases for the years ended December 31, 2020 and 2019 were as follows (in millions):

	2020	2019
Cash paid for amounts included in measurement of obligations:		
Operating cash flows from operating leases	$ 686	$ 620
Operating cash flows from finance leases	18	19
Financing cash flows from finance leases	192	140
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 787	$ 810
Finance leases	$ 66	$ 110

Maturities of lease obligations as of December 31, 2020 are as follows (in millions):

	Finance Leases	Operating Leases
2021	$ 69	$ 631
2022	64	557
2023	50	458
2024	30	335
2025	27	259
Thereafter	188	1,468
Total lease payments	428	3,708
Less: Imputed interest	(86)	(608)
Total lease obligations	342	3,100
Less: Current obligations	(56)	(560)
Long-term lease obligations	$ 286	$ 2,540

As of December 31, 2020, we have additional leases which have not commenced of $184 million. These leases will commence in 2021 and 2022 when we are granted access to the property, such as when leasehold improvements are completed by the lessor or a certificate of occupancy is obtained.

NOTE 12. SHAREOWNERS' EQUITY

Capital Stock, Additional Paid-In Capital, Retained Earnings and Non-Controlling Minority Interests

We maintain two classes of common stock, which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange ("NYSE") under the symbol “UPS”. Class A and B shares both have a $0.01 par value, and as of December 31, 2020, there were 4.6 billion class A shares and 5.6 billion class B shares authorized to be issued. Additionally, there are 200 million preferred shares authorized to be issued, with a par value of $0.01 per share. As of December 31, 2020, no preferred shares had been issued.

The following is a rollforward of our common stock, additional paid-in capital, retained earnings and non-controlling minority interests accounts for the years ended December 31, 2020, 2019 and 2018 (in millions, except per share amounts):

	2020			2019			2018		
	Shares	Dollars		Shares	Dollars		Shares	Dollars	
Class A Common Stock:									
Balance at beginning of year	156	$	2	163	$	2	173	$	2
Common stock purchases	—		—	(3)		—	(3)		—
Stock award plans	6		—	5		—	3		—
Common stock issuances	4		—	3		—	4		—
Conversions of class A to class B common stock	(19)		—	(12)		—	(14)		—
Class A shares issued at end of year	147	$	2	156	$	2	163	$	2
Class B Common Stock:									
Balance at beginning of year	701	$	7	696	$	7	687	$	7
Common stock purchases	(2)		—	(7)		—	(5)		—
Conversions of class A to class B common stock	19		—	12		—	14		—
Class B shares issued at end of year	718	$	7	701	$	7	696	$	7
Additional Paid-In Capital:									
Balance at beginning of year		$	150		$	—		$	—
Stock award plans			498			778			419
Common stock purchases			(217)			(1,005)			(859)
Common stock issuances			434			356			406
Option premiums received (paid)			—			21			34
Balance at end of year		$	865		$	150		$	—
Retained Earnings:									
Balance at beginning of year		$	9,105		$	8,006		$	5,852
Net income attributable to controlling interests			1,343			4,440			4,791
Dividends ($4.04, $3.84, and $3.64 per share) [(1)]			(3,552)			(3,341)			(3,189)
Common stock purchases			—			—			(141)
Reclassification from AOCI pursuant to the early adoption of ASU 2018-02			—			—			735
Other			—			—			(42)
Balance at end of year		$	6,896		$	9,105		$	8,006
Non-Controlling Interests:									
Balance at beginning of year		$	16		$	16		$	30
Change in non-controlling interests			(4)			—			(14)
Balance at end of year		$	12		$	16		$	16

[(1)] The dividend per share amount is the same for both class A and class B common stock. Dividends include $178, $147 and $178 million for 2020, 2019 and 2018, respectively, that were settled in shares of class A common stock.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion for shares of class A and class B common stock, which has no expiration date. As of December 31, 2020, we had $2.1 billion of this share repurchase authorization available.

Share repurchases may be in the form of accelerated share repurchase programs, open market purchases or other methods we deem appropriate. The timing of share repurchases will depend upon market conditions. Unless terminated earlier by the Board, the program will expire when we have purchased all shares authorized for repurchase under the program. On April 28, 2020, we announced our intention to suspend stock repurchases.

For the years ended December 31, 2020, 2019 and 2018, we repurchased a total of 2.1, 9.1 and 8.9 million shares of class A and class B common stock for $217 million, $1.0 and $1.0 billion, respectively ($224 million, $1.0 and $1.0 billion in repurchases for 2020, 2019 and 2018, respectively, are reported on the statements of consolidated cash flows due to the timing of settlements).

In order to lower the average cost of acquiring shares in our ongoing share repurchase program, we periodically enter into structured repurchase agreements involving the use of capped call options for the purchase of UPS class B shares. We pay a fixed sum of cash upon execution of each agreement in exchange for the right to receive either a predetermined amount of cash or stock. Upon expiration of each agreement, if the closing market price of our common stock is above the predetermined price, we will have our initial investment returned with a premium in either cash or shares (at our election). If the closing market price of our common stock is at or below the pre-determined price, we will receive the number of shares specified in the agreement. We received net premiums of $21 and $34 million during the years ended December 31, 2019 and 2018, respectively, related to entering into and settling capped call options for the purchase of class B shares. As of December 31, 2020, we had no capped call options outstanding, nor did we enter into any of these structured repurchase agreements during the year.

Movements in additional paid-in capital in respect of stock award plans comprise accruals for unvested awards, offset by adjustments for awards that vest during the period. The movement year over year was driven by changes in the vesting schedule for certain of our awards.

Accumulated Other Comprehensive Income (Loss)

We recognize activity in AOCI for foreign currency translation adjustments, unrealized holding gains and losses on available-for-sale securities, unrealized gains and losses from derivatives that qualify as hedges of cash flows and unrecognized pension and postretirement benefit costs. The activity in AOCI for the years ended December 31, 2020, 2019 and 2018 was as follows (in millions):

	2020	2019	2018
Foreign Currency Translation Gain (Loss), Net of Tax:			
Balance at beginning of year	$ (1,078)	$ (1,126)	$ (930)
Translation adjustment (net of tax effect of $(36), $10 and $37)	97	48	(149)
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	—	(47)
Balance at end of year	$ (981)	$ (1,078)	$ (1,126)
Unrealized Gain (Loss) on Marketable Securities, Net of Tax:			
Balance at beginning of year	$ 4	$ (2)	$ (2)
Current period changes in fair value (net of tax effect of $1, $4 and $(1))	6	11	(3)
Reclassification to earnings (net of tax effect of $(1), $(1) and $1)	(4)	(5)	3
Balance at end of year	$ 6	$ 4	$ (2)
Unrealized Gain (Loss) on Cash Flow Hedges, Net of Tax:			
Balance at beginning of year	$ 112	$ 40	$ (366)
Current period changes in fair value (net of tax effect of $(61), $61 and $135)	(192)	195	429
Reclassification to earnings (net of tax effect of $(45), $(39) and $18)	(143)	(123)	56
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	—	(79)
Balance at end of year	$ (223)	$ 112	$ 40
Unrecognized Pension and Postretirement Benefit Costs, Net of Tax:			
Balance at beginning of year	$ (5,035)	$ (3,906)	$ (3,569)
Net actuarial gain (loss) and prior service cost resulting from remeasurements of plan assets and liabilities (net of tax effect of $(1,885), $(979)and $(355))	(5,984)	(3,117)	(1,117)
Reclassification to earnings (net of tax effect of $1,607, $626 and $439)	5,104	1,988	1,389
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	—	(609)
Balance at end of year	$ (5,915)	$ (5,035)	$ (3,906)
Accumulated other comprehensive income (loss) at end of year	$ (7,113)	$ (5,997)	$ (4,994)

Detail of the gains (losses) reclassified from AOCI to the statements of consolidated income for the years ended December 31, 2020, 2019 and 2018 was as follows (in millions):

	Amount Reclassified from AOCI			Affected Line Item in the Income Statement
	2020	2019	2018	
Unrealized Gain (Loss) on Marketable Securities:				
Realized gain (loss) on sale of securities	$ 5	$ 6	$ (4)	Investment income (expense) and other
Income tax (expense) benefit	(1)	(1)	1	Income tax expense
Impact on net income	4	5	(3)	Net income
Unrealized Gain (Loss) on Cash Flow Hedges:				
Interest rate contracts	(8)	(15)	(24)	Interest expense
Foreign currency exchange contracts	196	177	(50)	Revenue
Income tax (expense) benefit	(45)	(39)	18	Income tax expense
Impact on net income	143	123	(56)	Net income
Unrecognized Pension and Postretirement Benefit Costs:				
Prior service costs	(227)	(227)	(201)	Investment income (expense) and other
Remeasurement of benefit obligation	(6,484)	(2,387)	(1,627)	Investment income (expense) and other
Income tax (expense) benefit	1,607	626	439	Income tax expense
Impact on net income	(5,104)	(1,988)	(1,389)	Net income
Total amount reclassified for the year	$ (4,957)	$ (1,860)	$ (1,448)	Net income

Deferred Compensation Obligations and Treasury Stock

We maintain a deferred compensation plan whereby certain employees were previously able to elect to defer the gains on stock option exercises by deferring the shares received upon exercise into a rabbi trust. The shares held in this trust are classified as treasury stock, and the liability to participating employees is classified as “Deferred compensation obligations” in the shareowners’ equity section of the consolidated balance sheets. The number of shares needed to settle the liability for deferred compensation obligations is included in the denominator in both the basic and diluted earnings per share calculations. Employees are generally no longer able to defer the gains from stock options exercised subsequent to December 31, 2004.

Activity in the deferred compensation program for the years ended December 31, 2020, 2019 and 2018 is as follows (in millions):

	2020		2019		2018	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Deferred Compensation Obligations:						
Balance at beginning of year		$ 26		$ 32		$ 37
Reinvested dividends		1		2		2
Benefit payments		(7)		(8)		(7)
Balance at end of year		$ 20		$ 26		$ 32
Treasury Stock:						
Balance at beginning of year	—	$ (26)	(1)	$ (32)	(1)	$ (37)
Reinvested dividends	—	(1)	—	(2)	—	(2)
Benefit payments	—	7	1	8	—	7
Balance at end of year	—	$ (20)	—	$ (26)	(1)	$ (32)

NOTE 13. STOCK - BASED COMPENSATION

The UPS Incentive Compensation Plan permits the grant of non-qualified and incentive stock options, stock appreciation rights, restricted stock and stock units, and restricted performance shares and units to eligible employees. On May 14, 2018, our shareholders approved our 2018 Omnibus Incentive Compensation Plan under which we are authorized to issue an additional 26 million shares. Each share issued in the form of restricted stock units and restricted performance units (collectively referred to as "Restricted Units"), stock options and other permitted awards reduces the share reserve by one share. We had 7 million shares available to be issued under the UPS Incentive Compensation Plan as of December 31, 2020.

The primary compensation programs offered under the UPS Incentive Compensation Plan include the UPS Management Incentive Award program, the UPS Long-Term Incentive Performance Award program and the UPS Stock Option program. These awards are discussed in the following paragraphs. We also match a portion of participating employees' contributions to the UPS 401(k) Savings Plan in shares of UPS class A common stock. The total expense recognized in our statements of consolidated income under all stock compensation programs was $796, $915 and $634 million during 2020, 2019 and 2018, respectively. The associated income tax benefit recognized in our statements of consolidated income was $210, $216 and $186 million during 2020, 2019 and 2018, respectively. The cash income tax benefit received from the exercise of stock options and conversion of Restricted Units to class A shares was $272, $148 and $175 million during 2020, 2019 and 2018, respectively.

Management Incentive Award Program ("MIP")

Non-executive management earning the right to receive MIP awards is determined annually by the Salary Committee, which is comprised of executive officers of UPS. Awards granted to executive officers are determined annually by the Compensation Committee of the UPS Board of Directors. Our MIP provides, with certain exceptions, that one-half to two-thirds of the annual award will be made in Restricted Units, depending upon the level of management involved. The remaining one-third to one-half of the award is electable in the form of cash or unrestricted shares of class A common stock, and is fully vested at the time of grant. Upon conversion, Restricted Units result in the issuance of an equivalent number of UPS class A common shares after required tax withholdings.

Except in the case of death, Restricted Units granted under the MIP prior to 2019 previously vested over a five-year period with approximately 20% of the award vesting and converting to class A shares at the anniversary of each grant date. The grant value, less estimated forfeitures, was expensed on a straight-line basis over the requisite service period except in the case of death, disability or retirement, in which case immediate expensing occurred. On November 3, 2020, the Compensation Committee of the UPS Board of Directors approved an acceleration of the five-year vesting period for all outstanding Restricted Units granted to non-executive management under the MIP prior to 2019. These Restricted Units became fully vested as of December 31, 2020, however, conversion to class A shares will continue to occur over a five-year period. The elimination of the future service requirement for these awards resulted in the recognition of an additional $133 million of stock compensation expense for the year, of which approximately $104 million was recorded in U.S. Domestic Package.

Beginning with the MIP grant in the first quarter of 2019, Restricted Units vest one year following the grant date, except in the case of death, disability or retirement, in which case immediate vesting occurs. The grant value is expensed on a straight-line basis, less estimated forfeitures, over the requisite service period except in the case of death, disability or retirement, in which case immediate expensing occurs.

All Restricted Units granted are subject to early cancellation or vesting under certain conditions. Dividends earned on Restricted Units are reinvested in additional Restricted Units at each dividend payable date until they have fully vested. As of December 31, 2020, we had the following outstanding Restricted Units, including reinvested dividends, granted under the MIP:

	Restricted Units (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Non-vested as of January 1, 2020	10,739	$ 106.94		
Vested	(12,195)	106.60		
Granted	3,638	102.54		
Reinvested Dividends	276	N/A		
Forfeited / Expired	(165)	101.80		
Non-vested as of December 31, 2020	2,293	$ 102.91	0.26	$ 386

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2020, 2019 and 2018 was $102.54, $108.78 and $110.95, respectively. The total fair value of Restricted Units vested was $827, $457 and $596 million in 2020, 2019 and 2018, respectively. As of December 31, 2020, there was $37 million of total unrecognized compensation cost related to non-vested Restricted Units. That cost is expected to be recognized over a weighted-average period of eight months.

Long-Term Incentive Performance Award Program ("LTIP")

We award Restricted Units under the LTIP to certain eligible management employees. These Restricted Units generally vest at the end of a three-year performance period except in the case of death, disability or retirement, in which case immediate vesting occurs on a prorated basis. The number of Restricted Units earned is based on the achievement of the performance targets established on the grant date.

For awards granted prior to 2020, the performance targets are equally weighted among consolidated operating return on invested capital ("ROIC"), growth in currency-constant consolidated revenue and total shareholder return ("RTSR") relative to a peer group of companies. For the two-thirds of the award related to ROIC and growth in currency-constant consolidated revenue, we recognize the grant date fair value of these Restricted Units, less estimated forfeitures, as compensation expense ratably over the vesting period, based on the number of awards expected to be earned. The remaining one-third of the award related to RTSR is valued using a Monte Carlo model. We recognize the grant date fair value of this portion of the award, less estimated forfeitures, as compensation expense ratably over the vesting period.

Beginning with the LTIP grant in 2020, the performance targets are equally weighted between adjusted earnings per share and adjusted cumulative free cash flow. The final number of Restricted Units earned will then be subject to adjustment based on RTSR relative to the companies within the Standard & Poor's 500 Index. We determine the grant date fair value of the Restricted Units using a Monte Carlo model and recognize compensation expense, less estimated forfeitures, ratably over the vesting period based on the number of awards expected to be earned.

For the 2020 award, the LTIP will be subdivided into two measurement periods. The first measurement period will evaluate the achievement of performance targets for the year 2020. The second measurement period will evaluate the achievement of performance targets for the years 2021 through 2022. The performance targets for the second measurement period will be determined at a future date.

The weighted-average assumptions used in our Monte Carlo models for each award year were as follows:

	2020	2019	2018
Risk-free interest rate	0.15 %	2.23 %	2.61 %
Expected volatility	27.53 %	19.64 %	16.51 %
Weighted-average fair value of units granted	$ 92.77	$ 123.44	$ 137.57
Share payout	101.00 %	115.04 %	123.47 %

There is no expected dividend yield as units earn dividend equivalents.

As of December 31, 2020, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our LTIP program:

	Restricted Units (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Non-vested as of January 1, 2020	1,691	$ 109.18		
Vested	(867)	110.79		
Granted	230	92.76		
Reinvested Dividends	64	N/A		
Forfeited / Expired	(114)	107.34		
Non-vested as of December 31, 2020	1,004	$ 104.15	1.22	$ 169

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2020, 2019 and 2018 was $92.76, $107.30 and $111.42, respectively. The total fair value of Restricted Units vested was $112, $71 and $97 million in 2020, 2019 and 2018, respectively. As of December 31, 2020, there was $31 million of total unrecognized compensation cost related to non-vested Restricted Units. That cost is expected to be recognized over a weighted-average period of one year.

Non-qualified Stock Options

We maintain stock option plans under which options are granted to purchase shares of UPS class A common stock. Stock options granted in connection with the UPS Incentive Compensation Plan must have an exercise price at least equal to the NYSE closing price of UPS class B common stock on the date the option is granted.

We grant non-qualified stock options to a limited group of eligible senior management employees annually, in which the value granted is determined as a percentage of salary. Options granted generally vest over a five-year period with approximately 20% of the award vesting at each anniversary of the grant date except in the case of death, disability or retirement, in which case immediate vesting occurs. The options granted expire 10 years after the date of the grant. Option holders may exercise their options via the payment of cash or class A common stock and new class A shares are issued upon exercise.

The following is an analysis of options to purchase shares of class A common stock issued and outstanding:

	Options (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at January 1, 2020	1,498	$ 100.74		
Exercised	(375)	92.76		
Granted	441	104.10		
Forfeited / Expired	—	—		
Outstanding at December 31, 2020	1,564	$ 103.60	6.84	$ 101
Options Vested and Expected to Vest	1,564	$ 103.60	6.84	$ 101
Exercisable at December 31, 2020	801	$ 101.33	5.46	$ 54

The fair value of each option grant is estimated using the Black-Scholes option pricing model. The weighted-average assumptions used by year, and the calculated weighted-average fair values of options, are as follows:

	2020	2019	2018
Expected dividend yield	3.51 %	2.94 %	2.93 %
Risk-free interest rate	1.26 %	2.60 %	2.84 %
Expected life in years	7.5	7.5	7.5
Expected volatility	19.25 %	17.79 %	16.72 %
Weighted-average fair value of options granted	$ 11.74	$ 16.34	$ 15.23

The expected dividend yield is based on the recent historical dividend yields for our stock, taking into account changes in dividend policy. The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time options are expected to remain outstanding, and we have relied upon a combination of the observed exercise behavior of our prior grants with similar characteristics, the vesting schedule of the grants and an index of peer companies with similar grant characteristics in estimating this variable. Expected volatilities are based on the historical returns on our stock and the implied volatility of our publicly-traded options.

We received cash of $28, $7 and $12 million during 2020, 2019 and 2018, respectively, from option holders resulting from the exercise of stock options. The total intrinsic value of options exercised during 2020, 2019 and 2018 was $17, $5 and $6 million, respectively. As of December 31, 2020, there was $3 million of total unrecognized compensation cost related to non-vested options. That cost is expected to be recognized over a weighted-average period of three years and five months.

The following table summarizes information about stock options outstanding and exercisable as of December 31, 2020:

	Options Outstanding			Options Exercisable	
Exercise Price Range	Options (in thousands)	Weighted-Average Remaining Contractual Term (in years)	Weighted-Average Exercise Price	Options (in thousands)	Weighted-Average Exercise Price
$65.01 - $80.00	67	0.90	$ 76.02	67	$ 76.02
$80.01 - $95.00	46	2.17	82.87	46	82.87
$95.01 - $110.00	1,208	7.09	104.28	587	103.87
$110.01 - $125.00	243	8.12	111.80	101	111.80
	1,564	6.84	$ 103.60	801	$ 101.33

Discounted Employee Stock Purchase Plan

We maintain an employee stock purchase plan for all eligible employees. Under this plan, shares of UPS class A common stock may be purchased at quarterly intervals at 95% of the NYSE closing price of UPS class B common stock on the last day of each quarterly period. Employees purchased 0.9, 1.0 and 0.9 million shares at average prices of $110.92, $102.11 and $105.53 per share, during 2020, 2019 and 2018, respectively. This plan is not considered to be compensatory, and therefore no compensation cost is measured for the employees' purchase rights.

NOTE 14. SEGMENT AND GEOGRAPHIC INFORMATION

We report our operations in three reporting segments: U.S. Domestic Package, International Package and Supply Chain & Freight. Package operations represent our most significant business and are broken down into regional operations around the world. Regional operations managers are responsible for both domestic and export products within their geographic area.

U.S. Domestic Package

U.S. Domestic Package operations include the time-definite delivery of letters, documents and packages throughout the United States.

International Package

International Package operations include delivery to more than 220 countries and territories worldwide, including shipments wholly outside the United States, as well as shipments with either origin or destination outside the United States. Our International Package reporting segment includes our operations in Europe, Asia, Americas and ISMEA.

Supply Chain & Freight

Supply Chain & Freight includes our Forwarding, Logistics, Coyote, Marken, UPS Mail Innovations, UPS Freight and other aggregated business units. Our Forwarding, Logistics and UPS Mail Innovations units provide services in more than 200 countries and territories worldwide and include international air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting services. UPS Freight offers a variety of less-than-truckload and truckload services to customers in North America. On January 24, 2021, we entered into a definitive agreement to sell our UPS Freight business as discussed in note 4. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the healthcare and life sciences industry, specializing in clinical trials logistics. Other aggregated business units within this segment include The UPS Store and UPS Capital.

In evaluating financial performance, we focus on operating profit as a segment's measure of profit or loss. Operating profit is before investment income (expense) and other, interest expense and income tax expense. Certain expenses are allocated between the segments using activity-based costing methods as described in Part I, "Item 7. Supplemental Information - Items Affecting Comparability" section of Management's Discussion and Analysis. As we operate an integrated, global multimodal network, we evaluate many of our capital expenditure decisions at a network level. Accordingly, expenditures on property, plant and equipment by segment are not presented. Unallocated assets are comprised primarily of cash, marketable securities and certain investment partnerships. In 2018, we changed the segment allocation methodology for certain shared assets. All prior periods have been recast to reflect this change in methodology.

Segment information for the years ended December 31, 2020, 2019 and 2018 is as follows (in millions):

	2020	2019	2018
Revenue:			
U.S. Domestic Package	$ 53,499	$ 46,493	$ 43,593
International Package	15,945	14,220	14,442
Supply Chain & Freight	15,184	13,381	13,826
Consolidated revenue	$ 84,628	$ 74,094	$ 71,861
Operating Profit:			
U.S. Domestic Package	$ 3,891	$ 4,164	$ 3,643
International Package	3,436	2,657	2,529
Supply Chain & Freight	357	977	852
Consolidated operating profit	$ 7,684	$ 7,798	$ 7,024
Assets:			
U.S. Domestic Package	$ 35,067	$ 32,795	$ 28,216
International Package	15,717	14,044	12,070
Supply Chain & Freight[(1)]	9,041	9,045	8,411
Unallocated	2,583	1,973	1,319
Consolidated assets	$ 62,408	$ 57,857	$ 50,016
Depreciation and Amortization Expense:			
U.S. Domestic Package	$ 1,805	$ 1,520	$ 1,375
International Package	597	547	526
Supply Chain & Freight	296	293	306
Consolidated depreciation and amortization expense	$ 2,698	$ 2,360	$ 2,207

[(1)] Includes $1.2 billion of assets held for sale related to the UPS Freight divestiture.

Revenue by product type for the years ended December 31, 2020, 2019 and 2018 is as follows (in millions):

	2020	2019	2018
U.S. Domestic Package:			
Next Day Air	$ 8,522	$ 8,479	$ 7,618
Deferred	5,665	5,180	4,752
Ground	39,312	32,834	31,223
Total U.S. Domestic Package	53,499	46,493	43,593
International Package:			
Domestic	3,160	2,836	2,874
Export	12,159	10,837	10,973
Cargo	626	547	595
Total International Package	15,945	14,220	14,442
Supply Chain & Freight:			
Forwarding	6,975	5,867	6,580
Logistics	4,073	3,435	3,234
Freight	3,149	3,265	3,218
Other	987	814	794
Total Supply Chain & Freight	15,184	13,381	13,826
Consolidated revenue	$ 84,628	$ 74,094	$ 71,861

Geographic information for the years ended December 31, 2020, 2019 and 2018 is as follows (in millions):

	2020	2019	2018
United States:			
Revenue	$ 66,580	$ 58,699	$ 56,115
Long-lived assets	$ 28,354	$ 27,976	$ 24,918
International:			
Revenue	$ 18,048	$ 15,395	$ 15,746
Long-lived assets	$ 10,213	$ 9,567	$ 8,577
Consolidated:			
Revenue	$ 84,628	$ 74,094	$ 71,861
Long-lived assets	$ 38,567	$ 37,543	$ 33,495

Long-lived assets include property, plant and equipment, pension and postretirement benefit assets, long-term investments, goodwill and intangible assets.

No countries outside of the United States provided 10% or more of consolidated revenue for the years ended December 31, 2020, 2019 or 2018. For the year ended December 31, 2020, Amazon.com, Inc. and its affiliates ("Amazon") represented 13.3% of our consolidated revenues. Substantially all of this revenue was attributed to U.S. Domestic Package. Amazon accounted for approximately 18.1% and 16.9% of accounts receivable, net, included within the consolidated balance sheets as of December 31, 2020 and 2019, respectively. No single customer represented 10% or more of our consolidated revenues for the year ended December 31, 2018.

NOTE 15. INCOME TAXES

The income tax expense (benefit) for the years ended December 31, 2020, 2019 and 2018 consists of the following (in millions):

	2020	2019	2018
Current:			
U.S. Federal	$ 839	$ 570	$ 89
U.S. State and Local	100	183	7
Non-U.S.	420	359	374
Total Current	1,359	1,112	470
Deferred:			
U.S. Federal	(725)	255	668
U.S. State and Local	(159)	(93)	75
Non-U.S.	26	(62)	15
Total Deferred	(858)	100	758
Total Income Tax Expense	$ 501	$ 1,212	$ 1,228

Income before income taxes includes the following components (in millions):

	2020	2019	2018
United States	$ (39)	$ 3,972	$ 4,307
Non-U.S.	1,883	1,680	1,712
Total Income Before Income Taxes:	$ 1,844	$ 5,652	$ 6,019

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2020, 2019 and 2018 consists of the following:

	2020	2019	2018
Statutory U.S. federal income tax rate	21.0 %	21.0 %	21.0 %
U.S. state and local income taxes (net of federal benefit) [1]	(2.6)	1.4	1.4
Non-U.S. tax rate differential	1.6	0.3	0.2
U.S. federal tax credits	(3.6)	(1.4)	(1.1)
Goodwill and other asset impairments	5.1	—	—
Net uncertain tax positions	3.6	0.1	(0.6)
Non-U.S. valuation allowance release	—	(1.2)	—
Other	2.1	1.2	(0.5)
Effective income tax rate	27.2 %	21.4 %	20.4 %

[1] The 2020 state tax impact to the effective tax rate is negative due to the favorable proportion of state tax credits in comparison to pretax income.

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions in which we operate and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year, but may not be consistent from year to year.

Our effective tax rate was 27.2% in 2020, compared with 21.4% in 2019 and 20.4% in 2018, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items.

2020 Discrete Items

In the fourth quarter of 2020, we recognized an income tax benefit of $1.6 billion related to pre-tax mark-to-market losses of $6.5 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2020 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $348 million during the year ended December 31, 2020. As a result, we recorded an additional income tax benefit of $83 million. This income tax benefit was generated at a higher average tax rate than the 2020 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

We recorded goodwill and other asset impairment charges of $686 million during the year ended December 31, 2020. As a result, we recorded an additional income tax benefit of $57 million. This income tax benefit was generated at a lower average tax rate than the U.S. federal statutory tax rate due to the portion of the costs related to goodwill impairment, which is not deductible for tax purposes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $28 million and reduced our effective tax rate by 1.5% during the year ended December 31, 2020.

Our 2020 effective tax rate was also unfavorably impacted by new uncertain tax positions.

2019 Discrete Items

In the fourth quarter of 2019, we recognized an income tax benefit of $571 million related to pre-tax mark-to-market losses of $2.4 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $255 million during the year ended December 31, 2019. As a result, we recorded an additional income tax benefit of $59 million. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

Legal contingencies and expenses of $97 million were accrued during 2019 in respect of certain legal proceedings for which we recorded an additional income tax benefit of $6 million. This income tax benefit was generated at a lower average tax rate than the U.S. federal statutory tax rate due to the portion of the accrual related to penalties, which are not deductible for tax purposes.

As of December 31, 2018, we maintained a valuation allowance against certain deferred tax assets, primarily related to foreign net operating loss carryforwards. As of each reporting date, we consider new evidence, both positive and negative, that could affect the future realization of deferred tax assets. During 2019, we determined that there was sufficient positive evidence to conclude that it was more likely than not that the deferred tax assets related to certain foreign net operating loss carryforwards would be realized. This conclusion was primarily related to achieving cumulative three-year income and anticipated future earnings within the relevant jurisdiction. Accordingly, we reversed the related valuation allowance and recognized a discrete tax benefit of approximately $68 million.

Other factors that impacted our 2019 effective tax rate include favorable tax provisions enacted in the Taxpayer Certainty and Disaster Tax Relief Act of 2019.

2018 Discrete Items

In the fourth quarter of 2018, we recognized an income tax benefit of $390 million related to pre-tax mark-to-market losses of $1.6 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $360 million during the year ended December 31, 2018. As a result, we recorded an additional income tax benefit of $87 million. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $38 million and reduced our effective tax rate by 0.6% during the year ended December 31, 2018.

Other factors that impacted our 2018 effective tax rate include favorable resolutions of uncertain tax positions, favorable U.S. state and local tax law changes, favorable tax provisions enacted in the Bipartisan Budget Act of 2018 and discrete tax credits associated with the filing of our 2017 U.S. federal income tax return.

Other Items

Beginning in 2012, we were granted a tax incentive for certain of our non-U.S. operations, which is effective through December 31, 2021. The tax incentive is conditional upon our meeting specific employment and investment thresholds. The impact of this tax incentive decreased non-U.S. tax expense by $35, $27 and $27 million (increased diluted earnings per share by $0.04, $0.03 and $0.03) for 2020, 2019 and 2018, respectively.

Deferred income tax assets and liabilities are comprised of the following as of December 31, 2020 and 2019 (in millions):

	2020	2019
Fixed assets and capitalized software	$ (5,355)	$ (4,720)
Operating lease right-of-use assets	(730)	(685)
Other	(501)	(538)
Deferred tax liabilities	(6,586)	(5,943)
Pension and postretirement benefits	3,994	2,522
Loss and credit carryforwards	325	328
Insurance reserves	535	413
Stock compensation	183	249
Accrued employee compensation	583	287
Operating lease liabilities	736	691
Other	357	205
Deferred tax assets	6,713	4,695
Deferred tax assets valuation allowance	(88)	(54)
Deferred tax asset (net of valuation allowance)	6,625	4,641
Net deferred tax asset (liability)	$ 39	$ (1,302)
Amounts recognized in the consolidated balance sheets:		
Deferred tax assets	$ 527	$ 330
Deferred tax liabilities	(488)	(1,632)
Net deferred tax asset (liability)	$ 39	$ (1,302)

The valuation allowance changed by $34, $(58) and $(14) million during the years ended December 31, 2020, 2019 and 2018, respectively.

We have a U.S. federal capital loss carryforward of $38 million as of December 31, 2020, $15 million of which expires on December 31, 2021 and the remainder of which expires on December 31, 2025.

Further, we have U.S. state and local operating loss and credit carryforwards as follows (in millions):

	2020	2019
U.S. state and local operating loss carryforwards	$ 1,253	$ 1,374
U.S. state and local credit carryforwards	$ 108	$ 110

The U.S. state and local operating loss carryforwards and credits can be carried forward for periods ranging from one year to indefinitely. We also have non-U.S. loss carryforwards of $716 million as of December 31, 2020, the majority of which may be carried forward indefinitely. As indicated in the table above, we have established a valuation allowance for certain U.S. federal, state and non-U.S. carryforwards and outside basis differences due to the uncertainty resulting from a lack of previous taxable income within the applicable tax jurisdictions and other limitations.

Undistributed earnings and profits ("E&P") of our foreign subsidiaries amounted to $5.6 billion as of December 31, 2020. Currently, $1.4 billion of the undistributed E&P of our foreign subsidiaries is considered to be indefinitely reinvested and, accordingly, no deferred income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to U.S. state and local taxes and withholding taxes payable in various jurisdictions. Determination of the amount of unrecognized deferred income tax liability is not practicable because of the complexities associated with its hypothetical calculation.

The following table summarizes the activity related to our uncertain tax positions (in millions):

	Tax	Interest	Penalties
Balance at January 1, 2018	$ 160	$ 43	$ 9
Additions for tax positions of the current year	47	—	1
Additions for tax positions of prior years	7	10	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(43)	(8)	(5)
Settlements during the period	(1)	(1)	—
Lapses of applicable statute of limitations	(3)	—	—
Balance as of December 31, 2018	167	44	5
Additions for tax positions of the current year	6	—	—
Additions for tax positions of prior years	51	13	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(45)	(4)	(1)
Settlements during the period	(3)	(1)	—
Lapses of applicable statute of limitations	(4)	—	—
Balance as of December 31, 2019	172	52	4
Additions for tax positions of the current year	61	—	—
Additions for tax positions of prior years	154	34	2
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(54)	(24)	(2)
Settlements during the period	—	(1)	—
Lapses of applicable statute of limitations	—	—	—
Balance as of December 31, 2020	$ 333	$ 61	$ 4

The total amount of gross uncertain tax positions as of December 31, 2020, 2019 and 2018 that, if recognized, would affect the effective tax rate was $332, $171 and $165 million, respectively. Our continuing policy is to recognize interest and penalties associated with income tax matters as a component of income tax expense.

We file income tax returns in the U.S. federal jurisdiction, most U.S. state and local jurisdictions, and many non-U.S. jurisdictions. We have substantially resolved all U.S. federal income tax matters for tax years prior to 2016.

A number of years may elapse before an uncertain tax position is audited and ultimately settled. It is difficult to predict the ultimate outcome or the timing of resolution for uncertain tax positions. It is reasonably possible that the liability for uncertain tax positions could significantly increase or decrease within the next twelve months. Items that may cause changes to uncertain tax positions include the timing of interest deductions and the allocation of income and expense between tax jurisdictions. These changes could result from the settlement of ongoing litigation, the completion of ongoing examinations, the expiration of the statute of limitations, or other unforeseen circumstances. At this time, an estimate of the range of the reasonably possible change cannot be made.

NOTE 16. EARNINGS PER SHARE

The earnings per share amounts are the same for class A and class B common shares as the holders of each class are legally entitled to equal per share distributions whether through dividends or in liquidation.

The following table sets forth the computation of basic and diluted earnings per share (in millions, except per share amounts):

	2020	2019	2018
Numerator:			
Net income attributable to common shareowners	$ 1,343	$ 4,440	$ 4,791
Denominator:			
Weighted-average shares	862	859	860
Deferred compensation obligations	—	—	1
Vested portion of restricted shares	5	5	5
Denominator for basic earnings per share	867	864	866
Effect of Dilutive Securities:			
Restricted performance units	4	5	4
Denominator for diluted earnings per share	871	869	870
Basic Earnings Per Share	$ 1.55	$ 5.14	$ 5.53
Diluted Earnings Per Share	$ 1.54	$ 5.11	$ 5.51

Diluted earnings per share for the years ended December 31, 2020, 2019 and 2018 exclude the effect of 0.6, 0.5 and 0.2 million shares, respectively, of common stock that may be issued upon the exercise of employee stock options because such effect would be antidilutive.

NOTE 17. DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT

Risk Management Policies

Changes in fuel prices, interest rates and foreign currency exchange rates impact our results of operations and we actively monitor these exposures. To manage the impact of these exposures, we may enter into a variety of derivative financial instruments. Our objective is to manage, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency exchange rates, commodity prices and interest rates. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures. As we use price sensitive instruments to hedge a certain portion of our existing and anticipated transactions, we expect that any loss in value from those instruments generally would be offset by increases in the value of those hedged transactions. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Credit Risk Management

The forward contracts, swaps and options discussed below contain an element of risk that the counterparties may be unable to meet the terms of the agreements; however, we seek to minimize such risk exposures for these instruments by limiting the counterparties to banks and financial institutions that meet established credit guidelines and by monitoring counterparties to prevent concentrations of credit risk with any single counterparty.

We have agreements with all of our active counterparties (covering the majority of our derivative positions) containing early termination rights and/or zero threshold bilateral collateral provisions whereby cash is required based on the net fair value of derivatives associated with those counterparties.

As of December 31, 2020 and 2019, we held cash collateral of $146 and $495 million, respectively, under these agreements. This collateral is included in Cash and cash equivalents in the consolidated balance sheets and its use by UPS is not restricted. As of December 31, 2020, $158 million of collateral was required to be posted with our counterparties. As of December 31, 2019, no collateral was required to be posted with our counterparties.

Events such as a counterparty credit rating downgrade (depending on the ultimate rating level) could also allow us to take additional protective measures such as the early termination of trades. Alternatively, we could be required to provide additional collateral or terminate transactions with certain counterparties in the event of a downgrade of our credit rating. The amount of collateral required would be determined by the net fair value of the associated derivatives with each counterparty. We have not historically incurred, and do not expect to incur in the future, any losses as a result of counterparty default.

As of December 31, 2020, there were no instruments in a net liability position that were not covered by the zero threshold bilateral collateral provisions.

Types of Hedges

Commodity Risk Management

Currently, the fuel surcharges that we apply to our domestic and international package and LTL services are the primary means of reducing the risk of adverse fuel price changes on our business. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services.

Foreign Currency Risk Management

To protect against the reduction in value of forecasted foreign currency cash flows from our international package business, we maintain a foreign currency cash flow hedging program. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We hedge portions of our forecasted revenue denominated in foreign currencies with forward contracts. We normally designate and account for these contracts as cash flow hedges of anticipated foreign currency denominated revenue and, therefore, the resulting gains and losses from these hedges are recognized as a component of international package revenue when the underlying sales transactions occur.

We also hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement using foreign currency forward contracts. We normally designate and account for these contracts as cash flow hedges of forecasted foreign currency denominated transactions; therefore, the resulting gains and losses from these hedges are recognized as a component of Investment income (expense) and other when the underlying transactions are subject to currency remeasurement.

We hedge our net investment in certain foreign operations with foreign currency denominated debt instruments. The use of foreign denominated debt as the hedging instrument allows the debt to be remeasured to foreign currency translation adjustment within AOCI to offset the translation risk from those investments. Balances in the cumulative translation adjustment accounts remain until the sale or substantially complete liquidation of the foreign entity, upon which they are recognized as a component of Investment income (expense) and other.

Interest Rate Risk Management

Our indebtedness under our various financing arrangements creates interest rate risk. We use a combination of derivative instruments as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. Interest rate swaps allow us to maintain a target range of floating-rate debt within our capital structure. The notional amount, interest payment date and maturity date of the swaps match the terms of the associated debt being hedged.

We have designated and account for the majority of our interest rate swaps that convert fixed-rate interest payments into floating-rate interest payments as fair value hedges of the associated debt instruments. Therefore, the gains and losses resulting from fair value adjustments to the interest rate swaps and fair value adjustments to the associated debt instruments are recorded to interest expense in the period in which the gains and losses occur. We have designated and account for interest rate swaps that convert floating-rate interest payments into fixed-rate interest payments as cash flow hedges of the forecasted payment obligations. The gains and losses resulting from fair value adjustments to these interest rate swaps are recorded to AOCI.

We periodically hedge the forecasted fixed-coupon interest payments associated with anticipated debt offerings by using forward starting interest rate swaps, interest rate locks or similar derivatives. These agreements effectively lock a portion of our interest rate exposure between the time the agreement is entered into and the date when the debt offering is completed, thereby mitigating the impact of interest rate changes on future interest expense. These derivatives are settled commensurate with the issuance of the debt, and any gain or loss upon settlement is amortized as an adjustment to the effective interest yield on the debt.

Outstanding Positions

The notional amounts of our outstanding derivative positions were as follows as of December 31, 2020 and 2019 (in millions):

		2020	2019
Currency hedges:			
Euro	EUR	4,197	4,571
British Pound Sterling	GBP	1,400	1,494
Canadian Dollar	CAD	1,576	1,402
Hong Kong Dollar	HKD	3,717	3,327
Interest rate hedges:			
Fixed to Floating Interest Rate Swaps	USD	3,250	3,674
Floating to Fixed Interest Rate Swaps	USD	778	778

As of December 31, 2020 and 2019, we had no outstanding commodity hedge positions.

Balance Sheet Recognition

The following table indicates the location in the consolidated balance sheets where our derivative assets and liabilities have been recognized, the fair value hierarchy level applicable to each derivative type and the related fair values of those derivatives.

We have master netting arrangements with substantially all of our counterparties giving us the right of offset for our derivative positions. However, we have not elected to offset the fair value positions of our derivative contracts recorded in the consolidated balance sheets. The columns labeled "Net Amounts if Right of Offset had been Applied" indicate the potential net fair value positions by type of contract and location in the consolidated balance sheets had we elected to apply the right of offset as of December 31, 2020 and December 31, 2019 (in millions):

			Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Asset Derivatives	**Balance Sheet Location**	**Fair Value Hierarchy Level**	**2020**	**2019**	**2020**	**2019**
Derivatives designated as hedges:						
Foreign currency exchange contracts	Other current assets	Level 2	$ 56	$ 138	$ 45	$ 131
Interest rate contracts	Other current assets	Level 2	2	2	2	2
Foreign currency exchange contracts	Other non-current assets	Level 2	35	252	4	236
Interest rate contracts	Other non-current assets	Level 2	29	21	26	20
Derivatives not designated as hedges:						
Foreign currency exchange contracts	Other current assets	Level 2	4	7	4	7
Interest rate contracts	Other non-current assets	Level 2	—	12	—	11
Total Asset Derivatives			$ 126	$ 432	$ 81	$ 407

Liability Derivatives	Balance Sheet Location	Fair Value Hierarchy Level	Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
			2020	2019	2020	2019
Derivatives designated as hedges:						
Foreign currency exchange contracts	Other current liabilities	Level 2	$ 34	$ 7	$ 23	$ —
Foreign currency exchange contracts	Other non-current liabilities	Level 2	142	16	111	—
Interest rate contracts	Other non-current liabilities	Level 2	13	11	10	10
Derivatives not designated as hedges:						
Foreign currency exchange contracts	Other current liabilities	Level 2	2	—	2	—
Interest rate contracts	Other current liabilities		1	—	1	—
Interest rate contracts	Other non-current liabilities	Level 2	—	3	—	2
Total Liability Derivatives			$ 192	$ 37	$ 147	$ 12

Our foreign currency exchange, interest rate and investment market price derivatives are largely comprised of over-the-counter derivatives, which are primarily valued using pricing models that rely on market observable inputs such as yield curves, currency exchange rates and investment forward prices; therefore, these derivatives are classified as Level 2. As of December 31, 2020 and 2019 we did not have any derivatives that were classified as Level 1 (valued using quoted prices in active markets for identical assets) or Level 3 (valued using significant unobservable inputs).

Balance Sheet Location of Hedged Item in Fair Value Hedges

The following table indicates the amounts that were recorded in the consolidated balance sheets related to cumulative basis adjustments for fair value hedges as of December 31, 2020 and 2019 (in millions):

	2020		2019	
Line Item in the Consolidated Balance Sheets in Which the Hedged Item is Included	**Carrying Amount of Hedged Liabilities**	**Cumulative Amount of Fair Value Hedge Adjustments**	**Carrying Amount of Hedged Liabilities**	**Cumulative Amount of Fair Value Hedge Adjustments**
Long-Term Debt and Finance Leases	$ 2,816	$ 42	$ 3,234	$ 40

The cumulative amount of fair value hedging losses remaining for any hedged assets and liabilities for which hedge accounting has been discontinued as of December 31, 2020 is $7 million. These amounts will be recognized over the next 10 years.

Income Statement and AOCI Recognition

The following table indicates the amount of gains and (losses) that have been recognized in the statements of consolidated income for fair value and cash flow hedges, as well as the associated gain or (loss) for the underlying hedged item for fair value hedges for the years ended December 31, 2020 and 2019 (in millions):

	2020			2019		
Location and Amount of Gain (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships	**Revenue**	**Interest Expense**	**Investment Income and Other**	**Revenue**	**Interest Expense**	**Investment Income and Other**
Gain or (loss) on fair value hedging relationships:						
Interest Contracts:						
Hedged items	$ —	$ (8)	$ —	$ —	$ (38)	$ —
Derivatives designated as hedging instruments	—	8	—	—	38	—
Gain or (loss) on cash flow hedging relationships:						
Interest Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	—	(8)	—	—	(15)	—
Foreign Currency Exchange Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	196	—	—	177	—	—
Total amounts of income and expense line items presented in the statement of income in which the effects of fair value or cash flow hedges are recorded	$ 196	$ (8)	$ —	$ 177	$ (15)	$ —

The following table indicates the amount of gains and (losses) that have been recognized in AOCI for the years ended December 31, 2020 and 2019 for those derivatives designated as cash flow hedges (in millions):

	Amount of Gain (Loss) Recognized in AOCI on Derivatives	
Derivative Instruments in Cash Flow Hedging Relationships	**2020**	**2019**
Interest rate contracts	$ —	$ 6
Foreign currency exchange contracts	(253)	250
Total	$ (253)	$ 256

As of December 31, 2020, there were $11 million of pre-tax gains related to cash flow hedges deferred in AOCI that are expected to be reclassified to income over the 12 month period ending December 31, 2021. The actual amounts that will be reclassified to income over the next 12 months will vary from this amount as a result of changes in market conditions. The maximum term over which we are hedging exposures to the variability of cash flows is approximately 12 years.

The following table indicates the amount of gains and (losses) that have been recognized in AOCI within foreign currency translation adjustment for the years ended December 31, 2020 and 2019 for those instruments designated as net investment hedges (in millions):

	Amount of Gain (Loss) Recognized in AOCI on Debt	
Non-derivative Instruments in Net Investment Hedging Relationships	**2020**	**2019**
Foreign denominated debt	$ (265)	$ 75
Total	$ (265)	$ 75

Additionally, we maintain interest rate swaps, foreign currency exchange forwards and investment market price forward contracts that are not designated as hedges. The interest rate swap contracts are intended to provide an economic hedge of portions of our outstanding debt. The foreign currency exchange forward contracts are intended to provide an economic offset to foreign currency remeasurement and settlement risk for certain assets and liabilities in our consolidated balance sheets. The investment market price forward contracts are intended to provide an economic offset to fair value fluctuations of certain investments in marketable securities.

We also periodically terminate interest rate swaps and foreign currency exchange forward contracts by entering into offsetting swap and foreign currency positions with different counterparties. As part of this process, we de-designate our original swap and foreign currency exchange contracts. These transactions provide an economic offset that effectively eliminates the effects of changes in market valuation.

The following is a summary of the amounts recorded in the statements of consolidated income related to fair value changes and settlements of these interest rate swaps, foreign currency forward and investment market price forward contracts not designated as hedges for the years ended December 31, 2020 and 2019 (in millions):

		Amount of Gain (Loss) Recognized in Income	
Derivative Instruments Not Designated in Hedging Relationships	**Location of Gain (Loss) Recognized in Income**	**2020**	**2019**
Interest rate contracts	Interest expense	$ (9)	$ (9)
Foreign currency exchange contracts	Investment income and other	27	(1)
Total		$ 18	$ (10)

NOTE 18. TRANSFORMATION STRATEGY COSTS

In the first quarter of 2018, we launched the first phase of a multi-year, enterprise-wide transformation strategy impacting our organization. Over the next several years additional phases will be implemented. The program includes investments, as well as changes in processes and technology, that impact global direct and indirect operating costs.

The table below presents the transformation strategy costs for the years ended December 31, 2020, 2019 and 2018 (in millions):

Transformation Strategy Costs	**2020**	**2019**	**2018**
Compensation and benefits	$ 211	$ 166	$ 262
Total other expenses	137	89	98
Total Transformation Strategy Costs	$ 348	$ 255	$ 360
Income Tax Benefit from Transformation Strategy Costs	(83)	(59)	(87)
After-Tax Transformation Strategy Costs	$ 265	$ 196	$ 273

The income tax effects of transformation strategy costs are calculated by multiplying the amount of the adjustments by the statutory tax rates applicable in each tax jurisdiction.

NOTE 19. QUARTERLY INFORMATION (UNAUDITED)

Our segment revenue, segment operating profit, other income and (expense), net income (loss), basic and diluted earnings (loss) per share on a quarterly basis are presented below (in millions, except per share amounts):

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2020	2019	2020	2019	2020	2019	2020	2019
Revenue:								
U.S. Domestic Package	$ 11,456	$ 10,480	$ 13,074	$ 11,150	$ 13,225	$ 11,455	$ 15,744	$ 13,408
International Package	3,383	3,459	3,705	3,505	4,087	3,494	4,770	3,762
Supply Chain & Freight	3,196	3,221	3,680	3,393	3,926	3,369	4,382	3,398
Total revenue	18,035	17,160	20,459	18,048	21,238	18,318	24,896	20,568
Operating Profit (Loss):								
U.S. Domestic Package	364	666	1,182	1,208	1,098	1,216	1,247	1,074
International Package	551	528	771	663	966	667	1,148	799
Supply Chain & Freight	157	200	259	272	299	245	(358)	260
Total operating profit	1,072	1,394	2,212	2,143	2,363	2,128	2,037	2,133
Total Other Income and (Expense)	$ 178	$ 46	$ 145	$ 61	$ 162	$ 78	$ (6,325)	$ (2,331)
Net Income (Loss)	$ 965	$ 1,111	$ 1,768	$ 1,685	$ 1,957	$ 1,750	$ (3,347)	$ (106)
Net Income (Loss) Per Share:								
Basic Earnings (Loss) Per Share	$ 1.12	$ 1.28	$ 2.04	$ 1.95	$ 2.25	$ 2.03	$ (3.84)	$ (0.12)
Diluted Earnings (Loss) Per Share	$ 1.11	$ 1.28	$ 2.03	$ 1.94	$ 2.24	$ 2.01	$ (3.84)	$ (0.12)

Our quarterly results were impacted by restructuring and other costs, legal contingencies and expenses and defined benefit plans mark-to-market charges. The table below presents the impact on operating profit and other income and (expense) for each period (in millions, except per share amounts):

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2020	2019	2020	2019	2020	2019	2020	2019
Impact to Operating Profit								
Restructuring & Other - Employee Benefits	$ 12	$ 106	$ 81	$ 2	$ 18	$ 41	$ 100	$ 17
Restructuring & Other - Other Costs	33	17	31	19	26	22	47	31
Restructuring & Other - Impairment Charges	—	—	—	—	—	—	686	—
Legal Contingencies and Expenses	—	—	—	—	—	—	—	97
Allocation of Matters Impacting Operating Profit to Segments								
U.S. Domestic Package	$ 37	$ 28	$ 33	$ 18	$ 35	$ 26	$ 132	$ 133
International Package	7	84	71	2	6	26	12	10
Supply Chain & Freight	1	11	8	1	3	11	689	2
Impact to Other Income and (Expense)								
Defined Benefit Plans Mark-to-Market Charges	$ —	$ —	$ —	$ —	$ —	$ —	$ 6,484	$ 2,387

NOTE 20. SUBSEQUENT EVENTS

On January 24, 2021, we entered into a definitive agreement to divest our UPS Freight business to TFI International Inc. for $800 million, subject to working capital and other adjustments. This agreement provides for the continuation of certain pension and postretirement benefits within UPS-sponsored plans that we estimate will require us to record an additional pre-tax expense when we close on the UPS Freight divestiture and amend the impacted plans. Upon closing, we also anticipate recording a pre-tax curtailment gain resulting from the acceleration of prior service credits. We currently anticipate that a favorable impact from reducing future benefit accruals for UPS Freight employees will be offset by net losses recorded in AOCI. The divestiture of UPS Freight may require an interim measurement of certain of our U.S. pension and postretirement benefit plans. We expect to record the impacts discussed herein by the second quarter of 2021.

As of December 31, 2020, UPS Freight was classified as held for sale in the consolidated balance sheet. For additional information, see note 4.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, management, including our Principal Executive Officer and Principal Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures. Based upon, and as of the date of, the evaluation, our Principal Executive Officer and Principal Financial Officer concluded that the disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported as and when required and is accumulated and communicated to our management, including our Principal Executive Officer and Principal Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting:

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal controls over financial reporting despite the fact that more of our employees are working remotely during the COVID-19 pandemic. We have enhanced our oversight and monitoring during the close and reporting process and we are continually monitoring and assessing the effects of the COVID-19 situation on our internal controls to minimize the impact on their design and operating effectiveness.

Management's Report on Internal Control Over Financial Reporting:

UPS management is responsible for establishing and maintaining adequate internal control over financial reporting for United Parcel Service, Inc. and its subsidiaries (the "Company"). Based on the criteria for effective internal control over financial reporting established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, management has assessed our internal control over financial reporting as effective as of December 31, 2020. The independent registered public accounting firm of Deloitte & Touche LLP, as auditors of the consolidated balance sheets of United Parcel Service, Inc. and its subsidiaries as of December 31, 2020 and the related statements of consolidated income, consolidated comprehensive income and consolidated cash flows for the year ended December 31, 2020, has issued an attestation report on our internal control over financial reporting, which is included herein.

Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of
Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 31, 2020, of the Company and our report dated February 22, 2021, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 22, 2021

Item 9B. ***Other Information***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Information about our Executive Officers

Name and Office	Age	Principal Occupation and Employment For the Last Five Years
Carol B.Tomé Chief Executive Officer	64	Chief Executive Officer (2020 - present), Chief Financial Officer, The Home Depot, Inc. (2001 - 2019).
Norman M. Brothers, Jr. Chief Legal and Compliance Officer and Corporate Secretary	53	Chief Legal and Compliance Officer and Corporate Secretary (2020 - present), Senior Vice President, General Counsel and Corporate Secretary (2016 - 2020), Corporate Legal Department Manager (2014 - 2016).
Nando Cesarone President, U.S. Operations	49	President, U.S. Operations (2020 - present), President, UPS International (2018 - 2020), Europe Region Manager (2016 - 2018), Asia Pacific Region Manager (2013 - 2016).
Darrell Ford Chief Human Resources Officer	56	Chief Human Resources Officer (2021 - present), Chief Human Resources Officer, DuPont (2018 - 2020), Chief Human Resources Officer, Xerox Corporation (2015 - 2018).
Philippe Gilbert President, UPS Supply Chain Solutions	56	President, UPS Supply Chain Solutions (2019 - present), Regional CEO, Americas, DB Schenker Logistics (2015 - 2018), Regional CEO, West Europe, DB Schenker Logistics (2013 - 2015).
Kate M. Gutmann Chief Sales and Solutions Officer, Executive VP, UPS Healthcare and Life Sciences Unit	52	Chief Sales and Solutions Officer, Executive VP, UPS Healthcare and Life Sciences Unit (2020 - present), Chief Sales and Solutions Officer; Senior Vice President The UPS Store and UPS Capital (2017 - 2019) Senior Vice President, Worldwide Sales and Solutions (2014 - 2017).
Laura Lane Chief Corporate Affairs, Communications and Sustainability Officer	54	Chief Corporate Affairs, Communications and Sustainability Officer (2020 - present), Chief Corporate Affairs and Communications Officer (August 2020 - October 2020), President, Global Public Affairs (2011 - 2020).
Brian Newman Chief Financial Officer and Treasurer	52	Chief Financial Officer and Treasurer (2019 - present), Executive Vice President, Finance and Operations, Latin America, PepsiCo, Inc. (2017 - 2019), Executive Vice President, Global Operations, PepsiCo, Inc. (2015 - 2017), Global Head of e-Commerce, PepsiCo, Inc. (2014 - 2015).
Juan R. Perez Chief Information and Engineering Officer	54	Chief Information and Engineering Officer (2017 - present), Chief Information Officer (2016 - 2017), Vice President, Information Services (2011 - 2016).
Scott A. Price President, UPS International	58	President, UPS International (2020 - present), Chief Strategy and Transformation Officer (2017 - 2020), Executive Vice President of Global Leverage, Walmart International, Walmart Stores, Inc. (2017), Chief Administrative Officer and Executive Vice President, Walmart International, Walmart Stores Inc. (2016 - 2017), Chief Executive Officer and President of Walmart Asia Pte. Ltd. (2014 - 2016).
Charlene Thomas Chief Diversity, Equity and Inclusion Officer	53	Chief Diversity, Equity and Inclusion Officer (2021 - present), Chief Human Resources Officer (2019 - 2020), President, Human Capital Transformation (March 2019 - July 2019), West Region Manager (2018 - 2019), North Atlantic District Manager (2018 - 2018), Mid-South District Manager (2016-2018), West-OPS Package Operations Manager (March 2016 - August 2016), U.S. Operations Training Staff Manager (2015-2016).
Kevin Warren Chief Marketing Officer	58	Chief Marketing Officer (2018 - present), Executive Vice President and Chief Commercial Officer, Xerox Corp. (2017 - 2018), President, Commercial Business Group, Xerox Corp. (2016 - 2017), President, Industrial, Retail and Hospitality Business Group, Xerox Corp. (2015 - 2016), President of Strategic Growth Initiatives, Xerox Corp. (2014 - 2015).

Information about our directors will be presented under the caption “Our Board of Directors" in our definitive proxy statement for our meeting of shareowners to be held on May 13, 2021 (the “Proxy Statement”) and is incorporated herein by reference.

Information about our Audit Committee will be presented under the caption “Our Board of Directors - Committees of the Board of Directors” and "Audit Committee Matters" in our Proxy Statement and is incorporated herein by reference.

Information about our Code of Business Conduct is presented under the caption “Where You Can Find More Information” in Part I, Item 1 of this report.

Item 11. ***Executive Compensation***

Information about our board and executive compensation will be presented under the captions “Our Board of Directors - Director Compensation" and "Executive Compensation" in our Proxy Statement and is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

Information about security ownership will be presented under the caption “Ownership of Our Securities - Securities Ownership of Certain Beneficial Owners and Management” in our Proxy Statement and is incorporated herein by reference.

Information about our equity compensation plans will be presented under the caption “Executive Compensation - Equity Compensation Plans” in our Proxy Statement and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

Information about transactions with related persons will be presented under the caption “Corporate Governance - Conflicts of Interest and Related Person Transactions” in our Proxy Statement and is incorporated herein by reference.

Information about director independence will be presented under the caption “Corporate Governance - Director Independence” in our Proxy Statement and is incorporated herein by reference.

Item 14. ***Principal Accountant Fees and Services***

Information about aggregate fees billed to us by our principal accountant will be presented under the caption “Audit Committee Matters - Principal Accounting Firm Fees” in our Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) *Documents filed as a part of this report:*

1. *Financial Statements*.

See Item 8 for the financial statements filed with this report.

2. *Financial Statement Schedules*.

None.

3. *Exhibits*.

See the Exhibit Index below for a list of the exhibits incorporated by reference into or filed with this report.

(b) *Exhibits Required To Be Filed*

See Item 15(a)1 above.

(c) *Financial Statement Schedules Required To Be Filed*

See Item 15(a) 2 above.

Item 16. ***Form 10-K Summary***

None.

EXHIBIT INDEX

Exhibit No.		Description
3.1	—	Restated Certificate of Incorporation of United Parcel Service, Inc. (incorporated by reference to Exhibit 3.3 to Form 8-K filed on May 12, 2010).
3.2	—	Amended and Restated Bylaws of United Parcel Service, Inc. as of November 17, 2017 (incorporated by reference to Exhibit 3.1 to Form 8-K, filed on November 17, 2017).
4.1	—	Indenture dated as of December 18, 1997 (incorporated by reference to Exhibit T-3C to Form T-3 (No. 022-22295), filed on December 18, 1997) [(1)].
4.2	—	Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to Form S-3 (No. 333-08369), filed on January 26, 1999) [(1)].
4.3	—	Form of First Supplemental Indenture to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.2 to Post-Effective Amendment No. 1 to Form S-3 (No. 333-08369-01), filed on March 15, 2000).
4.4	—	Second Supplemental Indenture dated as of September 21, 2001 to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4 to Form 10-Q for the quarter ended September 30, 2001).
4.5	—	Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.1 to Form S-3 (No. 333-108272), filed on August 27, 2003).
4.6	—	First Supplemental Indenture dated as of November 15, 2013 to Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.2 to Form S-3ASR (No. 333-192369), filed on November 15, 2013).
4.7	—	Second Supplemental Indenture dated as of May 18, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 18, 2017).
4.8	—	Form of 6.20% Senior Notes due January 15, 2038 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on January 15, 2008).
4.9	—	Form of 4.875% Senior Notes due November 15, 2040 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 12, 2010).
4.10	—	Form of 2.450% Senior Notes due October 1, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on September 27, 2012).
4.11	—	Form of 3.625% Senior Notes due

4.21	—	Form of 2.350% Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 16, 2017).
4.22	—	Form of 2.125% Senior Notes due May 21, 2024 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 18, 2017).
4.23	—	Form of 0.375% Senior Notes due November 15, 2023 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 13, 2017).
4.24	—	Form of 1.500% Senior Notes due November 15, 2032 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 13, 2017).
4.25	—	Form of Floating Rate Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 14, 2017).
4.26	—	Form of Floating Rate Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 14, 2017).
4.27	—	Form of 2.050% Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on November 14, 2017).
4.28	—	Form of 2.500% Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.4 to Form 8-K, filed on November 14, 2017).
4.29	—	Form of 2.800% Senior Notes due November 15, 2024 (incorporated by reference to Exhibit 4.5 to Form 8-K, filed on November 14, 2017).
4.30	—	Form of 3.050% Senior Notes due November 15, 2027 (incorporated by reference to Exhibit 4.6 to Form 8-K, filed on November 14, 2017).
4.31	—	Form of 3.750% Senior Notes due November 15, 2047 (incorporated by reference to Exhibit 4.7 to Form 8-K, filed on November 14, 2017).
4.32	—	Form of Floating Rate Senior Notes due November 15, 2067 (incorporated by reference to Exhibit 4.8 to Form 8-K, filed on November 14, 2017).
4.33	—	Form of 3.400% Senior Notes due March 15, 2029 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on March 15, 2019).
4.34	—	Form of 4.250% Senior Notes due March 15, 2049 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on March 15, 2019).
4.35	—	Form of 2.200% Senior Notes due September 1, 2024 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on August 16, 2019).
4.36	—	Form of 2.500% Senior Notes due September 1, 2029 (incorporated by reference to Exhibit 4.2 to Form 8-K

10.1(b)	—	Amendment Four to the Amended and Restated UPS Retirement Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.2 to Form 8-K, filed on June 27, 2017).*
10.2	—	UPS 401(k) Savings Plan, Amendment and Restatement effective as of January 1, 2017 (incorporated by reference to Exhibit 10.1 to Form 8-K, filed on June 27, 2017).*
10.3	—	UPS Restoration Savings Plan effective January 1, 2017 (incorporated by reference to Exhibit 10.3 to Form 8-K, filed on June 27, 2017).*
10.4	—	Amendment One to the Amended and Restated UPS Excess Coordinating Benefit Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.4 to Form 8-K, filed on June 27, 2017).*
10.4(a)	—	UPS Excess Coordinating Benefit Plan, as Amended and Restated, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to Form 10-K for the year ended December 31, 2012).*
10.5	—	United Parcel Service, Inc. 2012 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement, filed on March 12, 2012).*
10.5(a)	—	Form of Long-Term Incentive Performance Award Agreement (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2011).*
10.5(b)	—	Form of Non-Employee Director Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2019).*
10.5(c)	—	UPS Management Incentive Program Terms and Conditions effective as of January 1, 2011 (incorporated by reference to Exhibit 10.10(3) to the Form 10-K) for the year ended December 31, 2010).*
10.5(d)	—	UPS Stock Option Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(4) to the Form 10-K for the year ended December 31, 2011).*
10.5(e)	—	UPS Long-Term Incentive Performance Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(5) to the Form 10-K for the year ended December 31, 2011).*
10.6	—	Form of UPS Deferred Compensation Plan as Amended and Restated effective January 1, 2012

10.15	—	UPS Long-Term Incentive Performance Program Amended and Restated Terms and Conditions effective as of February 13, 2020 (incorporated by reference to Exhibit 10.16 to Form 10-K for the year ended December 31, 2019). *.
10.16	—	Employment offer letter agreement between UPS and Carol B Tomé, dated March 11, 2020 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on March 13, 2020).*
10.17	—	Protective Covenant Agreement between UPS and Carol Tomé, dated March 11, 2020 (incorporated by reference to Exhibit 10.2 to Form 8-K filed on March 13, 2020).*
10.18	—	Transition Agreement between UPS and David P. Abney, dated March 11, 2020 (incorporated by reference to Exhibit 10.3 to Form 8-K filed on March 13, 2020).*
10.19	—	Form of Protective Covenant Agreement between UPS and each of Nando Cesarone, Kate Gutmann, Juan Perez and George Willis.*
10.20	—	Retention Arrangement Letter between UPS and Nando Cesarone, dated April 15, 2020.*
10.21	—	Retention Arrangement Letter between UPS and Kate Gutmann, dated April 15, 2020.*
10.22	—	Retention Arrangement Letter between UPS and Juan Perez, dated April 14, 2020.*
10.23	—	Retention Arrangement Letter between UPS and George Willis, dated April 15, 2020.*
21	—	Subsidiaries.
23	—	Consent of Deloitte & Touche LLP.
31.1	—	Certificate of the Principal Executive Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	—	Certificate of the Principal Financial Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	—	Certification of the Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	—	Certification of the Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	—	The following financial information from the Annual Report on Form 10-K for the year ended December 31,

(1) Filed in paper format.

* Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, United Parcel Service, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNITED PARCEL SERVICE, INC.
(REGISTRANT)

By: /S/ CAROL B. TOMÉ

Carol B. Tomé

Chief Executive Officer (Principal Executive Officer)

Date: February 22, 2021

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ CAROL B. TOMÉ **Carol B. Tomé**	Chief Executive Officer (Principal Executive Officer)	February 22, 2021
/S/ BRIAN O. NEWMAN **Brian O. Newman**	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer)	February 22, 2021
/S/ RODNEY C. ADKINS **Rodney C. Adkins**	Director	February 22, 2021
/S/ EVA C. BORATTO **Eva C. Boratto**	Director	February 22, 2021
/S/ MICHAEL J. BURNS **Michael J. Burns**	Director	February 22, 2021
/S/ WAYNE M. HEWETT **Wayne M. Hewett**	Director	February 22, 2021
/S/ ANGELA HWANG **Angela Hwang**	Director	February 22, 2021
/S/ KATE E. JOHNSON **Kate E. Johnson**	Director	February 22, 2021
/S/ WILLIAM R. JOHNSON **William R. Johnson**	Director	February 22, 2021
/S/ ANN M. LIVERMORE **Ann M. Livermore**	Director	February 22, 2021
/S/ RUDY H.P. MARKHAM **Rudy H.P. Markham**	Director	February 22, 2021
/S/ FRANCK J. MOISON **Franck J. Moison**	Director	February 22, 2021
/S/ CLARK T. RANDT, JR. **Clark T. Randt, Jr.**	Director	February 22, 2021
/S/ CHRISTIANA SMITH SHI **Christiana Smith Shi**	Director	February 22, 2021
/S/ RUSSELL STOKES **Russell Stokes**	Director	February 22, 2021
/S/ KEVIN M. WARSH **Kevin M. Warsh**	Director	February 22, 2021

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 001-15451

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United Parcel Service, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**58-2480149**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification No.)***

55 Glenlake Parkway, N.E. Atlanta, Georgia 30328
(Address of Principal Executive Offices) (Zip Code)

(404) 828-6000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Class B common stock, par value $.01 per share	UPS	New York Stock Exchange
Floating-Rate Senior Notes due 2020	UPS20A	New York Stock Exchange
1.625% Senior Notes due 2025	UPS25	New York Stock Exchange
1% Senior Notes due 2028	UPS28	New York Stock Exchange
0.375% Senior Notes due 2023	UPS23A	New York Stock Exchange
1.500% Senior Notes due 2032	UPS32	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

Class A common stock, par value $.01 per share

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of " large accelerated filer", "accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the class B common stock held by non-affiliates of the registrant was $72,097,367,231 as of June 30, 2019. The registrant's class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of the registrant's class A common stock is convertible into one share of the registrant's class B common stock.

As of February 6, 2020, there were 156,399,660 outstanding shares of class A common stock and 702,088,016 outstanding shares of class B common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its annual meeting of shareowners scheduled for May 14, 2020 are incorporated by reference into Part III of this report.

UNITED PARCEL SERVICE, INC.
ANNUAL REPORT ON FORM 10-K
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PART I

Cautionary Statement About Forward-Looking Statements

This report, our Annual Report to Shareowners and our other filings with the Securities and Exchange Commission ("SEC") contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Statements other than those of current or historical fact, and all statements accompanied by terms such as "believe," "project," "expect," "estimate," "assume," "intend," "anticipate," "target," "plan" and variations thereof and similar terms, are intended to be forward-looking statements. Forward-looking statements are made subject to the safe harbor protections of the federal securities laws pursuant to Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

From time to time, we also include written or oral forward-looking statements in other publicly disclosed materials. Such statements relate to our intent, belief and current expectations about our strategic direction, prospects and future results, and give our current expectations or forecasts of future events; they do not relate strictly to historical or current facts. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or anticipated results. These risks and uncertainties are described in Part I, "Item 1A. Risk Factors" and may also be described from time to time in our future reports filed with the SEC. You should consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of predictions contained in such forward-looking statements. We do not undertake any obligation to update forward-looking statements to reflect events, circumstances, changes in expectations or the occurrence of unanticipated events after the date of those statements.

Item 1. *Business*

Overview

United Parcel Service, Inc. ("UPS") was founded in 1907 as a private messenger and delivery service in Seattle, Washington. Today, we are the world's largest package delivery company, a leader in the U.S. less-than-truckload industry and a premier provider of global supply chain management solutions. The global market for these services includes transportation, distribution, contract logistics, ground freight, ocean freight, air freight, customs brokerage, insurance and financing.

We operate one of the largest airlines in the world, as well as the world's largest fleet of alternative-powered vehicles. We deliver packages each business day for 1.6 million shipping customers to 9.9 million delivery customers in over 220 countries and territories. In 2019, we delivered an average of 21.9 million pieces per day, or a total of 5.5 billion packages. Total revenue in 2019 was $74.094 billion.

We have three reporting segments: U.S. Domestic Package and International Package, which together we refer to as our global small package operations, and Supply Chain & Freight, all of which are described below.

Strategy

Our strategy is to provide advanced logistics solutions made possible by a broad portfolio of differentiated services and capabilities integrated into our customers' businesses. This strategy, supported by our efficient global multimodal network, enables us to deliver value to, and build lasting relationships with, our customers.

Customers are able to leverage our broad portfolio of logistics capabilities comprised of: our extensive presence in North America, Europe, Middle East, Africa, Asia Pacific and Latin America; our reliability; and our industry-leading technologies and solutions.

We offer a full range of industry-leading products, services and capabilities across a growing geographical and industry footprint. Achieving our objectives has required new methods and innovative approaches to develop and implement logistics services that address customer needs for speed to market, visibility, reliability and greater control. Recent examples include:

- the acquisition or creation of platform-based offerings such as UPS e-fulfillment and Ware2Go;
- specialized healthcare solutions such as UPS Premier, which offers prioritized handling and visibility for critical healthcare shipments;
- a full range of global customs brokerage and shipment insurance services; and
- offerings such as UPS My Choice for business that give small- and medium-sized businesses ("SMBs") greater control, visibility and data access to improve their customer service.

We monitor global trade, economic, geopolitical, regulatory and environmental factors, as well as other factors impacting the business environment. We quickly implement measures to convert risk to opportunity and help our customers adjust their supply chains to a fast-moving world. We have a long history of joint ventures and partnerships that provide operational flexibility and the ability to acquire new capabilities as we build scale, and we also forge new marketplace alliances to stay at the cutting edge of business. For example, our Digital Access Program makes it easier for SMBs to use our services by embedding our shipping solutions directly into leading e-commerce platforms.

We are a disciplined and focused business that purposefully reinvests capital to achieve both long-term strategic benefits and favorable returns. In September 2018, we communicated our commitment to continuous transformation and to invest to modernize our business and operations through state-of-the art technology. We see transformation as an ongoing commitment to enhance quality and efficiency as we deliver innovative capabilities and services. Our strategic investments are primarily focused in areas we believe will drive growth and lasting profit potential:

- services and solutions for SMBs;
- international growth markets;
- global Business to Consumer (“B2C”) and Business to Business (“B2B”) e-commerce;
- healthcare and life-sciences logistics; and
- operational improvements to drive greater productivity and the use of automation to enhance the efficiency of our network.

In recent periods, we have added approximately ten million square feet of highly automated capacity in more than forty new and remodeled facilities globally. We have also continued to implement numerous new technologies to help control the network and ensure resources are in the right place at the right time.

Products and Services; Reporting Segments

Global Small Package

Our global small package operations provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. These services are supported by numerous shipping, visibility and billing technologies.

All types of service (air, ground, domestic, international, commercial and residential) are managed through a single, global integrated pickup and delivery network. We combine all packages within our network, unless dictated by specific service commitments. This enables one UPS driver to pick up customers’ shipments for any services at a scheduled time each day. Our integrated network uniquely provides operational and capital efficiencies that have less of an impact on the environment than single service network designs.

We handle packages up to 108 inches in length that weigh up to 150 pounds and are up to 165 inches in combined length and girth, as well as palletized shipments weighing more than 150 pounds. We offer same-day pickup of air and ground packages seven days a week. Our global network offers approximately 150,000 entry points where customers can tender a package to us at a location or time convenient to them. This integrated network includes UPS drivers who can accept packages, UPS drop boxes, UPS Access Point locations, The UPS Store locations, authorized shipping outlets and commercial counters, alliance locations and customer centers attached to UPS facilities. The UPS Access Point network, which includes local small businesses, national retailers and self-serve lockers, allows consumers to ship or redirect packages to an alternate delivery location or drop off pre-labeled packages, including returns. We have expanded the UPS Access Point network to total approximately 21,000 locations within the U.S. and 40,000 globally.

We have developed a robust portfolio of returns services in more than 145 countries resulting from the continued growth of online and mobile shopping that has increased our customers' need for efficient and reliable returns. This portfolio provides a range of cost-effective label options and a broad network of consumer drop points, as well as a selection of returns technologies that promote efficiency and a friction-free consumer experience. These options include solutions such as UPS Returns, as well as more-specialized services such as UPS Returns Exchange. Our technologies, such as UPS Returns Manager promote systems integration, customer ease of use and visibility of inbound merchandise, which help reduce costs and improve efficiency in our customers' reverse logistics processes.

Our global air operations are centered at our Worldport hub in Louisville, Kentucky. Our U.S. regional air hubs in Dallas, Texas; Ontario, California; Philadelphia, Pennsylvania and Rockford, Illinois support Worldport. Our European air hub is located in Cologne, Germany, and we maintain Asia Pacific air hubs in Shanghai, China; Shenzhen, China and Hong Kong. Our regional air hub in Canada is located in Hamilton, Ontario and our regional air hub for Latin America and the Caribbean is in Miami, Florida. This network design creates cost-effective package processing in our most technology-enabled facilities, which allows us to use fewer, larger and more fuel-efficient aircraft.

U*.S. Domestic Package Reporting Segment*

We are a leader in time-definite, guaranteed small package delivery services in the United States. We offer a full spectrum of U.S. domestic guaranteed air and ground package transportation services, and our U.S. ground fleet serves all business and residential zip codes in the contiguous United States.

- UPS's Air portfolio offers options enabling customers to specify a time-of-day guarantee for their delivery (e.g. by 8:00 A.M., 10:30 A.M., noon, end of day, etc.), while selecting from same day, next day, two day and three day delivery alternatives.

- Customers can also leverage our extensive ground network to ship using our day-definite guaranteed Ground service. We deliver more ground packages in the U.S. than any other carrier, with average daily package volume of 15 million, most within one to three business days.

- We offer UPS SurePost, an economy residential ground service for customers with non-urgent, lightweight residential shipments. UPS SurePost is a residential ground service that combines the consistency and reliability of the UPS ground network with final delivery often provided by the U.S. Postal Service.

International Package Reporting Segment

Our International Package reporting segment consists of our small package operations in Europe, Asia Pacific, Canada, Latin America and the Indian sub-continent, Middle East and Africa ("ISMEA"). We offer a wide selection of guaranteed day- and time-definite international shipping services. We offer more guaranteed time-definite express options (Express Plus, Express and Express Saver) than any other carrier.

In recent years we have continued the expansion of our Express time-definite portfolio, with certain products now reaching as many as 220 countries and territories. For international package shipments that do not require Express services, UPS Worldwide Expedited offers a reliable, deferred, guaranteed day-definite service option. The service is now available from more than 80 origin countries to more than 220 countries and territories. For cross-border ground package delivery, we offer UPS Standard delivery services within Europe, between the U.S. and Canada and between the U.S. and Mexico.

By expanding our time-definite services, we are better able to offer customers the services they need in the places they do business. For businesses with time-sensitive shipments, these upgrades can help replenish inventories quicker, improve time to market and meet urgent delivery requirements.

Europe, our largest region outside of the U.S., accounts for approximately half of our international small package segment revenue and is one of the primary drivers of our growth. We continue to make major European infrastructure investments, including new hubs in London, Paris and Eindhoven, the Netherlands.

Asia Pacific also remains a strategic market due to growth rates in intra-Asia trade. To capitalize on these opportunities, we have continued to bring faster time-in-transit to customers focused on intra-Asia trade and reduced transit times from Asia to the U.S. and Europe. Through added flight frequencies, we now provide our customers the ability to ship next day to more places in the U.S. and Europe - guaranteed - than any other express carrier. We serve more than 40 Asia Pacific countries and territories through more than two dozen alliances with local delivery companies that supplement our owned operations. For example, our joint venture with SF Express combines SF's extensive Chinese network with UPS's delivery capabilities in the U.S. and Europe, increasing our market presence and providing Chinese enterprises with greater global access. In addition, improvements to time-in-transit for UPS Express Saver and UPS Worldwide Expedited services to Shanghai have resulted in faster delivery by a full day to 185 postal codes for packages coming from Europe.

International high-growth markets remain one of our strategic imperatives. Our direct flight from the U.S. to Dubai has improved time-in-transit to key destinations in ISMEA for shippers throughout the U.S., Canada and the Americas. Markets like India also provide opportunities for growth. In support of this, we acquired full ownership of our express services unit in 2018. The unit helps Indian businesses, large and small, connect with global markets via the UPS network. This follows the opening of two integrated logistics facilities in Hyderabad and Ahmedabad from where customers are provided a 48-hour delivery timeline to markets in the U.S. and Europe. In addition to these upgrades, we have added Saturday delivery to seven countries in ISMEA and expanded Express Services to India, the Middle East and other international high-growth markets ahead of Expo 2020 in Dubai, offering greater flexibility and competitiveness.

Supply Chain & Freight

Supply Chain & Freight consists of our forwarding, truckload brokerage, logistics, UPS Freight, UPS Capital and other businesses. Supply chain complexity creates demand for a global service offering that incorporates transportation, distribution and international trade and brokerage services, with complementary financial and information services. Outsourcing non-core logistics activity is a strategy more companies are pursuing. With increased competition and growth opportunities in new markets, businesses require flexible and responsive supply chains to support their strategies. We meet this demand by offering a broad array of supply chain services in more than 200 countries and territories.

Forwarding

We are one of the largest U.S. domestic air freight carriers and among the top international air freight forwarders globally. We offer a portfolio of guaranteed and non-guaranteed global air freight services. Additionally, as one of the world's leading non-vessel operating common carriers, we provide ocean freight full-container load, less-than-container load and multimodal transportation services between most major ports around the world.

Truckload Brokerage

Our acquisition of Coyote Logistics, LLC, a U.S.-based third party logistics provider, in 2015 has resulted in synergies in the areas of purchased transportation, backhaul utilization, technology systems and industry best practices. Coyote's access to our fleet, combined with its broad carrier network, has created a customized capacity solution for all markets, customers and situations. In addition, Coyote provides access to UPS services (such as air freight, customs brokerage and global freight forwarding) for its customer base.

Our acquisition of Freightex, a U.K.- based freight brokerage firm, in 2017 added a full scale truckload brokerage and transportation management solution to our European portfolio, creating a single-source solution for shippers throughout Europe with freight ranging from parcel to full truckload. In 2018, Freightex was rebranded as Coyote Logistics to further leverage the centralized technology and business models with the market knowledge, talent and established customer and carrier bases already in Europe. Coyote Logistics's European division complements our North American truckload brokerage business, as many international shippers know and trust the Coyote truckload product.

Logistics

We provide value-added fulfillment and transportation management services to customers through our global network of owned and leased distribution centers and field stocking locations. We leverage a global network of more than 1,000 facilities in more than 100 countries to ensure products and parts are in the right place at the right time.

Our distribution centers are strategically located near UPS air and ground transportation hubs for rapid delivery to consumer and business markets. In 2019, we expanded our network to support new business growth by adding 2 million square feet of distribution capacity. We also continued to expand our cloud-based transportation and warehouse management platforms, driving higher operational efficiency and improved customer service. The result has been better visibility, more rapid onboarding of customers and improved flexibility and response times.

With the strategic focus of serving the unique, priority-handling needs of healthcare and life sciences customers, U.S. healthcare warehouse and distribution space will total approximately 5 million square feet in 2020. Key features in the new facilities include climate controls and validated coolers and freezers for customer products requiring strict temperature-controlled environments.

In 2019, we expanded our e-commerce solutions for SMBs worldwide, offering streamlined fulfillment and shipping services to consumers in the U.S. and Canada. We launched the UPS eFulfillment program to help sellers quickly and easily manage multiple marketplaces. The program, which is compatible with over 20 e-commerce marketplaces, includes a technology platform and physical fulfillment services, such as storage, order processing, packaging and shipping.

UPS Post Sales, our service parts logistics solution, relies on a global network of over 950 central and field stocking sites to provide same and next-day spare parts delivery, enabling customers to get critical equipment back up and running. This solution focuses on customers within the high tech, industrial manufacturing, automotive, healthcare and aerospace sectors. More specific to the healthcare industry, UPS has an implantable medical device solution leveraging 36 field stocking sites, which helps ensure surgical kits and devices arrive safely and on time at hospital and surgery centers. Implantable medical device firms benefit from outsourcing and optimizing their supply chain with UPS, which drives down costs and increases control and service levels.

Also in 2019, UPS announced an expansion of foreign trade zone (“FTZ”) management services in the U.S.. Since our acquisition of Zone Solutions in 2017, we have developed a comprehensive FTZ solution that helps clients manage the end-to-end process, from dealing with customers to inventory control. The integration of FTZ services with our logistics network means UPS can designate any of our 42 U.S. distribution centers as a FTZ, allowing customers to take advantage of the program’s benefits. The strategic utilization of the FTZ program provides opportunities for duty elimination and duty deferral.

UPS Freight

UPS Freight offers regional, inter-regional and long-haul less-than-truckload ("LTL") services in all 50 states, Canada, Puerto Rico, Guam, the U.S. Virgin Islands and Mexico. UPS Freight provides reliable LTL service backed by a day-definite, on-time guarantee at no additional cost. UPS Freight also provides dedicated contract carriage truckload services. User friendly shipping, visibility and billing technology offerings, including UPS WorldShip, Quantum View and UPS Billing Center, allow freight customers to create electronic bills of lading, monitor shipment progress and reconcile shipping charges.

Customs Brokerage

We are among the world’s largest customs brokers by both the number of shipments processed annually and by the number of dedicated brokerage employees worldwide. In addition to customs clearance services, we provide product classification, trade management, duty drawback and consulting services through STTAS, a UPS company.

UPS Capital

UPS Capital provides financial, insurance and payment services to support all aspects of the order-to-cash cycle and help protect companies from risk in their supply chains. Services are available in 22 countries and territories. UPS Capital also offers insured transportation of high value goods including loose gemstones, finished jewelry and wristwatches.

People

The strength of UPS is our people, working together with a common purpose. We have more than 495,000 employees (excluding temporary seasonal employees), of which 413,000 are in the U.S. and 82,000 are located internationally. Our global workforce includes approximately 87,000 management employees (40% of whom are part-time) and 408,000 hourly employees (49% of whom are part-time).

For information regarding employees employed under collective bargaining agreements, see note 6 to the audited, consolidated financial statements.

Customers

As described below, we believe that our focus on building and maintaining long-term customer relationships is a competitive strength of UPS. We serve 1.6 million shipping customers and more than 9.9 million delivery customers daily. For the year ended December 31, 2019, one customer, Amazon.com, Inc. and its affiliates, represented approximately 11.6% of our consolidated revenues, substantially all of which was within our U.S. Domestic Package segment. For additional information on our customers, see “Risk Factors - Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us” and note 13 to the audited, consolidated financial statements.

Competition

We offer a broad array of services in the package and freight delivery industry and compete with many local, regional, national and international logistics providers. We believe our strategy, network and competitive strengths position us well to compete in the marketplace. For additional information on our competitive environment, see "Risk Factors - Our industry is rapidly evolving. We expect to continue to face significant competition, which could adversely affect us".

Competitive Strengths

Our competitive strengths include:

Efficient Multimodal Network. We believe that our integrated global air and ground network is the most extensive in the industry. We provide all types of package services (air, ground, domestic, international, commercial and residential) through a single pickup and delivery network. We also have extensive air freight, ocean freight, ground freight and logistics networks that provide additional capabilities in the global transportation and logistics market. Our sophisticated engineering systems allow us to optimize our network efficiency and asset utilization.

Global Presence. We serve more than 220 countries and territories. We have a significant presence in all of the world’s major economies.

Cutting-Edge Technology. Technology powers virtually every service we offer and every operation we perform. We are a global leader in developing technology that helps our customers enhance their shipping and logistics business processes to lower costs, improve service and increase efficiency. We offer a variety of online service options that enable our customers to integrate UPS functionality into their own businesses to send, manage and track their shipments conveniently, and also to provide their customers with better information services. We provide the infrastructure for an internet presence that extends to tens of thousands of customers who have integrated UPS tools directly into their own websites.

Broad Portfolio of Services. Our portfolio of services helps customers choose the delivery option that is most appropriate for their requirements. Increasingly, our customers benefit from business solutions that integrate many UPS services beyond package delivery. For example, our supply chain services – such as freight forwarding, truckload brokerage, customs brokerage, order fulfillment and returns management – help improve the efficiency of the entire supply chain management process.

Customer Relationships. We focus on building and maintaining long-term customer relationships. We serve 1.6 million shipping customers daily and deliver packages to more than 9.9 million delivery customers daily. Cross selling small package and supply chain services across our customer base is an important growth mechanism for UPS.

Brand Equity. We have built a leading and trusted brand that stands for quality, reliability and service innovation. The distinctive appearance of our vehicles and the professional courtesy of our drivers are major contributors to our brand equity.

Distinctive Culture. We believe that the dedication of our employees comes in large part from our distinctive "employee-owner" concept. Our employee stock ownership tradition dates back to 1927, when our founders, who believed that employee stock ownership was a vital foundation for successful business, created our first stock ownership program.

Financial Strength. Our financial strength allows us to achieve global scale; to invest in employee development, technology, transportation equipment and facilities; to pursue strategic opportunities that facilitate our growth; to service our obligations and to return value to our shareowners.

Government Regulation

We are subject to numerous laws and regulations in the countries in which we operate. Key laws and regulations are summarized below.

Air Operations

The U.S. Department of Transportation ("DOT"), the Federal Aviation Administration ("FAA") and the U.S. Department of Homeland Security, through the Transportation Security Administration ("TSA"), have regulatory authority over our air transportation services. The Federal Aviation Act of 1958, as amended, is the statutory basis for DOT and FAA authority and the Aviation and Transportation Security Act of 2001, as amended, is the basis for TSA aviation security authority.

The DOT's authority primarily relates to economic aspects of air transportation, such as operations, authority, insurance requirements, pricing, non-competitive practices, interlocking relations and cooperative agreements. The DOT also regulates, subject to the authority of the President of the United States, international routes, fares, rates and practices and is authorized to investigate and take action against discriminatory treatment of U.S. air carriers abroad. International operating rights for U.S. airlines are usually subject to bilateral agreements between the U.S. and foreign governments or, in the absence of such agreements, by principles of reciprocity. We are also subject to current and potential aviation regulations imposed by governments in other countries in which we operate, including registration and license requirements and security regulations. We have international route operating rights granted by the DOT and we may apply for additional authorities when those operating rights are available and are required for the efficient operation of our international network. The efficiency and flexibility of our international air transportation network is dependent on DOT and foreign government regulations and operating restrictions.

The FAA's authority primarily relates to safety aspects of air transportation, including certification, aircraft operating procedures, transportation of hazardous materials, record keeping standards and maintenance activities and personnel. In 1988, the FAA granted us an operating certificate, which remains in effect so long as we meet the safety and operational requirements of the applicable FAA regulations. In addition, we are subject to non-U.S. government regulation of aviation rights involving non-U.S. jurisdictions and non-U.S. customs regulation.

UPS's aircraft maintenance programs and procedures, including aircraft inspection and repair at periodic intervals, are approved for all aircraft under FAA regulations. The future cost of repairs pursuant to these programs may fluctuate according to aircraft condition, age and the enactment of additional FAA regulatory requirements.

The TSA regulates various security aspects of air cargo transportation in a manner consistent with the TSA mission statement to "protect the Nation's transportation systems to ensure freedom of movement for people and commerce." Our airport and off-airport locations, as well as our personnel, facilities and procedures involved in air cargo transportation must comply with TSA regulations.

UPS Airlines, along with a number of other U.S. domestic airlines, participates in the Civil Reserve Air Fleet ("CRAF") program. Our participation in the CRAF program allows the U.S. Department of Defense ("DOD") to requisition specified UPS Airlines aircraft for military use during a national defense emergency. The DOD is required to compensate us for the use of aircraft under the CRAF program. In addition, participation in CRAF entitles us to bid for other U.S. Government opportunities including small package and air freight.

Ground Operations

Our ground transportation of packages in the U.S. is subject to regulation by the DOT and its agency, the Federal Motor Carrier Safety Administration (the “FMCSA”). Ground transportation also falls under state jurisdiction with respect to the regulation of operations, safety and insurance. Our ground transportation of hazardous materials in the U.S. is subject to regulation by the DOT's Pipeline and Hazardous Materials Safety Administration. We also must comply with safety and fitness regulations promulgated by the FMCSA, including those relating to drug and alcohol testing and hours of service for drivers. We are subject to similar regulation in many non-U.S. jurisdictions.

The Postal Reorganization Act of 1970 created the U.S. Postal Service as an independent establishment of the executive branch of the federal government, and created the Postal Rate Commission, an independent agency, to recommend postal rates. The Postal Accountability and Enhancement Act of 2006 amended the 1970 Act to give the re-named Postal Regulatory Commission revised oversight authority over many aspects of the Postal Service, including postal rates, product offerings and service standards. We sometimes participate in proceedings before the Postal Regulatory Commission in an attempt to secure fair postal rates for competitive services.

Our ground operations are also subject to compliance with various cargo-security and transportation regulations issued by the U.S. Department of Homeland Security, including regulation by the TSA.

Customs

We are subject to the customs laws regarding the import and export of shipments in the countries in which we operate, including those related to the filing of documents on behalf of client importers and exporters. Our activities in the U.S., including customs brokerage and freight forwarding, are subject to regulation by the Bureau of Customs and Border Protection, the TSA, the U.S. Federal Maritime Commission and the DOT. Our international operations are subject to similar regulatory structures in their respective jurisdictions.

Environmental

We are subject to federal, state and local environmental laws and regulations across all of our business units. These laws and regulations cover a variety of processes, including, but not limited to: properly storing, handling and disposing of waste materials; appropriately managing waste water and stormwater; monitoring and maintaining the integrity of underground storage tanks; complying with laws regarding clean air, including those governing emissions; protecting against and appropriately responding to spills and releases and communicating the presence of reportable quantities of hazardous materials to local responders. We have established site- and activity-specific environmental compliance and pollution prevention programs to address our environmental responsibilities and remain compliant. In addition, we have created numerous programs which seek to minimize waste and prevent pollution within our operations.

Pursuant to the Federal Aviation Act, the FAA, with the assistance of the Environmental Protection Agency is authorized to establish standards governing aircraft noise. Our aircraft fleet is in compliance with current noise standards of the federal aviation regulations. Our international operations are also subject to noise regulations in certain countries in which we operate.

Communications and Data Protection

Because of our extensive use of radio and other communication facilities in our aircraft and ground transportation operations, we are subject to the Federal Communications Act of 1934, as amended. In addition, the Federal Communications Commission regulates and licenses our activities pertaining to satellite communications. There has recently been increased regulatory and enforcement focus on data protection in the U.S. (at both the state and federal level) and in other countries. For example, the European Union (“E.U.”) General Data Protection Regulation (“GDPR”), which became effective in May 2018, greatly increases the jurisdictional reach of E.U. law and increases the requirements related to personal data, including individual notice and opt-out preferences and public disclosure of significant data breaches. Additionally, violations of the GDPR can result in significant fines. Other governments have enacted or are enacting similar data protection laws, and are considering data localization laws that would govern the use of data outside of their respective jurisdictions.

Where You Can Find More Information

We maintain a website at *www.ups.com*. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed with or furnished to the SEC pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available free of charge through our investor relations website at *www.investors.ups.com* under the heading "Financials - SEC Filings" as soon as reasonably practical after we electronically file or furnish the reports to the SEC. We have a written Code of Business Conduct that applies to all of our directors, officers and employees, including our principal executive and financial officers. It is available under the heading "ESG"- Governance Documents" on our investor relations website. In the event that we make changes in, or provide waivers from, the provisions of the Code of Business Conduct that the SEC requires us to disclose, we intend to disclose these events within four business days following the date of the amendment or waiver in that section of our investor relations website.

Our Corporate Governance Guidelines and the Charters for our Audit Committee, Compensation Committee, Executive Committee, Risk Committee and Nominating and Corporate Governance Committee are also available under the heading "ESG- Governance Documents" on our investor relations website.

Our sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society, is available at *www.sustainability.ups.com*.

We provide the addresses to our internet sites solely for information. We do not intend for any addresses to be active links or to otherwise incorporate the contents of any website into this or any other report we file with the SEC.

Item 1A. *Risk Factors*

Our business, financial condition and results are subject to numerous risks and uncertainties. In connection with any investment decision, you should carefully consider the following significant factors, which could materially affect us, including impacting our business, financial condition, results of operations, stock price or credit rating, as well as our reputation. You should read these risk factors in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 and our Consolidated Financial Statements and related notes in Item 8. These risks are not the only ones we face. We could also be affected by other events, factors or uncertainties that are unknown to us, or that we do not currently consider to be significant risks.

Changes in general economic conditions, in the U.S. and internationally, may adversely affect us.

We conduct operations in over 220 countries and territories. Our operations are subject to cyclicality affecting national and international economies in general, as well as the local economic environments in which we operate. The factors that result in general economic changes are beyond our control, and it may be difficult for us to adjust our business model to mitigate the impact of these factors. In particular, our business is affected by levels of industrial production, consumer spending and retail activity and we could be materially affected by adverse developments in these aspects of the economy. In addition, there remains substantial economic uncertainty arising from the United Kingdom's decision to leave the European Union. The U.K. and the E.U. continue to negotiate the future relationship between themselves, which could take several years to finalize. The outcome of these negotiations could result in, among other things, transportation delays, fewer goods being transported globally, additional volatility in currency exchange rates and further regulations relating to, among other things, trade, aviation and the transport of goods. Any of the foregoing could materially adversely affect us.

Our industry is rapidly evolving. We expect to continue to face significant competition, which could adversely affect us.

Our industry is rapidly evolving, including demand for faster deliveries and increased visibility into shipments. We expect continued significant competition on a local, regional, national and international basis. Our competitors include the postal services of the U.S. and other nations, various motor carriers, express companies, freight forwarders, air couriers, large transportation and e-commerce companies that are making significant investments in their capabilities, and start ups and other companies that combine technologies with crowdsourcing to focus on local market needs, some of whom may currently be our customers. Competition may also come from other sources in the future, including as new technologies are developed. Competitors have cost and organizational structures that differ from ours and from time to time may offer services or pricing terms that we may not be willing or able to offer. Additionally, to remain competitive, from time to time we may have to raise prices and our customers may not be willing to accept these higher prices. If we are unable to timely and appropriately respond to competitive pressures, we could be adversely affected.

Continued transportation industry consolidation may further increase competition. As a result of consolidation, competitors may increase their market share, improve their financial capacity and strengthen their competitive positions. Business combinations could also result in competitors providing a wider variety of services and products at competitive prices, which could adversely affect us.

Changes in our relationships with any of our significant customers, including the loss or reduction in business from one or more of them, could have a material adverse effect on us.

For the year ended December 31, 2019, one customer, Amazon.com and its affiliates, accounted for 11.6% of our consolidated revenues. Some of our other significant customers can account for a relatively significant portion of our revenues in a particular quarter or year. These customers can impact our revenues based on factors such as: customer product launches; e-commerce or other industry trends, such as the seasonality associated with the fourth quarter holiday season; business combinations and the overall growth of a customer's underlying business; as well as any disruptions to their businesses. These customers could choose to divert all or a portion of their business with us to one of our competitors, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or develop their own shipping and distribution capabilities. In addition, certain of our significant customer contracts include termination rights of either party upon the occurrence of certain events or without cause upon advance notice to the other party. If all or a portion of our business relationships with one or more significant customers were to terminate or be canceled it could materially adversely affect us.

Our business is subject to complex and stringent laws, regulations and policies which could increase our operating costs.

We are subject to complex and stringent aviation, transportation, environmental, security, labor, employment, safety, privacy and data protection and other governmental laws, regulations and policies, both in the U.S. and in other countries in which we operate. In addition, we are impacted by laws, regulations and policies that affect global trade, including tariff and trade policies, export requirements, taxes, monetary policies and other restrictions and charges. Recently, trade discussions between the U.S. and various of its trading partners have been fluid, and existing and future trade agreements are and are expected to continue to be subject to a number of uncertainties, including the imposition of new tariffs or adjustments and changes to the products covered by existing tariffs. The impact of new laws, regulations and policies or decisions or interpretations by authorities applying those laws and regulations, cannot be predicted. Compliance with any new laws or regulations may increase our operating costs or require significant capital expenditures. Any failure to comply with applicable laws, regulations or policies in the U.S. or in any of the other countries in which we operate could result in substantial fines or possible revocation of our authority to conduct our operations, which could adversely affect us.

Increased security requirements impose substantial costs on us and we could be the target of an attack or have a security breach, which could materially adversely affect us.

As a result of concerns about global terrorism and homeland security, governments around the world have adopted or may adopt stricter security requirements that will result in increased operating costs for businesses in the transportation industry. These requirements may change periodically as a result of regulatory and legislative requirements and in response to evolving threats. We cannot determine the effect that any new requirements will have on our cost structure or our operating results, and new rules or other future security requirements may increase our costs of operations and reduce operating efficiencies. Regardless of our compliance with security requirements or the steps we take to secure our facilities or fleet, we could also be the target of an attack or security breaches could occur, which could materially adversely affect us.

Increasingly stringent regulations related to climate change could materially increase our operating costs.

Regulation of greenhouse gas ("GHG") emissions exposes our transportation and logistics businesses to potentially significant new taxes, fees and other costs. Compliance with such regulation, and any increased or additional regulation, or the associated costs is further complicated by the fact that various countries and regions are following different approaches to the regulation of climate change.

For example, in 2009 the European Commission approved the extension to the airline industry of the European Union Emissions Trading Scheme (“ETS”) for GHG emissions. Under this decision, all of our flights operating within the European Union are covered by the ETS requirements, and we are required annually to purchase emission allowances in an amount exceeding the number of free allowances allocated to us under the ETS. Similarly, in 2016, the International Civil Aviation Organization (“ICAO”) passed a resolution adopting the Carbon Offsetting and Reduction Scheme for International Aviation (“CORSIA”), which is a global, market-based emissions offset program to encourage carbon-neutral growth beyond 2020. A pilot phase is scheduled to begin in 2021 in which countries may voluntarily participate, and full mandatory participation is scheduled to begin in 2027. ICAO continues to develop details regarding implementation, but compliance with CORSIA will increase our operating costs.

In the U.S., Congress in the past several years has considered various bills that would regulate GHG emissions, but these bills so far have not received sufficient Congressional support for enactment. Nevertheless, some form of federal climate change legislation is possible in the future. Even in the absence of such legislation, the Environmental Protection Agency (“EPA”), spurred by judicial interpretation of the Clean Air Act, could determine to regulate GHG emissions, especially aircraft or diesel engine emissions, and this could impose substantial costs on us.

In November 2019, the U.S. began the process to withdraw from the Paris climate accord, an agreement among 196 countries to reduce GHG emissions. The effect of that withdrawal on future U.S. policy regarding GHG emissions, on CORSIA and on other GHG regulation is uncertain. Nevertheless, the extent to which other countries implement that agreement could have an adverse direct or indirect effect on us.

We may face additional regulations regarding GHG emissions internationally and in the United States. Potential costs to us of increased regulation regarding GHG emissions, especially aircraft or diesel engine emissions, include an increase in the cost of the fuel and other energy we purchase and capital costs associated with updating or replacing our aircraft or vehicles prematurely. We cannot predict the impact any future regulation would have on our cost structure or our operating results. It is possible that such regulation could significantly increase our operating costs and that we may not be willing or able to pass such costs along to our customers. Moreover, even without such regulation, increased awareness and any adverse publicity in the global marketplace about the GHGs emitted by companies in the airline and transportation industries could harm our reputation and reduce customer demand for our services, especially our air services.

Strikes, work stoppages and slowdowns by our employees could adversely affect us.

Many of our U.S. employees are employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. Our airline pilots, airline mechanics, ground mechanics and certain other employees are employed under other collective bargaining agreements. In addition, some of our international employees are employed under collective bargaining or similar agreements. Strikes, work stoppages or slowdowns by our employees could adversely affect our ability to meet our customers' needs. As a result, customers may reduce their business or stop doing business with us if they believe that such actions or threatened actions may adversely affect our ability to provide services. We may face a permanent loss of customers if we are unable to provide uninterrupted service, and this could materially adversely affect us. The terms of future collective bargaining agreements also may affect our competitive position and results of operations.

We are exposed to the effects of changing fuel and energy prices, including gasoline, diesel and jet fuel, and interruptions in supplies of these commodities.

Changing fuel and energy costs have a significant impact on our operations. We require significant quantities of fuel for our aircraft and delivery vehicles and are exposed to the risks associated with variations in the market price for petroleum products, including gasoline, diesel and jet fuel. We mitigate our exposure to changing fuel prices through our indexed fuel surcharges and through hedging transactions from time to time. If we are unable to maintain or increase our fuel surcharges, higher fuel costs could adversely impact our operating results. Even if we are able to offset changes in fuel costs with surcharges, high fuel surcharges may result in a mix shift from our higher-yielding air products to lower-yielding ground products or an overall reduction in volume. There can also be no assurance that hedging transactions will be effective to protect us from changes in fuel prices. Moreover, we could experience a disruption in energy supplies as a result of war, actions by producers or other factors beyond our control, which could have a material adverse effect on us.

Changes in exchange rates or interest rates may have a material adverse effect on us.

We conduct business across the globe with a significant portion of our revenue derived from operations outside the United States. Our operations in international markets are affected by changes in the exchange rates for local currencies, and in particular the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar.

We are exposed to changes in interest rates, primarily on our short-term debt and that portion of our long-term debt that carries floating interest rates. The impact of a 100-basis-point change in interest rates affecting our debt is discussed in the “Quantitative and Qualitative Disclosures about Market Risk” section of this report. Additionally, changes in interest rates impact the valuation of our pension and postretirement benefit obligations and the related benefit cost recognized in the income statement. The impact of changes in interest rates on our pension and postretirement benefit obligations and costs is discussed further in the "Critical Accounting Policies and Estimates" section of this report.

We monitor and manage our exposures to changes in currency exchange rates and interest rates, and use derivative instruments to mitigate the impact of changes in these rates on our financial position and results of operations; however, changes in exchange rates and interest rates cannot always be predicted or hedged and may have a material adverse effect on us.

The proposed phase out of the London Interbank Offer Rate ("LIBOR") could have an adverse effect on us.

Certain of our debt and other financial instruments have interest rates tied to LIBOR. The head of the United Kingdom Financial Conduct Authority has announced the desire to phase out the use of LIBOR by the end of 2021. There is currently no definitive information regarding the future utilization of LIBOR or any particular replacement rate. As such, the potential effect of any such event on our cost of capital cannot be determined. In addition, any further changes or reforms to the determination or supervision of LIBOR may result in a sudden or prolonged increase or decrease in reported LIBOR, which could have an adverse impact on extensions of credit held by us and could have a material adverse effect on us.

Failure to maintain our brand image and corporate reputation could adversely impact us.

Our success depends in part on our ability to maintain the image of the UPS brand and our reputation for providing excellent service to our customers. Service quality issues, actual or perceived, even when false or unfounded, could tarnish the image of our brand and may cause customers to use other companies. Also, adverse publicity surrounding labor relations, environmental concerns, security matters, political activities and similar matters, or attempts to connect our company to such issues, either in the United States or other countries in which we operate, could negatively affect our overall reputation and use of our services by customers. Social media accelerates and amplifies the scope of negative publicity, and makes responding to negative claims more difficult. Damage to our reputation and loss of brand equity could reduce demand for our services and thus have a material adverse effect on us, and could require additional resources to rebuild our reputation and restore the value of our brand.

A significant data breach or IT system disruption could materially adversely affect us, including requiring us to increase spending on data and system security.

We rely heavily on information technology networks and systems, including the Internet and a number of internally-developed systems and applications, to manage or support a wide variety of important business processes and activities throughout our operations. For example, we rely on information technology to receive package level information in advance of physical receipt of packages, to track items that move through our delivery systems, to efficiently plan deliveries, to execute billing processes, and to track and report financial and operational data. Our franchised center locations and businesses we have acquired also are reliant on the use of information technology systems to manage their business processes and activities.

In addition, the provision of service to our customers and the operation of our networks and systems involve the collection, storage and transmission of significant amounts of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. To conduct our operations, we regularly move data across national borders, and consequently we are subject to a variety of continuously evolving and developing laws and regulations in the United States and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the European Union's General Data Protection Regulation ("GDPR"), which greatly increases the jurisdictional reach of European Union law and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches, became effective in May 2018. Other countries have enacted or are enacting data localization laws that require data to stay within their borders. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time.

Our information technology systems (as well as those of our franchisees and acquired businesses) are susceptible to damage, disruptions or shutdowns due to programming errors, defects or other vulnerabilities, power outages, hardware failures, computer viruses, cyber-attacks, ransomware attacks, malware attacks, theft, misconduct by employees or other insiders, telecommunications failures, misuse, human errors or other catastrophic events. Hackers, foreign governments, cyber-terrorists and cyber-criminals, acting individually or in coordinated groups, may launch distributed denial of service attacks or other coordinated attacks that may cause service outages, gain inappropriate or block legitimate access to systems or information, or result in other interruptions in our business. In addition, the foregoing breaches in security could expose us, our customers and franchisees, or the individuals affected, to a risk of loss, disclosure or misuse of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. The techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, may be difficult to detect and often are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate measures to prevent any of the events described above.

We also depend on and interact with the information technology networks and systems of third-parties for many aspects of our business operations, including our customers, and franchisees and service providers such as cloud service providers and third-party delivery services. These third parties may have access to information we maintain about our company, operations, customers, employees and vendors, or operating systems that are critical to or can significantly impact our business operations. Like us, these third parties are subject to risks imposed by data breaches and IT systems disruptions like those described above, and other events or actions that could damage, disrupt or close down their networks or systems. Security processes, protocols and standards that we have implemented and contractual provisions requiring security measures that we may have sought to impose on such third-parties may not be sufficient or effective at preventing such events. These events could result in unauthorized access to, or disruptions or denials of access to, misuse or disclosure of, information or systems that are important to our business, including proprietary information, sensitive or confidential data, and other information about our operations, customers, employees and suppliers, including personal information.

Any of these events that impact our information technology networks or systems, or those of acquired businesses, franchisees, customers, service providers or other third-parties, could result in disruptions in our operations, the loss of existing or potential customers, damage to our brand and reputation, regulatory scrutiny, and litigation and potential liability for us. Among other consequences, our customers' confidence in our ability to protect data and systems and to provide services consistent with their expectations could be impacted, further disrupting our operations. Similarly, an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation, fines, sanctions or other penalties.

We have invested and continue to invest in technology security initiatives, information technology risk management and disaster recovery plans. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly intense, complex and sophisticated global cyber threats. Despite our best efforts, we are not fully insulated from data breaches and system disruptions. Although to date we are unaware of a data breach or system disruption, including a cyber-attack, that has been material to us, we cannot provide any assurances that such events and impacts will not be material in the future, and our efforts to deter, identify, mitigate and/or eliminate future breaches may require significant additional effort and expense and may not be successful.

Severe weather or other natural or manmade disasters could adversely affect us.

Severe weather conditions and other natural or manmade disasters, including storms, floods, fires, earthquakes, epidemics, pandemics, conflicts, unrest, or terrorist attacks, may disrupt our business and result in decreased revenues. Customers may reduce shipments, or our costs to operate our business may increase, either of which could have a material adverse effect on us. Any such event affecting one of our major facilities could result in a significant interruption in or disruption of our business.

We make significant capital investments in our business of which a significant portion is tied to projected volume levels.

We require significant capital investments in our business consisting of aircraft, vehicles, technology, facilities and sorting and other types of equipment. These investments support both our existing business and anticipated growth. Forecasting projected volume involves many factors which are subject to uncertainty, such as general economic trends, changes in governmental regulation and competition. If we do not accurately forecast our future capital investment needs, we could have excess capacity or insufficient capacity, either of which would negatively affect our revenues and profitability. In addition to forecasting our capital investment requirements, we adjust other elements of our operations and cost structure in response to adverse economic conditions; however, these adjustments may not be sufficient to allow us to maintain our operating margins.

Economic, political, social developments and other risks associated with international operations could adversely affect us.

We have significant international operations. As a result, we are continually exposed to changing economic, political and social developments that are beyond our control. Emerging markets are typically more volatile than those in the developed world, and any broad-based downturn in these markets could reduce our revenues and adversely affect our business, financial position and results of operations. We are subject to many laws governing our international operations, including those that prohibit improper payments to government officials and commercial customers, and restrict where we can do business, our shipments to certain countries and the information that we can provide to non-U.S. governments. Our failure to manage and anticipate these and other risks associated with our international operations could materially adversely affect us.

We are subject to changes in markets and our business plans that have resulted, and may in the future result, in substantial write-downs of the carrying value of our assets, thereby reducing our net income.

Our regular review of the carrying value of our assets has resulted, from time to time, in significant impairments, and we may in the future be required to recognize additional impairment charges. Changes in business strategy, government regulations, or economic or market conditions have resulted and may result in further substantial impairments of our intangible, fixed or other assets at any time in the future. In addition, we have been and may be required in the future to recognize increased depreciation and amortization charges if we determine that the useful lives of our fixed assets or intangible assets are shorter than we originally estimated. Such changes have in the past, and may in the future, reduce our net income.

Employee health and retiree health and pension benefit costs represent a significant expense to us; further cost increases could materially and adversely affect us.

Our expenses relating to employee health and retiree health and pension benefits are significant. In recent years, we have experienced significant increases in some of these costs, largely as a result of economic factors beyond our control, including, in particular, ongoing increases in healthcare costs well in excess of the rate of inflation and historically low discount rates that we use to value our benefit plan obligations. Continually increasing healthcare costs, volatility in investment returns and discount rates, as well as changes in laws, regulations and assumptions used to calculate retiree health and pension benefit expenses, may adversely affect our business, financial position, results of operations or require significant contributions to our benefit plans. Our national master agreement with the Teamsters includes provisions that are designed to mitigate certain of these healthcare expenses, but there can be no assurance that our efforts will be successful or that the failure or success of these efforts will not materially adversely affect us.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans will be determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts. However, in future collective bargaining negotiations, we could agree to make significantly higher future contributions to improve the funded status of one or more of these plans. The funded status of these multiemployer plans is impacted by various factors, including investment performance, healthcare inflation, changes in demographics and changes in participant benefit levels. At this time, we are unable to determine the amount of additional future contributions, if any, or whether any material adverse effect on us could result from our participation in these plans.

In addition to our on-going multiemployer pension plan obligations, we may have significant additional exposure with respect to benefits earned in the Central States Pension Fund (the "CSPF"). For additional information on our potential additional liabilities related to the CSPF, see note 5 to the audited, consolidated financial statements.

We may have additional tax liabilities.

We are subject to income taxes in the U.S. and many foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. For example, compliance with the 2017 United States Tax Cuts and Jobs Act (the “Tax Act”) may require the collection of information not regularly produced within our company and the exercise of significant judgment in accounting for its provisions. Many aspects of the Tax Act remain unclear and may not be clarified for some time. In addition, many state jurisdictions continue to issue guidance on the state treatment of certain aspects of the Tax Act. As regulations and guidance evolve with respect to the Tax Act, our results may differ from previous estimates and may materially affect our tax rates and our financial position.

We are regularly under audit by tax authorities in different jurisdictions. Economic and political pressures to increase tax revenue in various jurisdictions may make resolving tax disputes more difficult. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation in the jurisdictions where we are subject to taxation could be materially different from our historical income tax provisions and accruals. In addition, changes in U.S. federal and state or international tax laws applicable to corporate multinationals, other fundamental law changes currently being considered by many countries, and changes in taxing jurisdictions’ administrative interpretations, decisions, policies and positions may materially adversely impact our tax expense and cash flows.

We may be subject to various claims and lawsuits that could result in significant expenditures.

The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, property damage, business practices, environmental liability and other matters. Any material litigation or a catastrophic accident or series of accidents could result in significant expenditures and have a material adverse effect on us.

Our inability to effectively integrate acquired operations and realize the anticipated benefits of acquisitions, joint ventures or strategic alliances could adversely affect us.

As part of our business strategy, we may acquire businesses and form joint ventures or strategic alliances. Whether we realize the anticipated benefits from these transactions depends, in part, upon the successful integration between the businesses involved, the performance of the underlying operations, capabilities or technologies and the management of the acquired operations. Accordingly, our financial results could be materially adversely affected by our failure to effectively integrate the acquired operations, unanticipated performance issues or transaction-related charges.

Insurance and claims expenses could have a material adverse effect on us.

We have a combination of both self-insurance and high-deductible insurance programs for the risks arising out of the services we provide and the nature of our global operations, including claims exposure resulting from cargo loss, personal injury, property damage, aircraft and related liabilities, business interruption and workers' compensation. Workers' compensation, automobile and general liabilities are determined using actuarial estimates of the aggregate liability for claims incurred and an estimate of incurred but not reported claims, on an undiscounted basis. Our accruals for insurance reserves reflect certain actuarial assumptions and management judgments, which are subject to a high degree of variability. If the number or severity of claims for which we are retaining risk increases, our financial condition and results of operations could be adversely affected. If we lose our ability to self-insure these risks, our insurance costs could materially increase and we may find it difficult to obtain adequate levels of insurance coverage.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

Operating Facilities

We own our headquarters, which is located in Atlanta, Georgia and consists of approximately 745,000 square feet of space in an office campus, and our UPS Supply Chain Solutions group's headquarters, which is located in Alpharetta, Georgia and consists of approximately 310,000 square feet of office space. Our information technology headquarters is located in Parsippany, New Jersey, consisting of about 200,000 square feet of owned office space.

Our primary information technology operations are consolidated in a 444,000 square foot owned facility in New Jersey. We also own a 175,000 square foot facility in Georgia, which serves as a backup to the main information technology operations facility in New Jersey.

We own or lease over 1,000 package operating facilities in the U.S., with approximately 80 million square feet of floor space. These facilities have vehicles and drivers stationed for the pick-up and delivery of packages, and capacity to sort and transfer packages. Our larger facilities also service our vehicles and equipment, and employ specialized mechanical installations for the sorting and handling of packages. We own or lease approximately 800 facilities that support our international package operations, with approximately 24 million square feet of space.

Our aircraft are operated in a hub and spoke pattern in the U.S., with our principal air hub, Worldport, located in Louisville, Kentucky. The Worldport facility consists of over 5 million square feet and includes high-speed conveyor and computer control systems. For additional information on our air hubs, see "Item 1 - Business - Products and Services; Reporting Segments - Global Small Package".

Our major air hub in Europe is located in Cologne, Germany, and we operate three air hubs in Asia in Shanghai, China; Shenzhen, China; and Hong Kong.

We own or lease more than 500 facilities, with approximately 38 million square feet of floor space that support our freight forwarding and logistics operations. We own and operate a logistics campus consisting of approximately 4 million square feet in Louisville, Kentucky.

We own or lease approximately 200 UPS Freight service centers with approximately 6 million square feet of floor space. The main offices of UPS Freight in Richmond, Virginia, consist of approximately 217,000 square feet of office space.

Fleet

Aircraft

The following table shows information about our aircraft fleet as of December 31, 2019:

Description	Owned & Finance Leases	Operating Leases & Chartered From Others	On Order	Under Option
Boeing 757-200	75	—	—	—
Boeing 767-200	—	—		
Boeing 767-300	64	2	8	—
Boeing 767-300BCF	3	—	1	—
Boeing 767-300BDSF	2		2	
Airbus A300-600	52	—	—	—
Boeing MD-11	37	—	5	—
Boeing 747-400F	11	—	—	—
Boeing 747-400BCF	2	—	—	—
Boeing 747-8F	15	—	13	—
Other	—	309		—
Total	261	311	29	—

Vehicles

We operate a global ground fleet of approximately 125,000 package cars, vans, tractors and motorcycles. Our ground support fleet consists of 36,000 pieces of equipment designed specifically to support our aircraft fleet, ranging from non-powered container dollies and racks to powered aircraft main deck loaders and cargo tractors. We also have 52,000 containers used to transport cargo in our aircraft.

Item 3. *Legal Proceedings*

See note 5 to the audited, consolidated financial statements for a discussion of pension related matters and note 9 to the audited, consolidated financial statements for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Item 4. *Mine Safety Disclosures*

Not applicable.

Information about our Executive Officers

The information under the heading "Information about our Executive Officers" in Item 10 hereof is incorporated by reference into this Part 1.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of our class A common stock is convertible into one share of our class B common stock. Our class B common stock is listed on the New York Stock Exchange under the symbol "UPS".

As of February 7, 2020, there were 155,914 and 19,196 shareowners of record of class A and class B common stock, respectively.

Our practice has been to pay dividends on a quarterly basis. The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors.

On February 13, 2020, our Board declared a dividend of $1.01 per share, which is payable on March 10, 2020 to shareowners of record on February 25, 2020. This represents a 5.2% increase from the previous $0.96 per share quarterly dividend paid in December 2019.

A summary of repurchases of our class A and class B common stock during the fourth quarter of 2019 is as follows (in millions, except per share amounts):

	Total Number of Shares Purchased[1]	Total Number of Shares Purchased as Part of Publicly Announced Program	Average Price Paid Per Share	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program (as of month-end)
October 1—October 31	0.8	0.8	$ 115.96	$ 2,495
November 1—November 30	0.6	0.6	121.81	2,416
December 1—December 31	0.7	0.7	117.99	2,334
Total October 1—December 31	2.1	2.1	$ 118.59	

(1) Includes shares repurchased through our publicly announced share repurchase program and shares tendered to pay the exercise price and tax withholding on employee stock awards.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion for shares of class A and class B common stock. We anticipate repurchasing approximately $1.0 billion of shares in 2020. For additional information on our share repurchase activities, see note 11 to the audited, consolidated financial statements included in this report.

Shareowner Return Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates such information by reference into such filing.

The following graph shows a five-year comparison of cumulative total shareowners' returns for our class B common stock, the Standard & Poor's 500 Index and the Dow Jones Transportation Average. The comparison of the total cumulative return on investment, which is the change in the stock price plus reinvested dividends for each of the quarterly periods, assumes that $100 was invested on December 31, 2014 in the Standard & Poor's 500 Index, the Dow Jones Transportation Average and our class B common stock.

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	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
United Parcel Service, Inc.	$ 100.00	$ 93.50	$ 114.74	$ 122.93	$ 103.90	$ 130.39
Standard & Poor's 500 Index	$ 100.00	$ 101.37	$ 113.49	$ 138.26	$ 132.19	$ 175.30
Dow Jones Transportation Average	$ 100.00	$ 83.24	$ 101.44	$ 120.73	$ 105.85	$ 128.76

For information regarding our equity compensation plans, see Item 12 of this report.

Item 6. *Selected Financial Data*

The following table sets forth selected financial data for each of the five years in the period ended December 31, 2019 (in millions, except per share amounts). This financial data should be read together with our consolidated financial statements and related notes, Management's Discussion and Analysis of Financial Condition and Results of Operations, including the *Supplemental Information - Items Affecting Comparability* section, and other financial data appearing elsewhere in this report.

	Years Ended December 31,				
	2019	**2018**	**2017**	**2016**	**2015**
Selected Income Statement Data					
Revenue:					
U.S. Domestic Package	$ 46,493	$ 43,593	$ 40,761	$ 38,284	$ 36,744
International Package	14,220	14,442	13,342	12,346	12,142
Supply Chain & Freight	13,381	13,826	12,482	10,980	10,300
Total Revenue	74,094	71,861	66,585	61,610	59,186
Operating Expenses:					
Compensation and benefits	38,908	37,235	34,577	32,534	31,448
Other	27,388	27,602	24,479	21,388	20,495
Total Operating Expenses	66,296	64,837	59,056	53,922	51,943
Operating Profit:					
U.S. Domestic Package	4,164	3,643	4,303	4,628	4,427
International Package	2,657	2,529	2,429	2,417	2,123
Supply Chain and Freight	977	852	797	643	693
Total Operating Profit	7,798	7,024	7,529	7,688	7,243
Other Income and (Expense):					
Investment income (expense) and other	(1,493)	(400)	61	(2,186)	435
Interest expense	(653)	(605)	(453)	(381)	(341)
Income Before Income Taxes	5,652	6,019	7,137	5,121	7,337
Income Tax Expense	1,212	1,228	2,232	1,699	2,497
Net Income	$ 4,440	$ 4,791	$ 4,905	$ 3,422	$ 4,840
Per Share Amounts:					
Basic Earnings Per Share	$ 5.14	$ 5.53	$ 5.63	$ 3.88	$ 5.37
Diluted Earnings Per Share	$ 5.11	$ 5.51	$ 5.61	$ 3.86	$ 5.34
Dividends Declared Per Share	$ 3.84	$ 3.64	$ 3.32	$ 3.12	$ 2.92
Weighted Average Shares Outstanding:					
Basic	864	866	871	883	901
Diluted	869	870	875	887	906

	As of December 31,				
	2019	**2018**	**2017**	**2016**	**2015**
Selected Balance Sheet Data:					
Cash and marketable securities	$ 5,741	$ 5,035	$ 4,069	$ 4,567	$ 4,726
Total assets	57,857	50,016	45,574	40,545	38,497
Long-term debt	21,818	19,931	20,278	12,394	11,316
Shareowners' equity	3,283	3,037	1,024	430	2,501

This table reflects the impact of the adoption of new accounting standards in 2018 and 2019. Refer to note 1 to the audited, consolidated financial statements.

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

Overview

Highlights of our annual results follow:

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Revenue (in millions)	$ 74,094	$ 71,861	$ 2,233	3.1 %
Operating Expenses (in millions)	66,296	64,837	1,459	2.3 %
Operating Profit (in millions)	$ 7,798	$ 7,024	$ 774	11.0 %
Operating Margin	10.5 %	9.8 %		
Net Income (in millions)	$ 4,440	$ 4,791	$ (351)	(7.3)%
Basic Earnings Per Share	$ 5.14	$ 5.53	$ (0.39)	(7.1)%
Diluted Earnings Per Share	$ 5.11	$ 5.51	$ (0.40)	(7.3)%
Average Daily Package Volume (in thousands)	21,880	20,677		5.8 %
Average Revenue Per Piece	$ 10.87	$ 10.98	$ (0.11)	(1.0)%

- Consolidated revenue increased 3.1%.

- Average daily package volume increased 5.8% primarily driven by our U.S. Domestic Package segment, which experienced growth from SMBs as well as several large customers, led by our largest customer, Amazon.

- Average revenue per piece is dependent upon base rates, customer and product mix, average billable weight per piece, fuel surcharge rates and currency. Average revenue per piece decreased as a result of changes in customer and product mix, and lower average billable weight per piece in our U.S. Domestic Package segment. Currency movements negatively impacted revenue per piece in our International Package segment.

- Operating profit and operating margin increased with growth and margin expansion in all segments.

- We reported net income of $4.440 billion and diluted earnings per share of $5.11. Adjusted diluted earnings per share was $7.53 after adjusting for the after-tax impacts of the following:
    - transformation strategy costs of $196 million;
    - legal contingencies and expenses of $91 million; and
    - pension mark-to-market losses recognized outside of a 10% corridor of $1.816 billion.

2018 compared to 2017

See *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* of the Company's Annual Report on Form 10-K for the year ended December 31, 2018 filed with the Securities and Exchange Commission on February 21, 2019.

Supplemental Information - Items Affecting Comparability

We supplement the reporting of our financial information determined under generally accepted accounting principles in the United States ("GAAP") with certain non-GAAP financial measures including, as applicable, "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, other income and (expense), income before income taxes, income tax expense, effective tax rate, net income and earnings per share. Adjusted financial measures may exclude the impact of period over period exchange rate changes and hedging activities, amounts related to mark-to-market gains or losses, recognition of contingencies and transformation strategy costs, as described below. We believe that these adjusted financial measures provide meaningful information to assist investors and analysts in understanding our financial results and assessing our prospects for future performance. We believe these adjusted financial measures are important indicators of our recurring results of operations because they exclude items that may not be indicative of, or are unrelated to, our underlying operating results, and provide a useful baseline for analyzing trends in our underlying businesses. Additionally, these adjusted financial measures are used internally by management for the determination of incentive compensation awards, business unit operating performance analysis and business unit resource allocation.

Non-GAAP financial measures should be considered in addition to, and not as an alternative for, our reported results prepared in accordance with GAAP. Our non-GAAP financial information does not represent a comprehensive basis of accounting. Therefore, our non-GAAP financial information may not be comparable to similarly titled measures reported by other companies.

The year over year comparisons of our financial results are affected by the following items (in millions):

	Year Ended December 31,	
Non-GAAP Adjustments	**2019**	**2018**
Operating Expenses:		
Transformation Strategy Costs	$ 255	$ 360
Legal Contingencies and Expenses	97	—
Total Adjustments to Operating Expenses	$ 352	$ 360
Other Income and (Expense):		
Defined Benefit Plans Mark-to-Market Charges	$ 2,387	$ 1,627
Total Adjustments to Other Income and (Expense)	$ 2,387	$ 1,627
Total Adjustments to Income Before Income Taxes	$ 2,739	$ 1,987
Income Tax Benefit from the Mark-to-Market Charges	$ (571)	$ (390)
Income Tax Benefit from Transformation Strategy Costs	(59)	(87)
Income Tax Benefit from Legal Contingencies and Expenses	(6)	—
Total Adjustments to Income Tax Expense	$ (636)	$ (477)
Total Adjustments to Net Income	$ 2,103	$ 1,510

These items have been excluded from comparisons of "adjusted" Compensation and benefits, Operating Expenses, Operating Profit, Operating Margin, Other Income and (Expense), Income Tax Expense and effective tax rate in the discussion that follows. The income tax benefit from transformation strategy costs, legal contingencies and expenses and the mark-to-market charges are calculated by multiplying the statutory tax rates applicable in each tax jurisdiction, including the U.S. federal jurisdiction and various U.S. state and non-U.S. jurisdictions, by the tax deductible adjustments. The blended average of the effective tax rates in 2019 and 2018 were 23.2% and 24.0%, respectively.

Impact of Changes in Foreign Currency Exchange Rates and Hedging Activities

We supplement the reporting of our revenue, revenue per piece and operating profit with non-GAAP measures that exclude the period over period impact of foreign currency exchange rate changes and hedging activities.

Currency-neutral revenue, revenue per piece and operating profit are calculated by dividing current period reported U.S. dollar revenue, revenue per piece and operating profit by the current period average exchange rates to derive current period local currency revenue, revenue per piece and operating profit. The derived amounts are then multiplied by the average foreign exchange rates used to translate the comparable results for each month in the prior year period (including the period over period impact of foreign currency hedging activities). The difference between the current period reported U.S. dollar revenue, revenue per piece and operating profit and the derived current period U.S. dollar revenue, revenue per piece and operating profit is the period over period impact of currency fluctuations.

Transformation Strategy Costs

We supplement the presentation of our operating profit, operating margin, income before income taxes, net income and earnings per share with similar non-GAAP measures that exclude the impact of costs related to restructuring programs, including transformation strategy costs. For information regarding transformation strategy costs, see note 17 to the audited, consolidated financial statements.

Costs Related to Legal Contingencies and Expenses

We supplement the presentation of our operating profit, operating margin, income before income taxes, net income and earnings per share with similar non-GAAP measures that exclude the impact of costs related to certain of our legal contingencies and expenses. For information regarding legal contingencies and expenses, see note 9 to the audited, consolidated financial statements.

Defined Benefit Plans Mark-to-Market Charges

We recognize changes in the fair value of plan assets and net actuarial gains and losses in excess of a 10% corridor for our pension and postretirement defined benefit plans immediately as part of net periodic benefit cost other than service cost. We supplement the presentation of our income before income taxes, net income and earnings per share with "adjusted" measures that exclude the impact of the portion of net periodic benefit cost other than service cost represented by the gains and losses recognized in excess of the 10% corridor and the related income tax effects. We believe excluding these mark-to-market impacts from our adjusted results provides important supplemental information to remove the volatility caused by short-term changes in market interest rates, equity prices and similar factors.

This adjusted net periodic benefit cost ($754 million in 2019 and $615 million in 2018) utilizes the expected return on plan assets (7.68% in 2019 and 2018) and the discount rate used to determine net periodic benefit cost (4.45% in 2019 and 3.81% in 2018). The unadjusted net periodic benefit cost reflects the actual return on plan assets (17.57% in 2019 and -2.38% in 2018) and the discount rate used to measure the projected benefit obligation at the December 31 measurement date (3.55% in 2019 and 4.45% in 2018).

We recognized pre-tax mark-to-market losses outside of a 10% corridor related to the remeasurement of our pension and postretirement defined benefit plans' assets and liabilities in "Other Income and (Expense)" of $2.387 and $1.627 billion for 2019 and 2018, respectively. In October 2019, we refined the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans by implementing advances in technology and modeling techniques. This refinement decreased the projected benefit obligation on our consolidated balance sheet by approximately $900 million as of December 31, 2019, decreased the pre-tax mark-to-market charge by approximately $810 million and increased net income by $616 million, or $0.71 per share on a basic and diluted basis. This change did not have an impact on adjusted net income or adjusted earnings per share.

The table below indicates the amounts associated with each component of the pre-tax mark-to-market losses, as well as the weighted-average actuarial assumptions used to determine our net periodic benefit cost, for each year:

	Year Ended December 31,	
Components of mark-to-market gain (loss) (in millions):	**2019**	**2018**
Discount rates	$ (5,670)	$ 845
Return on assets	3,850	(1,057)
Demographic and other assumption changes	(24)	(22)
Coordinating benefits attributable to the Central States Pension Fund	(543)	(1,393)
Total mark-to-market gain (loss)	$ (2,387)	$ (1,627)

	Year Ended December 31,	
Weighted-average actuarial assumptions used to determine net periodic benefit cost:	**2019**	**2018**
Expected rate of return on plan assets	7.68 %	7.68 %
Actual rate of return on plan assets	17.57 %	(2.38) %
Discount rate used for net periodic benefit cost	4.45 %	3.81 %
Discount rate at measurement date	3.55 %	4.45 %

The pre-tax mark-to-market losses for the years ended December 31, 2019 and 2018, respectively, were comprised of the following components:

<u>2019 - $2.387 billion pre-tax mark-to-market loss:</u>

- *Return on Assets* ($3.850 billion pre-tax gain): In 2019, the actual rate of return on plan assets was higher than our expected rate of return, primarily due to strong global equity and U.S. bond markets.

- *Coordinating benefits attributable to the Central States Pension Fund* ($543 million pre-tax loss): This represents our current best estimate of the additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

- *Discount Rates* ($5.670 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.45% at December 31, 2018 to 3.55% at December 31, 2019, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2019.

- *Demographic and Other Assumption Changes* ($24 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

<u>2018 - $1.627 billion pre-tax mark-to-market loss:</u>

- *Return on Assets* ($1.057 billion pre-tax loss): In 2018, the actual rate of return on plan assets was lower than our expected rate of return, primarily due to weak global equity markets.

- *Coordinating benefits attributable to the Central States Pension Fund* ($1.393 billion pre-tax loss): This represented our then-current best estimate of potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

- *Discount Rates* ($845 million pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 3.81% at December 31, 2017 to 4.45% at December 31, 2018, primarily due to both an increase in U.S. treasury yields and an increase in credit spreads on AA-rated corporate bonds in 2018.

- *Demographic and Other Assumption Changes* ($22 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

Expense Allocations

Certain operating expenses are allocated between our reporting segments using activity-based costing methods. These activity-based costing methods require us to make estimates that impact the amount of each expense category that is attributed to each segment. Changes in these estimates will directly impact the amount of expense allocated to each segment, and therefore the operating profit of each reporting segment. Our allocation methodologies are refined periodically, as necessary, to reflect changes in our businesses. There were no significant changes in our expense allocation methodologies during 2019, 2018 or 2017.

U.S. Domestic Package Operations

	Year Ended December 31, 2019	Year Ended December 31, 2018	$ Change 2019/2018	% Change 2019/2018
Average Daily Package Volume (in thousands):				
Next Day Air	1,889	1,542		22.5 %
Deferred	1,622	1,432		13.3 %
Ground	15,176	14,498		4.7 %
Total Average Daily Package Volume	18,687	17,472		7.0 %
Average Revenue Per Piece:				
Next Day Air	$ 17.74	$ 19.53	$ (1.79)	(9.2)%
Deferred	12.62	13.12	(0.50)	(3.8)%
Ground	8.55	8.51	0.04	0.5 %
Total Average Revenue Per Piece	$ 9.83	$ 9.86	$ (0.03)	(0.3)%
Operating Days in Period	253	253		
Revenue (in millions):				
Next Day Air	$ 8,479	$ 7,618	$ 861	11.3 %
Deferred	5,180	4,752	428	9.0 %
Ground	32,834	31,223	1,611	5.2 %
Total Revenue	$ 46,493	$ 43,593	$ 2,900	6.7 %
Operating Expenses (in millions):				
Operating Expenses	$ 42,329	$ 39,950	$ 2,379	6.0 %
Transformation Strategy Costs	(108)	(235)	127	(54.0)%
Legal Contingencies and Expenses	(97)	—	(97)	N/M
Adjusted Operating Expenses	$ 42,124	$ 39,715	$ 2,409	6.1 %
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 4,164	$ 3,643	$ 521	14.3 %
Adjusted Operating Profit	$ 4,369	$ 3,878	$ 491	12.7 %
Operating Margin	9.0 %	8.4 %		
Adjusted Operating Margin	9.4 %	8.9 %		

Revenue

The change in overall revenue was due to the following factors for the year ended December 31, 2019 versus 2018:

	Volume	Rates / Product Mix	Fuel Surcharge	Total Revenue Change
Revenue Change Drivers:				
2019/2018	7.0 %	(0.6)%	0.3 %	6.7 %

Volume

2019 compared to 2018

Our overall volume increased across all products, led by strong growth in our Next Day Air and Deferred driven by the structural shift to faster delivery in retail and e-commerce, and from additional customer volume. We experienced growth from a number of large customers and SMBs, with volume growth led by our largest customer, Amazon. This growth was enabled by our on-going investment in automated facilities and other transformation initiatives.

Business-to-consumer shipments, which represented approximately 54% of the total U.S. Domestic Package average daily volume, grew 11.3% for the year driven by the growth in e-commerce and retail. Volume grew across all products, with particularly strong growth in our Air products. Business-to-business shipments increased 2.2% for the year with volume increases in both air and ground services.

Within our Air products, overall average daily volume increased in both Next Day Air and Deferred. Strong air volume growth continued primarily in residential Next Day Air and Second Day package products, as consumers and businesses continue to demand faster delivery options, which we expect will persist. This growth was slightly offset by declines in Next Day Air letter and Second Day letter volume due to shifts in customer preferences.

We experienced year over year growth in both residential and commercial ground products. Growth in residential ground volume was driven by changes in customer mix resulting from the continued growth in e-commerce, while growth in commercial ground products was primarily driven by an increase in retail return services.

Rates and Product Mix

2019 compared to 2018

Overall revenue per piece decreased due to customer and product mix and fuel surcharge rates, partially offset by changes in base rates.

Revenue per piece for ground and air products was positively impacted by a base rate increase on December 26, 2018. UPS Ground and UPS Air services rates increased an average net 4.9%.

Revenue per piece for our Next Day Air and Deferred products decreased primarily due to a shift in customer and product mix and a decrease in average billable weight per piece, which was partially offset by the increase in base rates.

Revenue per piece for our ground products increased primarily due to base rate increases and customer and product mix, partially offset by a decrease in average billable weight per piece.

Fuel Surcharges

We apply a fuel surcharge on our domestic air and ground services. The air fuel surcharge is based on the U.S. Department of Energy's ("DOE") Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the ground fuel surcharge is based on the DOE's On-Highway Diesel Fuel Price. Based on published rates, the average fuel surcharge rates for domestic air and ground products were as follows:

	Year Ended December 31,		% Point Change
	2019	2018	2019/2018
Next Day Air / Deferred	7.3 %	7.7 %	(0.4)%
Ground	7.2 %	7.0 %	0.2 %

Effective April 2, 2018, we created separate fuel surcharges for Domestic Air shipments and International Air export shipments. These surcharges are based on the U.S. Gulf Coast Jet Fuel price and are adjusted weekly. In June and October 2018, ground fuel surcharge rates were raised for all thresholds, and in October and December 2018, Domestic Air fuel surcharge rates were increased for all thresholds. Ground surcharges continue to be based on the national U.S. Average On-Highway Diesel Fuel price and adjusted weekly.

While fluctuations in fuel surcharges can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of products sold, the base price and any additional charges or discounts on these services.

Revenue per piece for ground products was positively impacted by fuel surcharge rate increases during 2018, while fuel surcharge rates for air products decreased slightly for the year.

Total domestic fuel surcharge revenue increased by $140 million for the year as a result of increases in package volume and shifts in product mix, partially offset by lower fuel surcharge rates on our Air products.

Operating Expenses

2019 compared to 2018

Operating expenses, and operating expenses excluding the impact of transformation strategy costs and legal contingencies and expenses, increased largely due to pickup and delivery costs (up $1.385 billion), costs of operating our domestic integrated air and ground network (up $631 million), costs of package sorting (up $301 million) and other indirect operating costs (up $92 million).

In order to manage costs, we continually adjust our air and ground network to better match higher volume levels. In addition, we continue to deploy and utilize technology to increase package sorting and delivery productivity by reducing manual touchpoints. The growth in pickup and delivery and network operational costs was impacted by several factors:

- Higher employee compensation and benefit costs largely resulting from:
    - volume growth, which resulted in an increase in average daily union labor hours of 4.7%;
    - union pay rate and benefit increases; and
    - growth in the overall size of the workforce due to facility expansions.

  We incurred higher employee benefit expenses due to additional headcount, contractual contribution rate increases to union multiemployer plans and changes in benefit eligibility for certain union employees. These increases were slightly offset by lower pension expense for our company-sponsored plans due to higher discount rates used to measure the projected benefit obligations which reduced service costs, and lower premiums due to improved funded status.

- We incurred slightly lower fuel expense for the year, driven by declines in fuel prices and higher alternative fuel tax credits in 2019 due to the passage of additional legislation. These reductions were partially offset by increased network volume, which resulted in higher fuel usage. Aircraft block hours increased 10.3%, daily package delivery stops increased 10.9% and daily delivery miles increased 7.9%.

- Lower costs for outside contract carriers were the result of retaining additional volume within our network.

Total cost per piece, which includes transformation strategy costs and legal contingencies and expenses, decreased 0.9% for the year. Excluding the year over year impact of transformation strategy costs and legal contingencies and expenses, adjusted cost per piece decreased 0.8% for the year. Year over year cost per piece decreased due to the incremental impact of our new automated facilities and other transformation initiatives.

Operating Profit and Margin

2019 compared to 2018

Operating profit increased $521 million with operating margins increasing 60 basis points to 9.0%. Excluding the year over year impact of transformation strategy costs and legal contingencies and expenses, adjusted operating profit increased $491 million with operating margins increasing 50 basis points to 9.4%. Operating profit increased as a result of the items described above.

International Package Operations

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Average Daily Package Volume (in thousands):				
Domestic	1,721	1,723		(0.1)%
Export	1,472	1,482		(0.7)%
Total Average Daily Package Volume	3,193	3,205		(0.4)%
Average Revenue Per Piece:				
Domestic	$ 6.51	$ 6.59	$ (0.08)	(1.2)%
Export	29.10	29.27	(0.17)	(0.6)%
Total Average Revenue Per Piece	$ 16.93	$ 17.08	$ (0.15)	(0.9)%
Operating Days in Period	253	253		
Revenue (in millions):				
Domestic	$ 2,836	$ 2,874	$ (38)	(1.3)%
Export	10,837	10,973	(136)	(1.2)%
Cargo & Other	547	595	(48)	(8.1)%
Total Revenue	$ 14,220	$ 14,442	$ (222)	(1.5)%
Operating Expenses (in millions):				
Operating Expenses	$ 11,563	$ 11,913	$ (350)	(2.9)%
Transformation Strategy Costs	(122)	(76)	(46)	60.5 %
Adjusted Operating Expenses	$ 11,441	$ 11,837	$ (396)	(3.3)%
Operating Profit (in millions) and Operating Margin:				
Operating Profit	$ 2,657	$ 2,529	$ 128	5.1 %
Adjusted Operating Profit	$ 2,779	$ 2,605	$ 174	6.7 %
Operating Margin	18.7%	17.5%		
Adjusted Operating Margin	19.5%	18.0%		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ (232)	
Operating Expenses			302	
Operating Profit			$ 70	

* Net of currency hedging; amount represents the change compared to the prior year.

Revenue

The change in overall revenue was due to the following factors for the year ended December 31, 2019 versus 2018:

	Volume	Rates / Product Mix	Fuel Surcharge	Currency	Total Revenue Change
Revenue Change Drivers:					
2019/2018	(0.4)%	0.4%	0.1%	(1.6)%	(1.5)%

Volume

2019 compared to 2018

Our overall average daily volume decreased slightly due to weak demand from several sectors including high tech, manufacturing, professional services, automotive and government, partially offset by higher demand in healthcare, retail and other sectors.

Export volume decreased slightly in 2019. European export volume declined across all trade lanes, while Intra-European volume grew slightly. Total U.S. export volume decreased, with declines in the Europe and Asia trade lanes partially offset by growth in the U.S. to Americas and U.S. to ISMEA trade lanes. Asia exports grew in all major trade lanes, with the exception of the United States. Export volume for the year was strongest in our non-premium Transborder Standard product, offset by declines in our premium Worldwide and Transborder Express services.

Domestic volume also decreased slightly for the year as growth in several domestic markets was more than offset by challenging economic conditions, particularly in the United Kingdom and other European countries. Additionally, a postal strike in Canada in 2018 drove additional domestic volume which did not repeat in 2019.

Rates and Product Mix

2019 compared to 2018

On December 26, 2018, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market. On August 26, 2019, we implemented a 1.0% increase in International Air-Import fuel surcharge.

Total average revenue per piece decreased in 2019 due entirely to a 170 basis point decrease from currency. Excluding the impact of currency, revenue per piece increased 0.8% due to increases in base rates, partially offset by declines in fuel surcharge indices.

Domestic revenue per piece decreased 120 basis points, driven entirely by a 390 basis point decrease from currency. Excluding the impact of currency, revenue per piece increased 2.7% due to base rate increases.

Export revenue per piece decreased 60 basis points, also driven entirely by a 110 basis point decrease from currency. Excluding the impact of currency, revenue per piece increased 0.5% as the trend toward our lower priced non-premium services was more than offset by base rate increases.

Fuel Surcharges

We apply fuel surcharges on our international air and ground services. The fuel surcharge for international air products originating inside or outside the United States is largely indexed to the DOE's Gulf Coast spot price for a gallon of kerosene-type jet fuel. Fuel surcharges for ground products originating outside the United States are indexed to fuel prices in the region or country where the shipments originate.

While fluctuations in fuel surcharges can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of products sold, the base price and any additional charges or discounts on these services.

Total international fuel surcharge revenue decreased by $33 million in 2019, primarily due to decreases in fuel surcharge indices and decreases in volume.

Operating Expenses

2019 compared to 2018

Operating expenses, and operating expenses excluding the year over year impact of transformation strategy costs, decreased for 2019. These decreases are the results of effective management of network capacity and cost in response to lower volumes within our air, ground and local pickup and delivery networks, combined with lower fuel prices and currency exchange rate movements.

In addition to variability in usage and market prices, the manner in which we purchase fuel also influences the net impact of fuel on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can affect our earnings either positively or negatively in the short-term.

The cost of operating our integrated international air and ground network decreased $130 million for 2019. The decrease in network costs was primarily driven by a 2.1% decrease in aircraft block hours, due in large part to our ability to adjust our global air network to match capacity with demand, and lower package volume for the year, together with lower fuel prices. Pickup and delivery costs decreased $105 million in 2019. The remaining decrease in operating expenses was driven by a $40 million gain from the sale of surplus property in Canada, as well as decreases in the costs of package sorting and other indirect operating costs.

Operating Profit and Margin

2019 compared to 2018

Operating profit increased $128 million for the year, with operating margin increasing 120 basis points to 18.7%. Excluding the year over year impact of transformation strategy costs, adjusted operating profit increased, with adjusted operating margin up 150 basis points to 19.5%. Operating profit increased as a result of the items described above.

Supply Chain & Freight Operations

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Freight LTL Statistics:				
Revenue (in millions)	$ 2,679	$ 2,706	$ (27)	(1.0)%
Revenue Per Hundredweight	$ 26.54	$ 25.52	$ 1.02	4.0 %
Shipments (in thousands)	9,281	9,720		(4.5)%
Shipments Per Day (in thousands)	36.7	38.4		(4.5)%
Gross Weight Hauled (in millions of lbs)	10,096	10,605		(4.8)%
Weight Per Shipment (in lbs)	1,088	1,091		(0.3)%
Operating Days in Period	253	253		
Revenue (in millions):				
Forwarding	$ 5,867	$ 6,580	$ (713)	(10.8)%
Logistics	3,435	3,234	201	6.2 %
Freight	3,265	3,218	47	1.5 %
Other	814	794	20	2.5 %
Total Revenue	$ 13,381	$ 13,826	$ (445)	(3.2)%
Operating Expenses (in millions):				
Operating Expenses	$ 12,404	$ 12,974	$ (570)	(4.4)%
Transformation Strategy Costs	(25)	(49)	24	(49.0)%
Adjusted Operating Expenses	$ 12,379	$ 12,925	$ (546)	(4.2)%
Operating Profit (in millions) and Operating Margins:				
Operating Profit	$ 977	$ 852	$ 125	14.7 %
Adjusted Operating Profit	$ 1,002	$ 901	$ 101	11.2 %
Operating Margin	7.3 %	6.2 %		
Adjusted Operating Margin	7.5 %	6.5 %		
Currency Translation Benefit / (Cost)—(in millions)*:				
Revenue			$ (75)	
Operating Expenses			67	
Operating Profit			$ (8)	

* Amount represents the change compared to the prior year.

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Transformation Strategy Costs (in millions):				
Forwarding	$ 12	$ 16	$ (4)	(25.0)%

Logistics	13	22	(9)	(40.9 %)
Freight	—	6	(6)	(100.0 %)
Other	—	5	(5)	(100.0 %)
Total Transformation Strategy Costs	$ 25	$ 49	$ (24)	(49.0 %)

Revenue

2019 compared to 2018

Total revenue for the Supply Chain & Freight segment decreased $445 million in 2019 compared with 2018.

Forwarding revenue decreased primarily due to an overall decline in market demand that was impacted by global trade uncertainties. This led to lower volume and declines in market rates in our international air and ocean freight forwarding businesses. In addition, excess capacity in the truckload brokerage market depressed rates, contributing to the year over year decrease in revenue. These decreases were partially offset by yield management initiatives in our air and ocean freight businesses.

Logistics revenue increased as we experienced growth in the healthcare, mail services, retail and manufacturing sectors.

Overall UPS Freight revenue increased, as declines in LTL tonnage and shipment volume which were largely attributable to market demand and the residual impacts of the fourth quarter 2018 network disruption were more than offset by yield management initiatives and volume growth in our Ground Freight Pricing product.

Operating Expenses

2019 compared to 2018

Total operating expenses for the Supply Chain & Freight segment, and operating expenses excluding the year over year impact of transformation strategy costs, decreased in 2019 compared with 2018.

Forwarding operating expenses decreased $685 million largely due to reductions in purchased transportation. Purchased transportation expense decreased $655 million primarily due to lower tonnage and declines in market rates in our international air and ocean freight forwarding businesses as well as a decrease in volume and market rates in truckload brokerage. Cost management initiatives in our freight forwarding businesses also contributed to the reduction in operating expenses.

Logistics operating expenses increased $172 million, primarily due to increases in purchased transportation driven by increased volume and rates, particularly in our mail services business. Additionally, business investments in healthcare quality assurance and technology increased costs.

UPS Freight operating expenses decreased $54 million. Decreases in costs associated with operating our linehaul network ($49 million) and decreases in pickup and delivery costs ($40 million) were driven by lower expenses from outside transportation carriers as a result of a decline in tonnage, lower fuel surcharges and the residual impacts of the fourth quarter 2018 network disruption. These decreases were offset by increases in transportation expense for our Ground Freight Pricing product due to higher volume. Cost management initiatives and production improvements largely contributed to the overall reduction in operating expenses.

Operating Profit and Margin

2019 compared to 2018

Total operating profit for the Supply Chain & Freight segment increased $125 million in 2019 compared with 2018. Excluding the year over year impact of transformation strategy costs, adjusted operating profit increased $101 million. Operating margin increased 110 basis points to 7.3%, while the adjusted operating margin increased 100 basis points to 7.5%. Operating profit and margin were impacted by the items described above.

Consolidated Operating Expenses

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Operating Expenses (in millions):				
Compensation and Benefits:	$ 38,908	$ 37,235	$ 1,673	4.5 %
Transformation Strategy Costs	(166)	(262)	96	(36.6)%
Adjusted Compensation and Benefits	38,742	36,973	1,769	4.8 %
Repairs and Maintenance	1,838	1,732	106	6.1 %
Depreciation and Amortization	2,360	2,207	153	6.9 %
Purchased Transportation	12,590	13,409	(819)	(6.1)%
Fuel	3,289	3,427	(138)	(4.0)%
Other Occupancy	1,392	1,362	30	2.2 %
Other Expenses	5,919	5,465	454	8.3 %
Total Other Expenses	27,388	27,602	(214)	(0.8)%
Other Transformation Strategy Costs	(89)	(98)	9	(9.2)%
Legal Contingencies and Expenses	(97)	—	(97)	N/M
Adjusted Total Other Expenses	$ 27,202	$ 27,504	$ (302)	(1.1)%
Total Operating Expenses	$ 66,296	$ 64,837	$ 1,459	2.3 %
Adjusted Total Operating Expenses	$ 65,944	$ 64,477	$ 1,467	2.3 %
Currency Translation Cost / (Benefit)*			$ (369)	

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Adjustments to Operating Expenses (in millions):				
Transformation Strategy Costs:				
Compensation	$ 21	$ —	$ 21	N/M
Benefits	145	262	(117)	(44.7)%
Depreciation and Amortization	3	12	(9)	(75.0)%
Other Occupancy	8	—	8	N/M
Other Expenses	78	86	(8)	(9.3)%
Total Transformation Strategy Costs	$ 255	$ 360	$ (105)	(29.2)%
Legal Contingencies and Expenses:				
Other Expenses	$ 97	$ —	$ 97	N/M
Total Adjustments to Operating Expenses	$ 352	$ 360	$ (8)	(2.2

				)%

Compensation and Benefits

2019 compared to 2018

Total compensation and benefits, and total compensation and benefits excluding the year over year impact of transformation strategy costs, increased for 2019.

Total compensation costs increased $1.028 billion or 4.6%. Excluding the year over year impact of transformation strategy costs, adjusted compensation increased $1.007 billion largely due to higher U.S. Domestic direct labor costs. These costs increased as a result of additional headcount, driven by U.S. Domestic average daily volume growth that resulted in an increase in average daily union hours of 4.7%. Contractual union wage increases also contributed to the increase in compensation for hourly employees.

Benefits costs increased $645 million. Excluding the year over year impact of transformation strategy costs, adjusted benefits costs increased $762 million due to the following:

- Health and welfare costs increased $570 million, driven by higher contributions to multiemployer plans due to contractual rate increases, an overall increase in the size of the workforce and changes in eligibility for certain union employees.

- Pension and retirement benefits increased $18 million. The impacts of contractually-mandated contribution increases to multiemployer plans, as well as an increase in the size of the overall workforce, were substantially offset by lower service cost for company-sponsored plans as a result of higher discount rates.

- Vacation, excused absence, payroll taxes and other expenses increased $211 million, primarily driven by salary increases and growth in the overall size of the workforce.

- Workers' compensation expense decreased $37 million as we experienced more favorable actuarial adjustments. We evaluate the total range of actuarial outcomes when estimating losses that will ultimately occur. See note 1 to the audited, consolidated financial statements for a further description of this policy.

Repairs and Maintenance

2019 compared to 2018

The increase in repairs and maintenance expense was driven by maintenance of our aircraft, routine repairs to buildings and facilities and maintenance of our other transportation equipment, due to additional investments we have made in recent periods.

Depreciation and Amortization

2019 compared to 2018

We evaluate the useful lives of all our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. See note 1 to the audited, consolidated financial statements for a further description of the policy.

For 2019, depreciation expense increased $365 million, and net income decreased by $287 million, or $0.33 per share on a basic and diluted basis, as a result of investments in property, plant and equipment, net of disposals and assets becoming fully depreciated. Depreciation expense decreased $212 million, and net income increased $167 million, or $0.19 per share on a basic and diluted basis, as a result of lengthening our estimated useful lives for various asset categories in the latter half of 2018. The combined effect of the foregoing was a net increase in depreciation expense of $153 million and a decrease in net income of $120 million, or $0.14 per share on a basic and diluted basis, for the year.

Purchased Transportation

2019 compared to 2018

The decrease in purchased transportation expense charged to us by third-party air, rail, ocean and truck carriers was primarily driven by the following factors:

- Expense in our Freight Forwarding and Logistics business decreased $530 million due to decreases in both market rates and volume in our air and ocean freight forwarding businesses. Our truckload brokerage business also experienced declines in rates, primarily driven by market overcapacity. These decreases were partially offset by increases due to volume growth and rate increases in our mail services business.

- U.S. Domestic Package expense decreased $186 million primarily due to lower overall usage of third-party transportation carriers.

- International Package expense decreased $100 million primarily due to favorable currency exchange rate movements.

- Other purchased transportation expense decreased $3 million due to changes in the number of leased and chartered aircraft and lower fuel surcharges passed on to us by outside carriers.

Fuel

2019 compared to 2018

The decrease in fuel expense was driven by lower jet fuel, diesel and gasoline prices as well as higher alternative fuel tax credits as a result of legislation passed in 2019. These decreases were partially offset by higher consumption due to additional aircraft block hours and vehicle miles driven by higher U.S. Domestic package volume.

Other Occupancy

2019 compared to 2018

The increase in other occupancy expense and other occupancy expense excluding the year over year impact of transformation strategy costs was primarily driven by additional operating facilities coming into service.

Other Expenses

2019 compared to 2018

Other expenses, and other expenses excluding the year over year impact of transformation strategy costs and legal contingencies and expenses, increased for 2019. The increase was attributable to various items, including adjustments to reserves for self-insured automobile liability claims, bad debt expense, technology equipment and software licenses, professional service fees and advertising. These increases were partially offset by a $40 million gain on the sale of surplus property in Canada and lower travel and entertainment expenses.

Other Income and (Expense)

The following table sets forth investment income (expense) and other and interest expense for the years ended December 31, 2019 and 2018 (in millions):

	Year Ended December 31,		$ Change	% Change
	2019	2018	2019/2018	2019/2018
Investment Income (Expense) and Other	$ (1,493)	$ (400)	$ (1,093)	273.3 %
Defined Benefit Plans Mark-to-Market Charges	2,387	1,627	760	46.7 %
Adjusted Investment Income (Expense) and Other	$ 894	$ 1,227	$ (333)	(27.1)%
Interest Expense	(653)	(605)	(48)	7.9 %
Total Other Income and (Expense)	$ (2,146)	$ (1,005)	$ (1,141)	113.5 %
Adjusted Other Income and (Expense)	$ 241	$ 622	$ (381)	(61.3)%

Investment Income (Expense) and Other

2019 compared to 2018

Investment income (expense) and other for the period increased $1.093 billion, which included a $760 million increase in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted investment income (expense) and other for the period, which includes expected investment returns on pension assets, net of interest cost on projected benefit obligations, prior service cost and investment income, decreased $333 million. Expected returns on plan assets decreased as a result of the lower asset base driven by negative asset returns in 2018, partially offset by the effects of higher discretionary contributions in 2019. Pension interest cost increased with higher year-end discount rates, ongoing plan growth and an increase in the projected benefit obligation as a result of the 2018 year-end measurement of our plans. Investment income increased as a result of higher yields on invested assets, higher overall investment balances and foreign currency exchange rate movements.

Interest Expense

2019 compared to 2018

Interest expense increased primarily due to higher average outstanding debt balances and higher effective interest rates, combined with lower capitalized interest for 2019.

Income Tax Expense

The following table sets forth income tax expense and our effective tax rate for the years ended December 31, 2019 and 2018 (in millions):

	Year Ended December 31, 2019	Year Ended December 31, 2018	$ Change 2019/2018	% Change 2019/2018
Income Tax Expense:	$ 1,212	$ 1,228	$ (16)	(1.3)%
Income Tax Impact of:				
Defined Benefit Plans Mark-to-Market Charges	571	390	181	46.4 %
Transformation Strategy Costs	59	87	(28)	(32.2)%
Legal Contingencies and Expenses	6	—	6	N/M
Adjusted Income Tax Expense	$ 1,848	$ 1,705	$ 143	8.4 %
Effective Tax Rate	21.4%	20.4%		
Adjusted Effective Tax Rate	22.0%	21.3%		

For additional information on income tax expense and our effective tax rate, see note 14 to the audited, consolidated financial statements.

Liquidity and Capital Resources

As of December 31, 2019, we had $5.741 billion in cash, cash equivalents and marketable securities. We believe that our current cash position, access to commercial paper programs and debt capital markets and cash flow generated from operations should be adequate not only for operating requirements, but also to enable us to complete our capital expenditure programs, transformation strategy and to fund dividend payments, share repurchases, pension contributions and long-term debt payments through the next several years. We regularly evaluate opportunities to optimize our capital structure, including through issuances of debt or equity to refinance existing debt and to fund ongoing cash needs.

Cash Flows From Operating Activities

The following is a summary of the significant sources (uses) of cash from operating activities (in millions):

	2019	2018
Net Income	$ 4,440	$ 4,791
Non-cash operating activities[1]	6,405	6,048
Pension and postretirement benefit plan contributions (company-sponsored plans)	(2,362)	(186)
Hedge margin receivables and payables	171	482
Income tax receivables and payables	599	469
Changes in working capital and other non-current assets and liabilities	(634)	1,091
Other operating activities	20	16
Net cash from operating activities	$ 8,639	$ 12,711

[1] Represents depreciation and amortization, gains and losses on derivative transactions and foreign exchange, deferred income taxes, provisions for uncollectible accounts receivable, amortization on operating lease assets, pension and postretirement benefit expense, stock compensation expense and other non-cash items.

Cash from operating activities remained strong throughout 2018 and 2019. Most of the variability in operating cash flows during this period related to funding company-sponsored pension and postretirement benefit plans (and related cash tax deductions). Except for discretionary or accelerated fundings of our plans, contributions to our company-sponsored pension plans have largely varied in accordance with minimum funding requirements. We made discretionary contributions to our three primary, company-sponsored U.S. pension plans totaling $2.0 billion in 2019. No discretionary contributions were made in 2018. The remaining contributions in 2018 and 2019 were to our international pension plans and U.S. postretirement medical benefit plans.

Operating cash flows were impacted by changes in our working capital management whereby certain payments from the fourth quarter of 2018 shifted into the first quarter of 2019. In addition, accelerated growth in the business lifted overall working capital demand. The net hedge margin collateral received from our derivative counterparties was $171 and $482 million during 2019 and 2018, respectively, due to the change in net fair value of the derivative contracts used in our currency and interest rate hedging programs. Cash payments for income taxes were $514 million and $2 million for 2019 and 2018, respectively, primarily due to timing of deductions related to pension contributions.

As of December 31, 2019, our total worldwide holdings of cash, cash equivalents and marketable securities were $5.741 billion, of which approximately $2.564 billion was held by foreign subsidiaries. The amount of cash, cash equivalents and marketable securities held by our U.S. and foreign subsidiaries fluctuates throughout the year due to a variety of factors, including the timing of cash receipts and disbursements in the normal course of business. Cash provided by operating activities in the U.S. continues to be our primary source of funds to finance domestic operating needs, capital expenditures, share repurchases, pension contributions and dividend payments to shareowners. All cash, cash equivalents and marketable securities held by foreign subsidiaries are generally available for distribution to the U.S. without any U.S. federal income taxes. Any such distributions may be subject to foreign withholding and U.S. state taxes. When amounts earned by foreign subsidiaries are expected to be indefinitely reinvested, no accrual for taxes is provided.

Cash Flows From Investing Activities

Our primary sources (uses) of cash for investing activities were as follows (amounts in millions):

	2019	2018
Net cash used in investing activities	$ (6,061)	$ (6,330)
Capital Expenditures:		
Buildings, facilities and plant equipment	$ (2,729)	$ (3,147)
Aircraft and parts	(1,890)	(1,496)
Vehicles	(987)	(931)
Information technology	(774)	(709)
Total Capital Expenditures[(1)]:	$ (6,380)	$ (6,283)
Capital Expenditures as a % of revenue	8.6%	8.7%
Other Investing Activities:		
Proceeds from disposals of property, plant and equipment	$ 65	$ 37
Net change in finance receivables	$ 13	$ 4
Net (purchases), sales and maturities of marketable securities	$ 322	$ (87)
Cash paid for business acquisitions, net of cash and cash equivalents acquired	$ (6)	$ (2)
Other investing activities	$ (75)	$ 1

[(1)] In addition to capital expenditures of $6.380 and $6.283 billion in 2019 and 2018, respectively, there were capital expenditures relating to the principal repayments of finance lease obligations of $140 and $340 million. These are included in cash flows from financing activities.

We have commitments for the purchase of aircraft, vehicles, equipment and real estate to provide for the replacement of existing capacity and anticipated future growth. We generally fund our capital expenditures with cash from operations. Future capital spending for anticipated growth and replacement assets will depend on a variety of factors, including economic and industry conditions. In 2017 we began a multi-year investment program in our smart global logistics network which impacts all asset categories, with the largest investments in buildings, facilities and plant equipment. This investment program will continue in 2020, and we anticipate that our capital expenditures will be approximately $6.5 to $7.0 billion.

Capital expenditures on buildings, facilities and plant equipment decreased in 2019 compared to 2018 in our U.S. and international package businesses, as we completed several facility automation and capacity expansion projects in 2018. Capital spending on aircraft increased in 2019 compared 2018 due to a net increase in contract deposits on open aircraft orders and final payments associated with the delivery of aircraft. Capital spending on information technology increased in 2019 compared to 2018 due to continuing development of technology enabled solutions and capitalized software projects. Capital spending on vehicles increased in 2019 relative to 2018, largely due to the timing of vehicle replacements and expansion of the overall fleet to support volume growth.

Proceeds from the disposal of property, plant and equipment were largely attributable to the sale of an international property in 2019 and disposal of equipment in 2018. The net change in finance receivables was due to reductions in our finance portfolios in 2019 compared with 2018. Purchases and sales of marketable securities are largely determined by liquidity needs and the periodic rebalancing of investment types, and will fluctuate from period to period.

Cash paid for business acquisitions in 2019 and 2018 related to our acquisition of area franchise rights for The UPS Store, as well as other, small acquisitions in our International Small Package and Logistics business units in 2019. Other investing activities are impacted by changes in our non-current investments and various other items.

Cash Flows From Financing Activities

Our primary sources (uses) of cash for financing activities were as follows (amounts in millions, except per share data):

	2019	2018
Net cash used in financing activities	$ (1,727)	$ (5,692)
Share Repurchases:		
Cash expended for shares repurchased	$ (1,004)	$ (1,011)
Number of shares repurchased	(9.1)	(8.9)
Shares outstanding at period end	857	858
Percent increase (decrease) in shares outstanding	(0.1)%	(0.1)%
Dividends:		
Dividends declared per share	$ 3.84	$ 3.64
Cash expended for dividend payments	$ (3,194)	$ (3,011)
Borrowings:		
Net borrowings (repayments) of debt principal	$ 2,419	$ (1,622)
Other Financing Activities:		
Cash received for common stock issuances	$ 218	$ 240
Other financing activities	$ (166)	$ (288)
Capitalization:		
Total debt outstanding at year end	$ 25,238	$ 22,736
Total shareowners' equity at year end	3,283	3,037
Total capitalization	$ 28,521	$ 25,773

For the years ended December 31, 2019 and 2018, we repurchased a total of 9.1 and 8.9 million shares of class A and class B common stock for $1.005 and $1.000 billion, respectively ($1.004 and $1.011 billion in repurchases for 2019 and 2018, respectively, are reported on the cash flow statement due to the timing of settlements). For additional information on our share repurchase activities, see note 11 to the audited, consolidated financial statements.

For the years ended December 31, 2019 and 2018, dividends reported within shareowners' equity include $147 and $178 million, respectively, of non-cash dividends that were settled in shares of class A common stock.

The declaration of dividends is subject to the discretion of the Board of Directors and depends on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors. We expect to continue the practice of paying regular cash dividends. In February 2020, we increased our quarterly dividend payment from $0.96 to $1.01 per share, a 5.2% increase.

Issuances of debt in 2019 consisted of fixed-rate senior notes totaling $3.0 billion and commercial paper. In 2018, issuances of debt consisted primarily of commercial paper. The following is a summary of debt issuances in 2019 (in millions):

	Principal Amount in USD	
2019		
Fixed-rate senior notes:		
2.200% senior notes	$	400
2.500% senior notes		400
3.400% senior notes (multiple issuances)		1,450
4.250% senior notes		750
Total	$	3,000

Repayments of debt in 2019 and 2018 consisted primarily of our $1.0 billion 5.125% fixed-rate senior notes that matured in April 2019 and our $750 million 5.50% fixed-rate senior notes that matured in January 2018. The remaining repayments of debt during the period included paydowns of commercial paper and scheduled principal payments on our finance lease obligations. We consider the overall fixed and floating interest rate mix of our portfolio and the related overall cost of borrowing when planning for future issuances and non-scheduled repayments of debt.

The amount of commercial paper outstanding fluctuates throughout the year based on daily liquidity needs. The following is a summary of our commercial paper program (in millions):

	Functional currency outstanding balance at year end		Outstanding balance at year end ($)		Average balance outstanding		Average balance outstanding ($)		Average interest rate
2019									
USD	$	2,172	$	2,172	$	1,665	$	1,665	2.24 %
EUR	€	949	$	1,062	€	903	$	1,011	(0.39)%
Total			$	3,234					

	Functional currency outstanding balance at year end		Outstanding balance at year end ($)		Average balance outstanding		Average balance outstanding ($)		Average interest rate
2018									
USD	$	1,968	$	1,968	$	2,137	$	2,137	1.81 %
EUR	€	606	$	694	€	360	$	425	(0.38)%
Total			$	2,662					

The variation in cash received from common stock issuances was primarily due to the amount of stock option exercises by employees in 2018 and 2019.

Other financing activities includes cash used to repurchase shares from employees sold to satisfy tax withholding obligations on vested stock awards of $180 and $259 million in 2019 and 2018, respectively. Net cash inflows from premium payments and settlements of capped call options for the purchase of UPS class B shares were $21 and $34 million in 2019 and 2018, respectively.

Sources of Credit

See note 8 to the audited, consolidated financial statements for a discussion of our available credit and debt covenants.

Guarantees and Other Off-Balance Sheet Arrangements

Except as disclosed in note 8 to the audited, consolidated financial statements, we do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, which we believe could have a material impact on financial condition or liquidity.

Contractual Commitments

We have contractual obligations and commitments in the form of finance leases, operating leases, debt obligations, purchase commitments and certain other liabilities. We intend to satisfy these obligations primarily through the use of cash flow from operations. The following table summarizes the expected cash outflow to satisfy our contractual obligations and commitments as of December 31, 2019 (in millions):

Commitment Type	**2020**	**2021**	**2022**	**2023**	**2024**	**After 2024**	**Total**
Finance Leases	$ 199	44	39	37	35	259	$ 613
Operating Leases	619	536	451	360	256	1,267	3,489
Debt Principal	4,232	2,551	2,001	2,284	1,474	12,349	24,891
Debt Interest	749	661	601	521	481	6,522	9,535
Purchase Commitments [1]	3,569	1,982	966	323	261	201	7,302
Tax Act Repatriation Liability	—	—	—	13	49	61	123
Pension Funding	1,180	—	—	—	—	—	1,180
Total	$ 10,548	$ 5,774	$ 4,058	$ 3,538	$ 2,556	$ 20,659	$ 47,133

[1] Purchase commitments includes amounts due under aircraft leases that we entered into in 2019 and our January 29, 2020 announced commitment to purchase 10,000 electric vehicles.

Our finance lease obligations relate primarily to leases on aircraft and real estate. Finance leases and operating leases are discussed further in note 10 to the audited, consolidated financial statements. Purchase commitments, as well as our debt principal obligations, are discussed further in note 8 to the audited, consolidated financial statements. The amount of interest on our debt was calculated as the contractual interest payments due on our fixed-rate debt and variable rate debt based on interest rates as of December 31, 2019. The calculations of debt interest take into account the effect of interest rate swap agreements. For debt denominated in a foreign currency, the U.S. Dollar equivalent principal amount of the debt at the end of the year was used as the basis to calculate future interest payments.

Purchase commitments represent contractual agreements to purchase assets, goods or services that are legally binding, including contracts for aircraft, construction of new or expanded facilities and orders for technology equipment and vehicles. As of December 31, 2019, we had firm commitments to lease three used and purchase eight new Boeing 767-300 aircraft, to be delivered between 2020 and 2021 and to purchase 13 new Boeing 747-8F aircraft to be delivered between 2020 and 2022. We also had a firm commitment to purchase five Boeing MD-11 aircraft to be delivered between 2020 and 2021. We paid the full purchase price for these MD-11 aircraft in December 2019; therefore these amounts are not included in the table above.

On December 22, 2017, the United States enacted into law the Tax Act requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. Companies may elect to pay the tax over eight years based on an installment schedule outlined in the Tax Act but are required under current Internal Revenue Service guidance to offset certain overpayments of tax against the liability. We made this election and have reflected our remaining transition tax due by year as a contractual obligation.

There are no anticipated required minimum cash contributions to our qualified U.S. pension plans (these plans are discussed further in note 5 to the audited, consolidated financial statements). The amount of any minimum funding requirement, as applicable, for these plans could change significantly in future periods depending on many factors, including future plan asset returns, discount rates, other actuarial assumptions and changes to pension plan funding regulations. A decline in discount rates or a sustained significant decline in equity or bond returns could result in our domestic pension plans being subject to significantly higher minimum funding requirements. Actual contributions made in future years could materially differ and consequently required minimum contributions beyond 2020 cannot be reasonably estimated.

As discussed in note 6 to the audited, consolidated financial statements, we are not currently subject to any minimum contributions or surcharges with respect to the multiemployer pension and health and welfare plans in which we participate. Contribution rates to these multiemployer pension and health and welfare plans are established through the collective bargaining process. As we are not subject to any minimum contribution levels, we have not included any amounts in the contractual commitments table with respect to these multiemployer plans.

The table above does not include approximately $228 million of liabilities for uncertain tax positions because we are uncertain if or when such amounts will ultimately be settled in cash. Uncertain tax positions are further discussed in note 14 to the audited, consolidated financial statements.

As of December 31, 2019, we had outstanding letters of credit totaling approximately $1.267 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2019, we had $1.327 billion of surety bonds written. As of December 31, 2019, we had unfunded loan commitments totaling $131 million associated with UPS Capital.

We believe that funds from operations and borrowing programs will provide adequate sources of liquidity and capital resources to meet our expected long-term needs for the operation of our business, including anticipated capital expenditures, transformation strategy and pension contributions for the foreseeable future.

Contingencies

See note 5 to the audited, consolidated financial statements for a discussion of pension related matters and note 9 for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Collective Bargaining Agreements

Status of Collective Bargaining Agreements

See note 6 to the audited, consolidated financial statements for a discussion of the status of collective bargaining agreements.

Multiemployer Benefit Plans

We contribute to a number of multiemployer pension and health and welfare plans under the terms of collective bargaining agreements that cover our union represented employees. Our current collective bargaining agreements set forth the annual contribution increases allotted to the plans that we participate in, and we are in compliance with these contribution rates. These limitations will remain in effect throughout the terms of the existing collective bargaining agreements.

New Accounting Pronouncements

Recently Adopted Accounting Standards

See note 1 to the audited, consolidated financial statements for a discussion of recently adopted accounting standards.

Accounting Standards Issued But Not Yet Effective

See note 1 to the audited, consolidated financial statements for a discussion of accounting standards issued, but not yet effective.

Rate Adjustments

Effective December 29, 2019, the rates and accessorial charges for UPS Ground, UPS Air and International services increased by an average net 4.9%. UPS Air Freight rates within and between the U.S., Canada and Puerto

Rico increased an average net 4.2%. Density-based UPS Freight non-contractual LTL rates using Tariff 580 increased an average net 3.9%.

These rate changes are customary and occur on an annual basis. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market.

Critical Accounting Policies and Estimates

This discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which are prepared in accordance with GAAP. As indicated in note 1 to the audited, consolidated financial statements, the amounts of assets, liabilities, revenue and expenses reported in our financial statements are affected by estimates and judgments that are necessary to comply with GAAP. We base our estimates on prior experience and assumptions and third-party input that we consider reasonable to our circumstances. Actual results could differ materially from our estimates, which would affect the related amounts reported in our consolidated financial statements. While estimates and judgments are applied in arriving at many reported amounts, we believe that the following critical accounting policies involve a higher degree of judgment and complexity.

Contingencies

As discussed in note 9 to the audited, consolidated financial statements, we are involved in various legal proceedings and subject to various contingencies. The events that may impact our contingent liabilities are often unique and generally are not predictable. At the time a contingency is identified, we consider all relevant facts as part of our evaluation. We record a liability for a loss when the loss is probable of occurring and reasonably estimable. Events may arise that were not anticipated and the outcome of a contingency may result in a loss to us that differs from our previously estimated liability. This difference could be material. Income taxes and self-insurance are discussed below. Except as disclosed in note 9 to the audited, consolidated financial statements, other contingent losses that were probable and estimable were not material to our financial position or results of operations as of, or for the year ended, December 31, 2019. In addition, we have certain contingent liabilities that have not been recognized as of, or for the year ended, December 31, 2019, because a loss was not reasonably estimable.

Goodwill and Intangible Impairment

We test goodwill for impairment in each of our reporting units on an annual basis. Our U.S. Domestic Package segment is a reporting unit. In our International Package reporting segment, we have the following reporting units: Europe, Asia, Americas and ISMEA. In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote Logistics. Our annual goodwill impairment testing date is July 1st for each reporting unit owned at the testing date. In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds the reporting unit’s fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit’s goodwill with the carrying value of that goodwill.

We primarily determine the fair value of our reporting units using a discounted cash flow (“DCF”) model and supplement this with observable valuation multiples for comparable companies, as appropriate. The completion of the DCF model requires that we make a number of significant assumptions to produce an estimate of future cash flows. These assumptions include projections of future revenue, costs, capital expenditures and working capital changes, as well as assumptions about the estimated cost of capital and other relevant variables. The projections that we use in our DCF model are updated annually and will change over time based on the historical performance and changing business conditions for each of our reporting units. The determination of whether goodwill is impaired involves a significant level of judgment in these assumptions, and changes in our business strategy, government regulations, or economic or market conditions could significantly impact these judgments. We routinely monitor market conditions and other factors to determine if interim impairment tests are necessary. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations.

None of the reporting units incurred any goodwill impairment charges in 2019 or 2018. Changes in our forecasts could cause carrying values of our reporting units to exceed their fair values in future periods, potentially resulting in a goodwill impairment charge. During the year, management monitored the actual performance of the business relative to the fair value assumptions used during our annual goodwill impairment test. For the periods presented, no triggering events were identified that required an interim impairment test. Based on most recent tests, the fair value of all our reporting units exceed their carrying value.

A trade name with a carrying value of $200 million and licenses with a carrying value of $4 million as of December 31, 2019 are considered to be indefinite-lived intangibles, and therefore are not amortized. Impairment tests for indefinite-lived intangibles are performed on an annual basis. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method for the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value. This valuation approach requires that we make a number of assumptions to estimate fair value. These assumptions include projections of future revenues, market royalty rates, tax rates, discount rates and other relevant variables. The projections we use in the model are updated annually and will change over time based on the historical performance and changing business conditions.

All of our remaining recorded intangible assets are deemed to be finite-lived intangibles, and are amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable based on the undiscounted future cash flows of the intangible. If the carrying amount of the intangible is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on a DCF model. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations. Impairments of finite-lived intangible assets were $2 and $12 million in 2019 and 2018, respectively. There were no impairments of indefinite-lived intangible assets in 2019 or 2018.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as loss estimates for claims that have been incurred but not yet reported. Recorded balances are based on third-party actuarial estimates, which incorporate historical loss experience and judgments about the present and expected cost per claim. Trends in actual experience are a significant factor in the determination of our reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve a claim. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs, the results of any related litigation and with respect to workers' compensation claims and changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior year at a rate that differs from actuarial projections. All of these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. Based on our historical experience, during 2019 we changed our self-insurance reserves from the central estimate to the low end of the actuarial range of losses. We believe our estimated reserves for such claims are adequate; actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations. For additional information on our self-insurance reserves, refer to note 1 of the audited, consolidated financial statements.

We sponsor a number of health and welfare insurance plans for our employees. Liabilities and expenses related to these plans are based on estimates of, among other things, the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation. We believe our estimates are reasonable/appropriate. Actual experience may differ from these estimates and, therefore, produce a material difference between estimated and actual operating results.

Pension and Postretirement Medical Benefits

Our pension and other postretirement benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, healthcare cost trend rates, inflation, compensation increase rates, expected returns on plan assets, mortality rates and other factors. The assumptions utilized in recording the obligations under our plans represent our best estimates, and we believe that they are reasonable, based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Differences in actual experience or changes in assumptions may affect our pension and other postretirement obligations and future expenses. The primary factors contributing to actuarial gains and losses each year are (1) changes in the discount rate used to value pension and postretirement benefit obligations as of the measurement date, (2) differences between the expected and the actual return on plan assets, (3) changes in demographic assumptions including mortality, (4) participant experience different from demographic assumptions and (5) changes in coordinating benefits with plans not sponsored by UPS. In October 2019, we refined the bond matching approach used to determine the discount rate for our U.S. pension and postretirement plans by implementing advances in technology and modeling techniques. This refinement decreased the projected benefit obligation on our consolidated balance sheet by approximately $900 million as of December 31, 2019, decreased the pre-tax mark-to-market charge by approximately $810 million and increased net income by $616 million, or $0.71 per share on a basic and diluted basis.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense (herein referred to as "ongoing net periodic benefit cost"), primarily service and interest costs and the expected return on plan assets, are reported on a quarterly basis.

The following sensitivity analysis shows the impact of a 25 basis point change in the assumed discount rate and return on assets for our pension and postretirement benefit plans, and the resulting increase/(decrease) on our obligations and expense as of, and for the year ended, December 31, 2019 (in millions).

Pension Plans	**25 Basis Point Increase**	**25 Basis Point Decrease**
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ (37)	$ 38
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(1,390)	2,043
Effect on projected benefit obligation	(2,156)	2,294
Return on Assets:		
Effect on ongoing net periodic benefit cost(1)	(100)	100
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor(2)	(100)	100
Postretirement Medical Plans		
Discount Rate:		
Effect on ongoing net periodic benefit cost	3	(3)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(37)	48
Effect on accumulated postretirement benefit obligation	(55)	65
Healthcare Cost Trend Rate:		
Effect on ongoing net periodic benefit cost	1	(1)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	4	(5)
Effect on accumulated postretirement benefit obligation	14	(16)

(1) Amount calculated based on 25 basis point increase / decrease in the expected return on assets.

(2) Amount calculated based on 25 basis point increase / decrease in the actual return on assets.

Refer to note 5 to the audited, consolidated financial statements for information on our potential liability for coordinating benefits related to the Central States Pension Fund.

Depreciation, Residual Value and Impairment of Fixed Assets

As of December 31, 2019, we had $30.482 billion of net fixed assets, the most significant category of which is aircraft. In accounting for fixed assets, we make estimates of the expected useful lives, the expected residual values and the potential for impairment based on the fair values of the assets and the cash flows which they generate.

In estimating the lives and expected residual values of aircraft, we rely upon actual experience with the same or similar aircraft types. Revisions to these estimates could be caused by changes to our maintenance programs, changes in the utilization of the aircraft, governmental regulations on aging aircraft and changing market prices of new and used aircraft of the same or similar types. We periodically evaluate these estimates and assumptions, and adjust them as necessary. Adjustments are accounted for on a prospective basis through depreciation expense. In 2019, we revised our estimates of the useful lives and residual values for certain airframes, engines and related rotable parts. This change increased the useful lives of certain fleet types and reduced the useful lives and residual values of the majority of our used aircraft. The net impact to 2019 depreciation expense was not material. In estimating cash flows, we project future volume levels for our different air products in all geographic regions in which we do business. Adverse changes in these volume forecasts, or a shortfall of our actual volume compared with our projections, could result in our current aircraft capacity exceeding current or projected demand. This situation could lead to an excess of a particular aircraft, resulting in an aircraft impairment charge or a reduction of the expected life of an aircraft (thus resulting in increased depreciation expense).

We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. As part of our ongoing investment in transformation in 2018, we revised our estimates of useful lives for building improvements, vehicles and plant equipment based on our current assessment of these factors. In general, these changes in estimate had the effect of lengthening the useful lives of vehicles, building improvements and plant equipment, and were applied prospectively beginning in 2018 through depreciation expense. See "Consolidated Operating Expenses" of this "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the discussion of the impacts to "Depreciation and Amortization." See note 1 to the audited, consolidated financial statements for a discussion of our accounting policies and note 4 for a discussion of the change in estimated useful lives.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on the undiscounted future cash flows of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified. The circumstances that would indicate potential impairment may include, but are not limited to, a significant change in the extent to which an asset is utilized and operating or cash flow losses associated with the use of the asset.

There were no impairment charges on our property, plant and equipment during 2019 or 2018.

Fair Value Measurements

In the normal course of business, we hold and issue financial instruments that contain elements of market risk, including derivatives, marketable securities, finance receivables, pension assets, other investments and debt. Certain of these financial instruments are required to be recorded at fair value, principally derivatives, marketable securities, pension assets and certain other investments. Fair values are based on listed market prices, when such prices are available. To the extent that listed market prices are not available, fair value is determined based on other relevant factors, including dealer price quotations. If listed market prices or other relevant factors are not available, inputs are developed from unobservable data reflecting our own assumptions and include situations where there is little or no market activity for the asset or liability. Certain financial instruments, including over-the-counter derivative instruments, are valued using pricing models that consider, among other factors, contractual and market prices, correlations, time value, credit spreads and yield curve volatility factors. Changes in the fixed income, foreign exchange and commodity markets will impact our estimates of fair value in the future, potentially affecting our results of operations. A quantitative sensitivity analysis of our exposure to changes in commodity prices, foreign currency exchange rates and interest rates is presented in the “Quantitative and Qualitative Disclosures about Market Risk” section of this report.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment.

For acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, technology and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. As a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Income Taxes

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of income by legal entity and jurisdiction, tax credits, benefits and deductions, and in the calculation of deferred tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes, as well as tax, interest and penalties related to uncertain tax positions. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover a substantial majority of the deferred tax assets recorded on our consolidated balance sheets. However, should there be a change in our ability to recover our deferred tax assets, our tax provision would increase in the period in which we determined that the recovery was not likely.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

See note 14 to the audited consolidated financial statements for a discussion of impacts of the Tax Act.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk*

We are exposed to market risk from changes in certain commodity prices, foreign currency exchange rates, interest rates and equity prices. All of these market risks arise in the normal course of business, as we do not engage in speculative trading activities. In order to manage the risk arising from these exposures, we utilize a variety of commodity, foreign exchange and interest rate forward contracts, options and swaps. A discussion of our accounting policies for derivative instruments and further disclosures are provided in note 1 to the audited, consolidated financial statements.

Commodity Price Risk

We are exposed to changes in the prices of refined fuels, principally jet-A, diesel and unleaded gasoline, as well as changes in the price of natural gas and other alternative fuels. Currently, the fuel surcharges that we apply to our domestic and international package and LTL services are the primary means of reducing the risk of adverse fuel price changes. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term. Additionally, we periodically use a combination of option, forward and futures contracts to provide partial protection from changing fuel and energy prices. As of December 31, 2019 and 2018, however, we had no commodity contracts outstanding.

Foreign Currency Exchange Risk

We have foreign currency risks related to our revenue, operating expenses and financing transactions in currencies other than the local currencies in which we operate. We are exposed to currency risk from the potential changes in functional currency values of our foreign currency-denominated assets, liabilities and cash flows. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We use forwards as well as a combination of purchased and written options to hedge forecasted cash flow currency exposures. These derivative instruments generally cover forecasted foreign currency exposures for periods of 12 to 48 months. We also utilize forward contracts to hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement.

Interest Rate Risk

We have issued debt instruments, including debt associated with finance leases, that accrue expense at fixed and floating rates of interest. We use a combination of interest rate swaps as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment and maturity dates of the swaps match the terms of the associated debt. We also utilize forward starting swaps and similar instruments to lock in all or a portion of the borrowing cost of anticipated debt issuances. Our floating-rate debt and interest rate swaps subject us to risk resulting from changes in short-term (primarily LIBOR) interest rates. For a discussion of the risks associated with the anticipated cessation of LIBOR, see Item 1A. Risk Factors - "The proposed phase out of the London Interbank Offer Rate ("LIBOR") could have an adverse effect on us".

We also are subject to interest rate risk with respect to our pension and postretirement benefit obligations, as changes in interest rates will effectively increase or decrease our liabilities associated with these benefit plans, which also results in changes to the amount of pension and postretirement benefit expense recognized in future periods.

We have investments in debt securities, as well as cash-equivalent instruments, some of which accrue income at variable rates of interest. Additionally, we hold a portfolio of finance receivables that accrue income at fixed and floating rates of interest.

Sensitivity Analysis

The following analysis provides quantitative information regarding our exposure to foreign currency exchange risk, interest rate risk and equity price risk embedded in our existing financial instruments. We utilize valuation models to evaluate the sensitivity of the fair value of financial instruments with exposure to market risk that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves and commodity and equity prices. For options and instruments with non-linear returns, models appropriate to the instrument are utilized to determine the impact of market shifts.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that exchange rates change in a parallel fashion and that interest rates change instantaneously. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is our best estimate of the impact of the specified interest rate scenarios, these estimates should not be viewed as forecasts. We adjust the fixed and floating interest rate mix of our interest rate sensitive assets and liabilities in response to changes in market conditions. Additionally, changes in the fair value of foreign currency derivatives and commodity derivatives are offset by changes in the cash flows of the underlying hedged foreign currency and commodity transactions.

	Shock-Test Result As of December 31,	
(in millions)	**2019**	**2018**
Change in Fair Value:		
Currency Derivatives[1]	$ (786)	$ (743)
Change in Annual Interest Expense:		
Variable Rate Debt[2]	$ 64	$ 58
Interest Rate Derivatives[2]	$ 37	$ 47
Change in Annual Interest Income:		
Marketable Securities[3]	$ —	$ 1

(1) The potential change in fair value from a hypothetical 10% weakening of the U.S. Dollar against local currency exchange rates across all maturities.

(2) The potential change in annual interest expense resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate debt and swap instruments (excluding hedges of anticipated debt issuances).

(3) The potential change in interest income resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate investment holdings.

The sensitivity of our pension and postretirement benefit obligations to changes in interest rates is quantified in “Critical Accounting Policies and Estimates”. The sensitivity in the fair value and interest income of our finance receivables due to changes in interest rates was not material as of December 31, 2019 and 2018.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, and cash flows, for each of the three years in the period ended December 31, 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 20, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for leases due to the adoption of Financial Accounting Standards Board Accounting Standards Update 2016-02, *Leases (Topic 842)*. This change has been applied on a modified retrospective basis effective on January 1, 2019.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Central States Pension Fund coordinating benefit obligation assumptions - Refer to Note 5, Company-Sponsored Employee Benefit Plans (Actuarial Assumptions - Central States Pension Fund), to the financial statements

Critical Audit Matter Description

The Company was a contributing employer to the Central States Pension Fund ("CSPF") until 2007 when it withdrew and fully funded its allocable share of unvested benefits. The Company agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") to CSPF participants whose last employer was the Company and who had not retired as of January 1, 2008 (the "UPS Transfer Group") if the CSPF were to lawfully reduce benefits consistent with the terms of its withdrawal agreement with the Company. The CSPF has asserted that, absent legislative reform, it will become insolvent in 2025. If the CSPF were to become insolvent consistent with that assertion, the Company may be required to provide coordinating benefits through the UPS/IBT Plan to the UPS Transfer Group.

Under accounting standards generally accepted in the United States of America ("GAAP"), the Company is required to determine its best estimate of the eventual outcome of this matter and is prohibited from anticipating potential changes in law in making that best estimate. The Company considered potential outcomes based on the existing legislative framework, including the eventual insolvency of the CSPF or an approved application to reduce benefits under the U.S. Multiemployer Pension Reform Act ("MPRA"). As the Company cannot consider a legislative solution when making its best estimate of its projected benefit obligation, the Company believes the trustees of the CSPF (the "Trustees") would be more likely to pursue an application to reduce benefits under the MPRA than they would be to allow the insolvency of the CSPF.

Based upon this possible outcome, the Company developed assumptions related to 1) the order in which benefits would be reduced to groups of participants under MPRA, 2) whether CSPF can reduce benefits to the UPS Transfer Group under MPRA without the Company's consent, 3) the timing and effective date of a MPRA application, and 4) the actuarial assumptions associated with the timing of future CSPF cash flows. Based on the Company's deterministic cash flow projection, management recorded a projected benefit obligation of $2.6 billion for the CSPF coordinating benefits at December 31, 2019. Given that the passage of time or changes in actuarial assumptions could reduce or eliminate the effectiveness of a MPRA application in the future, it is reasonably possible that, at the next measurement date, the projected benefit obligation could increase by approximately $2.2 billion, resulting in a total obligation for the CSPF coordinating benefits of $4.8 billion. The Company also developed disclosures of the risks and uncertainties associated with this matter.

The assumptions require significant management judgment and the following audit considerations:

1. Auditing management's conclusion that the CSPF benefits to the UPS Transfer Group cannot be reduced without first exhausting benefit reductions to the other CSPF participants is challenging because there appears to be multiple legal interpretations of the benefit reduction provisions of MPRA and those provisions have not yet been litigated.
2. Auditing management's conclusion that the CSPF could not reduce benefits to the UPS Transfer Group without the Company's consent requires judgment because the agreement between CSPF and the Company requiring such consent was made before the passage of MPRA and has not yet been litigated.
3. Auditing management's assumptions related to the timing and effective date of a MPRA application is subjective.
4. Auditing the actuarial assumptions used to estimate the timing and present value of future CSPF cash flows is challenging because the underlying data is limited to information made publicly available by the CSPF.

5. Auditing the sufficiency of the Company's disclosure of this matter in the footnotes to the financial statements is challenging due to the number of uncertainties associated with the potential obligation.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures to address the Company's assumptions used to measure its potential obligation to pay for CSPF coordinating benefits to the UPS Transfer Group (the "Coordinating Benefits") included the following, among others:

- We tested the effectiveness of controls over Coordinating Benefits assumptions, including those over the determination of the accounting model, the key legal positions relevant to determining its Coordinating Benefits obligation, the other actuarial assumptions used to project the potential Coordinating Benefits obligation; and the related financial statement disclosures.

- With the assistance of professionals in our firm having expertise in pension accounting, we evaluated the Company's conclusions regarding the accounting model applied to the Coordinating Benefits obligation through consideration of possible alternatives under GAAP.

- We evaluated the Company's assumptions used in determining the most likely outcome of the CSPF matter under the existing legislative framework. In order to evaluate the Company's expectation that the Trustees would pursue another benefit suspension in order to avoid insolvency, we obtained evidence regarding the fiduciary responsibilities of the Trustees to govern the CSPF in a manner that continues to provide benefits to participants and their beneficiaries.

- We evaluated the Company's conclusion that 1) the CSPF could not reduce benefits to the UPS Transfer Group under MPRA without first exhausting benefit reductions to the other CSPF participants and 2) the CSPF could not reduce benefits without obtaining the Company's consent based on the terms of an agreement between the CSPF and the Company. Specifically, we examined letters from internal and external counsel describing both counsel's conclusion that those positions are more likely than not to be sustained if they were to be litigated. With the assistance of professionals in our firm having expertise in legal matters, we also evaluated whether the legal arguments supporting this assertion had substantive legal basis.

- With the assistance of our actuarial specialists, we tested the underlying data and actuarial model used by management to estimate the potential obligation to provide Coordinating Benefits, including consideration of (1) the expected timing of CSPF benefit reductions; (2) the discount rate; (3) the projected contributions and benefit payments; and (4) the expected return on CSPF assets. Further, because the data used by management is limited to publicly available CSPF information, we considered whether other available sources of data may yield a more precise estimate.

- We compared the Company's footnote disclosure relating to this matter to the information communicated between management and the Company's audit committee to evaluate whether significant uncertainties had been omitted from the disclosure.

Valuation of U.S. hedge fund, risk parity, private debt, private equity and real estate investments - Refer to Note 5, Company-Sponsored Employee Benefit Plans (Fair Value Measurements), to the financial statements

Critical Audit Matter Description

The Company's U.S. pension and postretirement medical benefit plans (the "U.S. Plans") held hedge fund, risk parity, private debt, private equity and real estate investments valued at $7.6 billion as of December 31, 2019.

The Company determines the reported values of the U.S. Plans' investments in hedge, risk parity, private debt, private equity and real estate funds primarily based on the estimated net asset value ("NAV") of the fund. In order to estimate NAV, the Company evaluates audited and unaudited financial reports from fund managers, and makes adjustments, as appropriate, for investment activity between the date of the financial reports and December 31st. These investments are not actively traded, and their values can only be estimated using these subjective assumptions.

Auditing the estimated NAV of these hedge fund, risk parity, private debt, private equity and real estate instruments requires a high degree of auditor judgment and subjectivity to evaluate the completeness, reliability and relevance of the inputs used by management.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the inputs used by management to estimate the NAV of the U.S. Plans' hedge fund, risk parity, private debt, private equity and real estate investments included the following, among others:

- We tested the effectiveness of controls, including those related to the reliability of values reported by fund managers, the relevance of asset class benchmark returns, and the completeness and accuracy of unobservable inputs related to the underlying assets of the funds.

- For certain investments, we confirmed directly with the respective fund manager its preliminary estimate of the fund's NAV as of December 31, 2019.

- We evaluated the Company's ability to accurately estimate NAV for these funds by comparing each fund's recorded valuation as of its most recent fiscal year end to the audited fund financial statements (which are received in arrears of the Company's reporting timetable).

Revenue - Refer to Note 2, Revenue Recognition, to the financial statements

Critical Audit Matter Description

Approximately 80 percent of the Company's revenues are from its global small package operations that provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. The Company's global small package revenues are comprised of a significant volume of low-dollar transactions sourced from systems that were primarily developed by the Company. The processing of transactions, including the recording of them, is highly automated and based on contractual terms with the Company's customers.

Auditing global small package revenue required a significant extent of effort and the involvement of professionals with expertise in information technology ("IT") necessary for us to identify, test, and evaluate the Company's systems, software applications, and automated controls.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the Company's systems to process global small package revenue transactions included the following, among others:

- With the assistance of our IT specialists, we:

    - Identified the significant systems used to process global small package revenue transactions and tested the effectiveness of the general IT controls over each of these systems, including testing of user access controls, change management controls, and IT operations controls.

    - Tested the effectiveness of system interface controls and automated controls within the global small package revenue stream, as well as the controls designed to ensure the accuracy and completeness of revenue. We tested the effectiveness of controls over the relevant global small package revenue business processes, including those in place to reconcile the various systems to the Company's general ledger.

- We performed analytical procedures to evaluate the Company's recorded revenue and evaluate trends.

- For a sample of customers, we read the Company's contract with the customer and evaluated the Company's pattern of revenue recognition for the customer. In addition, we evaluated the accuracy of the Company's recorded global small package revenue for a sample of customer invoices.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 20, 2020

We have served as the Company's auditor since 1969.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In millions)

	December 31, 2019	December 31, 2018
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 5,238	$ 4,225
Marketable securities	503	810
Accounts receivable, net	9,552	8,958
Current income taxes receivable	382	940
Other current assets	1,428	1,277
Total Current Assets	17,103	16,210
Property, Plant and Equipment, Net	30,482	26,576
Operating Lease Right-Of-Use Assets	2,856	—
Goodwill	3,813	3,811
Intangible Assets, Net	2,167	2,075
Investments and Restricted Cash	24	170
Deferred Income Tax Assets	330	141
Other Non-Current Assets	1,082	1,033
Total Assets	$ 57,857	$ 50,016
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Current maturities of long-term debt and commercial paper	$ 3,420	$ 2,805
Current maturities of operating leases	538	—
Accounts payable	5,555	5,188
Accrued wages and withholdings	2,552	3,047
Self-insurance reserves	914	810
Accrued group welfare and retirement plan contributions	793	715
Other current liabilities	1,641	1,522
Total Current Liabilities	15,413	14,087
Long-Term Debt and Finance Leases	21,818	19,931
Non-Current Operating Leases	2,391	—
Pension and Postretirement Benefit Obligations	10,601	8,347
Deferred Income Tax Liabilities	1,632	1,619
Self-Insurance Reserves	1,282	1,571
Other Non-Current Liabilities	1,437	1,424
Shareowners' Equity:		
Class A common stock (156 and 163 shares issued in 2019 and 2018)	2	2
Class B common stock (701 and 696 shares issued in 2019 and 2018)	7	7
Additional paid-in capital	150	—
Retained earnings	9,105	8,006
Accumulated other comprehensive loss	(5,997)	(4,994)
Deferred compensation obligations	26	32
Less: Treasury stock (0.4 shares in 2019 and 0.6 shares in 2018)	(26)	(32)

Total Equity for Controlling Interests	3,267	3,021
Noncontrolling Interests	16	16
Total Shareowners' Equity	3,283	3,037
Total Liabilities and Shareowners' Equity	$ 57,857	$ 50,016

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

STATEMENTS OF CONSOLIDATED INCOME

(In millions, except per share amounts)

	Years Ended December 31,		
	2019	**2018**	**2017**
Revenue	$ 74,094	$ 71,861	$ 66,585
Operating Expenses:			
Compensation and benefits	38,908	37,235	34,577
Repairs and maintenance	1,838	1,732	1,601
Depreciation and amortization	2,360	2,207	2,282
Purchased transportation	12,590	13,409	11,696
Fuel	3,289	3,427	2,690
Other occupancy	1,392	1,362	1,155
Other expenses	5,919	5,465	5,055
Total Operating Expenses	66,296	64,837	59,056
Operating Profit	7,798	7,024	7,529
Other Income and (Expense):			
Investment income (expense) and other	(1,493)	(400)	61
Interest expense	(653)	(605)	(453)
Total Other Income and (Expense)	(2,146)	(1,005)	(392)
Income Before Income Taxes	5,652	6,019	7,137
Income Tax Expense	1,212	1,228	2,232
Net Income	$ 4,440	$ 4,791	$ 4,905
Basic Earnings Per Share	$ 5.14	$ 5.53	$ 5.63
Diluted Earnings Per Share	$ 5.11	$ 5.51	$ 5.61

STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)

(In millions)

	Years Ended December 31,		
	2019	**2018**	**2017**
Net Income	$ 4,440	$ 4,791	$ 4,905
Change in foreign currency translation adjustment, net of tax	48	(149)	86
Change in unrealized gain (loss) on marketable securities, net of tax	6	—	(1)
Change in unrealized gain (loss) on cash flow hedges, net of tax	72	485	(321)
Change in unrecognized pension and postretirement benefit costs, net of tax	(1,129)	272	(148)
Comprehensive Income (Loss)	$ 3,437	$ 5,399	$ 4,521

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED CASH FLOWS
(In millions)

	Years Ended December 31,		
	2019	**2018**	**2017**
Cash Flows From Operating Activities:			
Net income	$ 4,440	$ 4,791	$ 4,905
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	2,360	2,207	2,282
Pension and postretirement benefit expense	3,141	2,242	1,643
Pension and postretirement benefit contributions	(2,362)	(186)	(7,794)
Self-insurance reserves	(185)	(86)	—
Deferred tax (benefit) expense	100	758	1,224
Stock compensation expense	915	634	584
Other (gains) losses	74	293	37
Changes in assets and liabilities, net of effects of business acquisitions:			
Accounts receivable	(717)	(421)	(1,022)
Other assets	698	754	(984)
Accounts payable	419	1,034	599
Accrued wages and withholdings	(446)	505	200
Other liabilities	182	170	(243)
Other operating activities	20	16	48
Net cash from operating activities	8,639	12,711	1,479
Cash Flows From Investing Activities:			
Capital expenditures	(6,380)	(6,283)	(5,227)
Proceeds from disposals of property, plant and equipment	65	37	24
Purchases of marketable securities	(561)	(973)	(1,630)
Sales and maturities of marketable securities	883	886	1,990
Net change in finance receivables	13	4	5
Cash paid for business acquisitions, net of cash and cash equivalents acquired	(6)	(2)	(134)
Other investing activities	(75)	1	1
Net cash (used in) investing activities	(6,061)	(6,330)	(4,971)
Cash Flows From Financing Activities:			
Net change in short-term debt	310	63	(250)
Proceeds from long-term borrowings	5,205	1,202	12,016
Repayments of long-term borrowings	(3,096)	(2,887)	(3,939)
Purchases of common stock	(1,004)	(1,011)	(1,813)
Issuances of common stock	218	240	247
Dividends	(3,194)	(3,011)	(2,771)
Other financing activities	(166)	(288)	(203)
Net cash (used in)/from financing activities	(1,727)	(5,692)	3,287
Effect Of Exchange Rate Changes On Cash, Cash Equivalents and Restricted Cash	20	(91)	53

Net Increase (Decrease) In Cash, Cash Equivalents and Restricted Cash	871	598	(152)
Cash, Cash Equivalents and Restricted Cash:			
Beginning of period	4,367	3,769	3,921
End of period	$ 5,238	$ 4,367	$ 3,769
Cash Paid During The Period For:			
Interest (net of amount capitalized)	$ 628	$ 595	$ 428
Income taxes (net of refunds and overpayments)	$ 514	$ 2	$ 1,559

See notes to audited, consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF ACCOUNTING POLICIES

Basis of Financial Statements and Business Activities

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"), and include the accounts of United Parcel Service, Inc., and all of its consolidated subsidiaries (collectively "UPS" or the "Company"). All intercompany balances and transactions have been eliminated.

We provide transportation services, primarily domestic and international letter and package delivery. Through our Supply Chain & Freight subsidiaries, we are also a global provider of specialized transportation, logistics and financial services.

Use of Estimates

The preparation of our consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingencies. Estimates have been prepared on the basis of the most current and best information, and actual results could differ materially from those estimates.

Revenue Recognition

U.S. Domestic and International Package Operations—Revenue is recognized over time as we perform the services in the contract.

Forwarding —Freight forwarding revenue and the expense related to the transportation of freight are recognized over time as we perform the services. Truckload brokerage revenue and related transportation costs are recognized over time as we perform the services. Customs brokerage revenue is recognized upon completing documents necessary for customs entry purposes.

Logistics —In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

UPS Freight—Revenue is recognized over time as we perform the services in the contract.

Financial Services—Income on loans and direct finance leases is recognized on the effective interest method. Accrual of interest income is suspended at the earlier of the time at which collection of an account becomes doubtful or the account becomes 90 days delinquent. Income on operating leases is recognized on the straight-line method over the terms of the underlying leases.

Principal vs. Agent Considerations—We utilize independent contractors and third-party carriers in the performance of some transportation services. GAAP requires us to evaluate whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent) using a control model. Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. Revenue and the associated purchased transportation costs are reported on a gross basis within our statements of consolidated income.

Refer to note 2 for further discussion of our revenue recognition policies.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments that are readily convertible into cash. We consider securities with maturities of three months or less, when purchased, to be cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

Investments

Debt securities are either classified as trading or available-for-sale securities and are carried at fair value. Unrealized gains and losses on trading securities are reported as investment income (expense) and other on the statements of consolidated income. Unrealized gains and losses on available-for-sale securities are reported as accumulated other comprehensive income ("AOCI"), a separate component of shareowners' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in investment income (expense) and other, along with interest and dividends. The cost of securities sold is based on the specific identification method; realized gains and losses resulting from such sales are included in investment income (expense) and other.

We periodically review our available-for-sale investments for indications of other-than-temporary impairment considering many factors, including the extent and duration to which a security's fair value has been less than its cost, overall economic and market conditions and the financial condition and specific prospects for the issuer. Impairment of available-for-sale securities results in a charge to income when a market decline below cost is other-than-temporary.

Inventories

Fuel and other materials and supplies inventories are recognized as inventory when purchased, and then charged to expense when used in our operations. Jet fuel, diesel and unleaded gasoline inventories are valued at the lower of average cost or net realizable value. Total inventories were $511 and $421 million as of December 31, 2019 and 2018, respectively, and are included in "Other current assets" on the consolidated balance sheets.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. As part of our ongoing investment in transformation in 2018, we revised our estimates of useful lives for building improvements, vehicles and plant equipment based on our current assessment of these factors. In 2019, we revised our estimates of useful lives and residual values for certain airframes, engines and related rotable parts. The changes in estimate had the effect of lengthening the useful lives of building improvements, vehicles, plant equipment and certain aircraft, and reduced the useful lives and residual values of the majority of our used aircraft.

Depreciation and amortization are provided by the straight-line method over the estimated useful lives of the assets, which are as follows:

- Aircraft: 12 to 40 years
- Buildings: 20 to 40 years
- Leasehold Improvements: lesser of asset useful life or lease term
- Plant Equipment: 3 to 20 years
- Technology Equipment: 3 to 5 years
- Vehicles: 6 to 15 years

For substantially all of our aircraft, the costs of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred.

Interest incurred during the construction period of certain property, plant and equipment is capitalized until the underlying assets are placed in service, at which time amortization of the capitalized interest begins, straight-line, over the estimated useful lives of the related assets. Capitalized interest was $91 and $97 million in 2019 and 2018, respectively.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on its undiscounted future cash flows. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified.

Leased Assets

For a discussion of our accounting policies related to leased assets, refer to note 10.

Goodwill and Intangible Assets

Costs of purchased businesses in excess of net identifiable assets acquired (goodwill), and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. We are required to test goodwill on a reporting unit basis. A reporting unit is the operating segment unless, for businesses within that operating segment, discrete financial information is prepared and regularly reviewed by management, in which case such a component business is the reporting unit.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We consider several factors, including macroeconomic conditions, industry and market conditions, overall financial performance of the reporting unit, changes in management, strategy or customers and relevant reporting unit-specific events such as a change in the carrying amount of net assets, a more likely than not expectation of selling or disposing of all, or a portion of, a reporting unit, and the testing for recoverability of a significant asset group within a reporting unit. If this qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed for that reporting unit.

If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds its calculated fair value, then the second step is performed, and an impairment charge is recognized for the amount, if any, by which the carrying amount of goodwill exceeds its implied fair value. We primarily determine the fair value of our reporting units using a discounted cash flow model and supplement this with observable valuation multiples for comparable companies, as appropriate.

A trade name with a carrying value of $200 million and licenses with a carrying value of $4 million as of December 31, 2019 are considered to be indefinite-lived intangibles, and therefore are not amortized. Indefinite-lived intangible assets are reviewed for impairment at least annually. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method to estimate the fair value of the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value.

Finite-lived intangible assets, including trademarks, licenses, patents, customer lists, non-compete agreements and franchise rights are amortized on a straight-line basis over the estimated useful lives of the assets, which range from 2 to 22 years. Capitalized software is generally amortized over 7 years.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. The expected ultimate cost for claims incurred is estimated based upon historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of our reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve a claim. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs, the results of any related litigation and with respect to workers' compensation claims, changes in legislation. Furthermore, claims may emerge in a future year for events that occurred in a prior year at a rate that differs from actuarial projections. All of these factors can result in revisions to actuarial projections and produce a material difference between estimated and actual operating results. Based on our historical experience, during 2019 we changed our self-insurance reserves from the central estimate to the low end of the actuarial range of losses. The principal result of this change was a decrease in expense of $94 million and an increase in net income of $72 million, or $0.08 per share on a basic and diluted basis. We believe our estimated reserves for such claims are adequate, but actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation.

Pension and Postretirement Benefits

We incur certain employment-related expenses associated with pension and postretirement medical benefits. These pension and postretirement medical benefit costs for company-sponsored benefit plans are calculated using various actuarial assumptions and methodologies, including discount rates, expected returns on plan assets, healthcare cost trend rates, inflation, compensation increase rates, mortality rates and coordination of benefits with plans not sponsored by UPS. Actuarial assumptions are reviewed on an annual basis, unless circumstances require an interim remeasurement of any of our plans.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plan's projected benefit obligation) in net periodic benefit cost other than service cost annually at December 31st each year. The remaining components of pension expense, primarily service and interest costs and the expected return on plan assets, are recorded on a quarterly basis.

For eligible employees hired after July 1, 2016, UPS contributes annually to a defined contribution plan. We recognize expense for the required contribution quarterly, and we recognize a liability for any contributions due and unpaid (included in “Other current liabilities”).

During June 2017, we amended the UPS Retirement Plan and Excess Coordinating Plan to cease accrual of additional benefits for future service for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations for the affected pension plans as of June 30, 2017 to recognize the impact of this change.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. Our contributions to these plans are determined in accordance with the respective collective bargaining agreements. We recognize expense for the contractually required contribution for each period, and we recognize a liability for any contributions due and unpaid within “Other current liabilities”.

Income Taxes

Income taxes are accounted for on an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than proposed changes in the tax law or rates. Valuation allowances are provided if it is more likely than not that a deferred tax asset will not be realized.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

In January 2018, the Financial Accounting Standards Board ("FASB") released guidance on the accounting for tax on the Global Intangible Low-Taxed Income ("GILTI") provisions of the Tax Cuts and Jobs Act (the "Tax Act"). The GILTI provisions impose U.S. tax on certain foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period costs are both acceptable methods subject to an accounting policy election. We elect to treat any potential GILTI inclusions as period costs.

Foreign Currency Translation and Remeasurement

We translate the results of operations of our foreign subsidiaries using average exchange rates during each period, whereas balance sheet accounts are translated using exchange rates at the end of each period. Balance sheet currency translation adjustments are recorded in AOCI. Pre-tax foreign currency transaction gains (losses) from remeasurement, net of hedging, included in investment income (expense) and other were $(6), $(19) and $3 million in 2019, 2018 and 2017, respectively.

Stock-Based Compensation

All share-based awards to employees are measured based on their fair values and expensed over the period during which an employee is required to provide service in exchange for the award (the vesting period), less estimated forfeitures. We have issued employee share-based awards under the UPS Incentive Compensation Plan that are subject to specific vesting conditions, including service conditions, where the awards cliff vest or vest ratably over a one, three, or five year period (the "nominal vesting period") or at the date the employee retires (as defined by the plan), if earlier. Compensation cost is generally recognized immediately for awards granted to retirement-eligible employees, or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. We estimate forfeiture rates based on historical rates of forfeitures for awards with similar characteristics, historical rates of employee turnover and the nature and terms of the vesting conditions of the awards. We reevaluate our forfeiture rates on an annual basis.

Fair Value Measurements

Our financial assets and liabilities measured at fair value on a recurring basis have been categorized based upon a fair value hierarchy. Level 1 inputs utilize quoted prices in active markets for identical assets or liabilities. Level 2 inputs are based on other observable market data, such as quoted prices for similar assets and liabilities, and inputs other than quoted prices that are observable, such as interest rates and yield curves. Level 3 inputs are developed from unobservable data reflecting our own assumptions, and include situations where there is little or no market activity for the asset or liability.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment. A general description of the valuation methodologies used for assets and liabilities measured at fair value, including the general classification of such assets and liabilities pursuant to the valuation hierarchy, is included in each footnote with fair value measurements present.

For acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets, including but are not limited to, future expected cash flows from acquired customers, acquired technology and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Derivative Instruments

We recognize all derivative instruments as assets or liabilities in the consolidated balance sheets at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the derivative, based upon the exposure being hedged, as a cash flow hedge, a fair value hedge or a hedge of a net investment in a foreign operation.

A cash flow hedge refers to hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. For derivative instruments that are designated and qualify as cash flow hedges, the gain or loss on the derivative instrument is reported as a component of AOCI, and reclassified into earnings in the same period during which the hedged transaction affects earnings.

A fair value hedge refers to hedging the exposure to changes in the fair value of an existing asset or liability in the consolidated balance sheets that is attributable to a particular risk. For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative instrument is recognized in the statements of consolidated income during the current period, as well as the offsetting gain or loss on the hedged item.

A net investment hedge refers to the use of cross currency swaps, forward contracts or foreign currency denominated debt to hedge portions of net investments in foreign operations. For hedges that meet the hedge accounting requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in the foreign currency translation adjustment within AOCI, and are recorded in the income statement when the hedged item affects earnings.

Adoption of New Accounting Standards

In May 2014, the FASB issued an accounting standards update ("ASU") that changes the revenue recognition for companies that enter into contracts with customers to transfer goods or services (*"Revenue from Contracts with Customers")*. The standard is a comprehensive new revenue recognition model that requires revenue to be recognized in a manner depicting the transfer of goods or services to a customer at an amount that reflects the consideration expected to be received in exchange for those goods or services. The FASB also issued a number of updates to this standard. Effective January 1, 2018, we adopted the requirements of this ASU using the full retrospective method. See note 2 for disclosures required by this ASU.

In January 2016, the FASB issued an ASU which addresses certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. We adopted this standard on January 1, 2018. The adoption of this ASU did not have a material impact on our consolidated financial position, results of operations or cash flows.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which requires lessees to recognize a right-of-use asset and lease liability on their balance sheet for all leases with terms beyond twelve months. The new standard also requires enhanced disclosures that provide more transparency and information to financial statement users about lease portfolios. Effective January 1, 2019, we adopted the requirements of this ASU using the modified retrospective approach. We elected the transition package of practical expedients permitted within the standard. As a result, we did not reassess initial direct costs, lease classification, or whether our contracts contain or are leases. We also made an accounting policy election to not recognize right-of-use assets and liabilities for leases with an original lease term of twelve months or less, unless the leases include options to renew or purchase the underlying asset that are reasonably certain to be exercised.

The adoption on January 1, 2019 resulted in the recognition of right-of-use assets for operating leases of approximately $2.65 billion and operating lease liabilities of approximately $2.70 billion. The consolidated financial statements for the year ended December 31, 2019 are presented under the new standard, while comparative periods presented have not been adjusted and continue to be reported in accordance with the previous standard. See note 10 for additional disclosures required by this ASU.

In August 2016, the FASB issued an ASU that addressed the classification and presentation of specific cash flow matters. The guidance also clarified how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. The guidance was applied retrospectively. We adopted this standard on January 1, 2018. This standard did not have a material impact on our statements of consolidated cash flows.

In November 2016, the FASB issued an ASU intended to reduce diversity in practice by adding or clarifying guidance on classification and presentation of changes in restricted cash on the statement of cash flows (*"Restricted Cash")*. Effective January 1, 2018, we adopted the requirements of this ASU retrospectively. As a result of this update, restricted cash is included within cash and cash equivalents on our statements of consolidated cash flows.

In March 2017, the FASB issued an ASU to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost (*"Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost")*. The update requires employers to report the current service cost component in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of net periodic benefit cost are required to be presented separately from service cost and outside of income from operations. Effective January 1, 2018, we adopted the requirements of this ASU retrospectively, as required. As a result of this update, the net amount of interest cost, prior service cost and expected return on plan assets is now presented as other income.

In March 2017, the FASB issued an ASU requiring the premium on callable debt securities to be amortized to the earliest call date. We adopted this standard on January 1, 2019. It did not have a material impact on our consolidated financial position, results of operations or cash flows.

In May 2017, the FASB issued an ASU to provide clarity and reduce complexity on when to apply modification accounting to existing share-based payment awards. We adopted this standard on January 1, 2018. This ASU did not have a material impact on our consolidated financial position, results of operations or cash flows.

In August 2017, the FASB issued an ASU to enhance recognition of the economic results of hedging activities in the financial statements. In addition, the update made certain targeted improvements to simplify the application of hedge accounting guidance and increase transparency regarding the scope and results of hedging activities. We adopted this standard on January 1, 2019. It did not have a material impact on our consolidated financial position, results of operations or cash flows but did require additional disclosures. See note 16 for disclosures required by this ASU.

In February 2018, the FASB issued an ASU that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act. Effective January 1, 2018, we early adopted this ASU and elected to reclassify the income tax effects of the Tax Act from AOCI to retained earnings. This resulted in a $735 million increase to retained earnings and a $735 million decrease to AOCI. Our current accounting policy for releasing income tax effects from other comprehensive income is based on a portfolio approach.

In August 2018, the FASB issued an ASU that modifies the disclosure requirements for employers that sponsor defined benefit pension and postretirement plans. The update eliminates the disclosures for amounts in AOCI expected to be recognized as components of net periodic cost over the next fiscal year and the effects of a one percentage point change in the assumed healthcare cost trend rate. The update adds disclosure requirements to include the weighted-average interest crediting rates for cash balance plans and a narrative description of the significant gains and losses related to changes in the benefit obligation for the period. We early adopted this standard for the year ended December 31, 2018 with retrospective application. The adoption of this ASU did not have a material impact on our consolidated financial position, results of operations or cash flows.

We have recast our consolidated financial statements from amounts previously reported due to the adoption of new revenue recognition, pension and restricted cash standards. The unaudited consolidated statements of operations, which reflect the adoption of the new ASUs, are as follows (in millions):

	Twelve months ended December 31, 2017				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Revenue	$ 65,872	$ 713	$ —	$ —	$ 66,585
Operating Expenses:					
Compensation and benefits	34,588	—	(11)	—	34,577
Repairs and maintenance	1,600	1	—	—	1,601
Depreciation and amortization	2,282	—	—	—	2,282
Purchased transportation	10,989	707	—	—	11,696
Fuel	2,690	—	—	—	2,690
Other occupancy	1,155	—	—	—	1,155
Other expenses	5,039	16	—	—	5,055
Total Operating Expenses	58,343	724	(11)	—	59,056
Operating Profit	7,529	(11)	11	—	7,529
Other Income and (Expense):					
Investment income (expense) and other	72	—	(11)	—	61
Interest expense	(453)	—	—	—	(453)
Total Other Income and (Expense)	(381)	—	(11)	—	(392)
Income Before Income Taxes	7,148	(11)	—	—	7,137
Income Tax Expense (Benefit)	2,238	(6)	—	—	2,232
Net Income	$ 4,910	$ (5)	$ —	$ —	$ 4,905
Basic Earnings Per Share	$ 5.64	$ (0.01)	$ —	$ —	$ 5.63
Diluted Earnings Per Share	$ 5.61	$ —	$ —	$ —	$ 5.61

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

The unaudited impacted consolidated statement of cash flows line items, which reflect the adoption of the new ASUs, are as follows (in millions):

	Twelve Months Ended December 31, 2017				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Net Income	$ 4,910	$ (5)	$ —	$ —	$ 4,905
Adjustments to reconcile net income to net cash from operating activities:					
Deferred tax (benefit) expense	1,230	(6)	—	—	1,224
Other assets	(982)	(2)	—	—	(984)
Accounts payable	592	7	—	—	599
Accrued wages and withholdings	193	7	—	—	200
Other liabilities	(241)	(2)	—	—	(243)
Other operating activities	47	1			48
Cash flows from operating activities	1,479	—	—	—	1,479
Purchase of marketable securities	(1,634)	—	—	4	(1,630)
Net cash used in investing activities	(4,975)	—	—	4	(4,971)
Net decrease in cash, cash equivalents and restricted cash	(156)	—	—	4	(152)
Cash, cash equivalents and restricted cash at the beginning of period	3,476	—	—	445	3,921
Cash, cash equivalents and restricted cash at the end of period	$ 3,320	$ —	$ —	$ 449	$ 3,769

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

Other accounting pronouncements adopted during the periods covered by the consolidated financial statements did not have a material impact on our consolidated financial position, results of operations or cash flows.

Accounting Standards Issued But Not Yet Effective

In June 2016, the FASB issued an ASU introducing an expected credit loss methodology for the measurement of financial assets not accounted for at fair value. The methodology replaces the probable, incurred loss model for those assets. The standard will be effective for us in the first quarter of 2020. We are substantially complete with our evaluation of the adoption on our consolidated financial statements and internal controls over financial reporting. This adoption will not have a material impact on our consolidated financial position, results of operations or cash flows. We will update our process for calculating our allowance for doubtful accounts to include reasonable and supportable forecasts that could affect expected collectability.

In January 2017, the FASB issued an ASU to simplify the accounting for goodwill impairment. The update removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. Under this ASU, goodwill impairment will be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The standard will be effective for us in the first quarter of 2020. We do not expect this ASU to have a material impact on our consolidated financial position, results of operations or cash flows.

In December 2019, the FASB issued an ASU to simplify the accounting for income taxes. The update removes certain exceptions to the general income tax principles. The standard will be effective for us in the first quarter of

2021. We are evaluating the impact of its adoption on our consolidated financial statements and internal control over financial reporting environment, but do not expect this ASU to have a material impact on our consolidated financial position, results of operations or cash flows.

Other accounting pronouncements issued, but not effective until after December 31, 2019, are not expected to have a material impact on our consolidated financial position, results of operations or cash flows.

NOTE 2. REVENUE RECOGNITION

Revenue Recognition

Substantially all of our revenues are from contracts associated with the pick-up, transportation and delivery of packages and freight ("transportation services"), whether carried out or arranged by UPS, either domestically or internationally, which generally occurs over a short period of time. Additionally, we provide value-added logistics services to customers, both domestically and internationally, through our global network of company-owned and leased distribution centers and field stocking locations.

Disaggregation of Revenue

	Year Ended December 31,		
	2019	2018	2017
Revenue:			
Next Day Air	$ 8,479	$ 7,618	$ 7,088
Deferred	5,180	4,752	4,422
Ground	32,834	31,223	29,251
U.S. Domestic Package	$ 46,493	$ 43,593	$ 40,761
Domestic	$ 2,836	$ 2,874	$ 2,646
Export	10,837	10,973	10,170
Cargo & Other	547	595	526
International Package	$ 14,220	$ 14,442	$ 13,342
Forwarding	$ 5,867	$ 6,580	$ 5,674
Logistics	3,435	3,234	3,017
Freight	3,265	3,218	3,000
Other	814	794	791
Supply Chain & Freight	$ 13,381	$ 13,826	$ 12,482
Consolidated revenue	$ 74,094	$ 71,861	$ 66,585

We account for a contract when both parties have approved the contract and are committed to perform their obligations, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the basis of revenue recognition in accordance with GAAP. To determine the proper revenue recognition method for contracts, we evaluate whether two or more contracts should be combined and accounted for as a single contract, and whether the combined or single contract should be accounted for as more than one performance obligation. This evaluation requires judgment, and the decision to combine a group of contracts or to separate the combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period. Within most of our contracts, the customer contracts with us to provide distinct services, such as transportation services. The vast majority of our contracts with customers for transportation services include only one performance obligation; the transportation services themselves. However, if a contract is separated into more than one performance obligation, we allocate the total transaction price to each performance obligation based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. We frequently sell standard transportation services with observable standalone sales prices. In these instances, the observable standalone sales are used to determine the standalone selling price.

In certain business units, such as Logistics, we sell customized, customer-specific solutions in which we provide a significant service of integrating a complex set of tasks and components into a single capability (even if that single capability results in the delivery of multiple units). Hence, the entire contract is accounted for as one performance obligation. In these cases we typically use the expected cost plus a margin approach to estimate the standalone selling price of each performance obligation.

Satisfaction of Performance Obligations

We generally recognize revenue over time as we perform the services in the contract because of the continuous transfer of control to the customer. Our customers receive the benefit of our services as the goods are transported from one location to another. Further, if we were unable to complete delivery to the final location, another entity would not need to reperform the transportation service already performed.

As control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. We use the cost-to-cost measure of progress for our package delivery contracts because it best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including ancillary or accessorial fees and reductions for estimated customer incentives, are recorded proportionally as costs are incurred. Costs to fulfill include labor and other direct costs and an allocation of indirect costs. For our freight and freight forwarding contracts, an output method of progress based on time-in-transit is utilized as the timing of costs incurred does not best depict the transfer of control to the customer. In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

Variable Consideration

It is common for our contracts to contain customer incentives, guaranteed service refunds or other provisions that can either increase or decrease the transaction price. These variable amounts are generally dependent upon achievement of certain incentive tiers or performance metrics. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts of revenue, which may be reduced by incentives or other contract provisions, in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of anticipated customer spending and all information (historical, current and forecasted) that is reasonably available to us.

Contract Modifications

Contracts are often modified to account for changes in the rates we charge our customers or to add additional distinct services. We consider contract modifications to exist when the modification either creates new, or changes the existing, enforceable rights and obligations. Contract modifications that add additional distinct goods or services are treated as separate contracts. Contract modifications that do not add distinct goods or services typically change the price of existing services. These contract modifications are accounted for prospectively as the remaining performance obligations are distinct.

Payment Terms

Under the typical payment terms of our customer contracts, the customer pays at periodic intervals (i.e. every 14 days, 30 days, 45 days, etc.) for shipments included on invoices received. Invoices are generated each week on the week-ending day, which is Saturday for the majority of our U.S. Domestic Package business, but could be another day depending on the business unit or the specific agreement with the customer. It is not customary business practice to extend payment terms past 90 days, and as such, we do not have a practice of including a significant financing component within our contracts with customers.

Principal vs. Agent Considerations

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. GAAP requires us to evaluate, using a control model, whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent). Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. Revenue and the associated purchased transportation costs are both reported on a gross basis within our statements of consolidated income.

Accounts Receivable, Net

Accounts receivable, net, include amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. Losses on accounts receivable are recognized when they are incurred, which requires us to make our best estimate of the probable losses inherent in our customer receivables at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, trends in customer payment frequency, and judgments about the probable effects of relevant observable data, including present economic conditions and the financial health of specific customers and market sectors. Our risk management process includes standards and policies for reviewing major account exposures and concentrations of risk.

Our total allowance for doubtful accounts as of December 31, 2019 and 2018 was $93 and $94 million, respectively. Our total provision for doubtful accounts charged to expense before recoveries during the years ended December 31, 2019 and 2018 was $194 and $118 million, respectively.

Contract Assets and Liabilities

Contract assets include billed and unbilled amounts resulting from in-transit packages, as we have an unconditional right to payment only once all performance obligations have been completed (i.e. packages have been delivered), and our right to payment is not solely based on the passage of time. Amounts may not exceed their net realizable value. Contract assets are generally classified as current and the full balance is converted each quarter based on the short-term nature of the transactions.

Contract liabilities consist of advance payments and billings in excess of revenue as well as deferred revenue. Advance payments and billings in excess of revenue represent payments received from our customers that will be earned over the contract term. Deferred revenue represents the amount of consideration due from customers related to in-transit shipments that has not yet been recognized as revenue based on our selected measure of progress. We classify advance payments and billings in excess of revenue as either current or long-term, depending on the period over which the advance payment will be earned. We classify deferred revenue as current based on the timing of when we expect to recognize revenue, which typically occurs within a short window after period-end. The full balance of deferred revenue is converted each quarter based on the short-term nature of the transactions. Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. In order to determine revenue recognized in the period from contract liabilities, we first allocate revenue to the individual contract liability balance outstanding at the beginning of the period until the revenue exceeds that deferred revenue balance.

Contract assets related to in-transit packages were $272 and $234 million at December 31, 2019 and 2018, respectively, net of deferred revenue related to in-transit packages of $264 and $236 million at December 31, 2019 and 2018, respectively. Contract assets are included within "Other current assets" in the consolidated balance sheets. Short-term contract liabilities related to advanced payments from customers were $7 and $5 million at December 31, 2019 and 2018, respectively. Short-term contract liabilities are included within "Other current liabilities" in the consolidated balance sheets. Long-term contract liabilities related to advanced payments from customers were $26 million at December 31, 2019 and December 31, 2018. Long-term contract liabilities are included within "Other Non-Current Liabilities" in the consolidated balance sheets.

NOTE 3. INVESTMENTS AND RESTRICTED CASH

The following is a summary of marketable securities classified as trading and available-for-sale at December 31, 2019 and 2018 (in millions):

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2019				
Current trading marketable securities:				
Corporate debt securities	$ 112	$ —	$ —	$ 112
Equity securities	2	—	—	2
Total trading marketable securities	114	—	—	114
Current available-for-sale securities:				
U.S. government and agency debt securities	191	2	—	193
Mortgage and asset-backed debt securities	46	1	—	47
Corporate debt securities	130	3	—	133
Non-U.S. government debt securities	16	—	—	16
Total available-for-sale marketable securities	383	6	—	389
Total current marketable securities	$ 497	$ 6	$ —	$ 503

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2018				
Current trading marketable securities:				
Corporate debt securities	$ 137	$ —	$ —	$ 137
Equity securities	2	—	—	2
Total trading marketable securities	139	—	—	139
Current available-for-sale securities:				
U.S. government and agency debt securities	297	1	(1)	297
Mortgage and asset-backed debt securities	82	—	(1)	81
Corporate debt securities	275	—	(2)	273
Non-U.S. government debt securities	20	—	—	20
Total available-for-sale marketable securities	674	1	(4)	671
Total current marketable securities	$ 813	$ 1	$ (4)	$ 810

Total current marketable securities that were pledged as collateral for our self-insurance requirements had an estimated fair value of $389 and $587 million at December 31, 2019 and 2018, respectively.

The gross realized gains on sales of available-for-sale securities totaled $8 million in 2019. There were no gross realized gains on sales of available-for-sale securities in 2018 or 2017. The gross realized losses on sales of available-for-sale securities totaled $2, $4 and $2 million in 2019, 2018 and 2017, respectively.

There were no material impairment losses recognized on marketable securities during 2019, 2018 or 2017.

Investment Other-Than-Temporary Impairments

We have concluded that no material other-than-temporary impairment losses existed as of December 31, 2019. In making this determination, we considered the financial condition and prospects of each issuer, the magnitude of the losses compared with the investments' cost, the probability that we will be unable to collect all amounts due according to the contractual terms of the security, the credit rating of the security and our ability and intent to hold these investments until the anticipated recovery in market value occurs.

Unrealized Losses

The following table presents the age of gross unrealized losses and fair value by investment category for all securities in a loss position as of December 31, 2019 (in millions):

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. government and agency debt securities	$ 42	$ —	$ —	$ —	$ 42	$ —
Mortgage and asset-backed debt securities	3	—	5	—	8	—
Corporate debt securities	6	—	2	—	8	—
Non-U.S. government debt securities	9	—	2	—	11	—
Total marketable securities	$ 60	$ —	$ 9	$ —	$ 69	$ —

The unrealized losses for the corporate debt securities, mortgage and asset-backed debt securities, and U.S. government and agency debt securities are primarily due to changes in market interest rates. We have both the intent and ability to hold these securities for a time necessary to recover the cost basis.

Maturity Information

The amortized cost and estimated fair value of marketable securities at December 31, 2019, by contractual maturity, are shown below (in millions). Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations with or without prepayment penalties.

	Cost	Estimated Fair Value
Due in one year or less	$ 118	$ 118
Due after one year through three years	328	332
Due after three years through five years	6	6
Due after five years	43	45
	495	501
Equity securities	2	2
	$ 497	$ 503

Non-Current Investments and Restricted Cash

Non-current investments and restricted cash are primarily associated with our self-insurance obligations. We entered into an escrow agreement with an insurance carrier to guarantee these obligations. This agreement requires us to provide collateral to the insurance carrier, which is invested in various marketable securities and cash equivalents. Collateral provided is reflected in "Cash, Cash Equivalents and Restricted Cash" in the statements of consolidated cash flows. In 2019 we liquidated our investment balance associated with this agreement and pledged the required collateral with a surety bond. At December 31, 2019 and 2018, we had \$0 and \$142 million, respectively, in restricted cash. For additional information on surety bonds written at December 31, 2019, see note 8.

We held a $21 and $19 million investment in a variable life insurance policy to fund benefits for the UPS Excess Coordinating Benefit Plan at December 31, 2019 and 2018, respectively. The quarterly change in investment fair value is recognized in "Investment income (expense) and other" in the statements of consolidated income. Additionally, we held escrowed cash related to the acquisition and disposition of certain assets of $3 and $9 million at December 31, 2019 and 2018, respectively. These amounts are classified as “Investments and Restricted Cash” in the consolidated balance sheets.

A reconciliation of cash and cash equivalents and restricted cash from the consolidated balance sheets to the statements of consolidated cash flows is shown below (in millions):

	December 31, 2019	December 31, 2018	December 31, 2017
Cash and cash equivalents	$ 5,238	$ 4,225	$ 3,320
Restricted cash	$ —	$ 142	$ 449
Total cash, cash equivalents and restricted cash	$ 5,238	$ 4,367	$ 3,769

Fair Value Measurements

Marketable securities valued utilizing Level 1 inputs include active exchange-traded equity securities and equity index funds, and most U.S. government debt securities, as these securities all have quoted prices in active markets. Marketable securities valued utilizing Level 2 inputs include asset-backed securities, corporate bonds and municipal bonds. These securities are valued using market corroborated pricing, matrix pricing or other models that utilize observable inputs such as yield curves.

We maintain holdings in certain investment partnerships that are measured at fair value utilizing Level 3 inputs (classified as “Other non-current investments” in the tables below, and as “Other Non-Current Assets” in the consolidated balance sheets). These partnership holdings do not have quoted prices, nor can they be valued using inputs based on observable market data. These investments are valued internally using a discounted cash flow model with two significant inputs: (1) the after-tax cash flow projections for each partnership, and (2) a risk-adjusted discount rate consistent with the duration of the expected cash flows for each partnership. The weighted-average discount rates used to value these investments were 7.40% and 8.16% as of December 31, 2019 and 2018, respectively. These inputs, and the resulting fair values, are updated on a quarterly basis.

The following table presents information about our investments measured at fair value on a recurring basis as of December 31, 2019 and 2018, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2019				
Marketable Securities:				
U.S. government and agency debt securities	$ 193	$ —	$ —	$ 193
Mortgage and asset-backed debt securities	—	47	—	47
Corporate debt securities	—	245	—	245
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	16	—	16
Total marketable securities	193	310	—	503
Other non-current investments	21	—	1	22
Total	$ 214	$ 310	$ 1	$ 525

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2018				
Marketable Securities:				
U.S. government and agency debt securities	$ 297	$ —	$ —	$ 297
Mortgage and asset-backed debt securities	—	81	—	81
Corporate debt securities	—	410	—	410
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	20	—	20
Total marketable securities	297	513	—	810
Other non-current investments	19	—	2	21
Total	$ 316	$ 513	$ 2	$ 831

There were no transfers of investments between Level 1 and Level 2 during the years ended December 31, 2019 or 2018.

NOTE 4. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including both owned assets as well as assets subject to finance leases, consists of the following as of December 31, 2019 and 2018 (in millions):

	2019	2018
Vehicles	$ 10,613	$ 9,820
Aircraft	19,045	17,499
Land	2,087	2,000
Buildings	5,046	4,808
Building and leasehold improvements	4,898	4,323
Plant equipment	13,849	11,833
Technology equipment	2,206	2,093
Construction-in-progress	1,983	2,112
	59,727	54,488
Less: Accumulated depreciation and amortization	(29,245)	(27,912)
	$ 30,482	$ 26,576

As part of our ongoing investment in transformation, in 2018 we made prospective revisions to our estimates of useful lives for building improvements, vehicles and plant equipment which in general had the effect of lengthening the useful lives of these categories.

For 2019, depreciation expense increased $365 million, and net income decreased by $287 million, or $0.33 per share on a basic and diluted basis, as a result of investments in property, plant and equipment, net of disposals and assets becoming fully depreciated. Depreciation expense decreased $212 million, and net income increased $167 million, or $0.19 per share on a basic and diluted basis, as a result of lengthening our estimated useful lives for various asset categories in the latter half of 2018. The combined effect of the foregoing was a net increase in depreciation expense of $153 million and a decrease in net income of $120 million, or $0.14 per share on a basic and diluted basis, for 2019.

For 2018, this resulted in a decrease in depreciation expense and an increase in operating income of $286 million and an increase to net income of $228 million or $0.26 per share on a basic and diluted basis. Separately, capital investments in additional property, plant and equipment, net of disposals and fully-depreciated assets, resulted in an increase in depreciation expense of $257 million and a decrease to net income of $205 million or $0.24 per share on a basic and diluted basis in 2018. Combining both impacts resulted in a net decrease of $29 million to depreciation expense, and an increase to net income of $23 million or $0.03 per share on both a basic and diluted basis in 2018.

We monitor our aircraft fleet utilization in light of current and projected volume levels, aircraft fuel prices and other factors. Additionally, we monitor our other property, plant and equipment categories for any indicators that the carrying value of the assets may not be recoverable. No impairment charges on property, plant and equipment were recorded in 2019 or 2018.

NOTE 5. COMPANY SPONSORED EMPLOYEE BENEFIT PLANS

We sponsor various retirement and pension plans, including defined benefit and defined contribution plans which cover our employees worldwide.

U.S. Pension Benefits

In the U.S. we maintain the following single-employer defined benefit pension plans: the UPS Retirement Plan, the UPS Pension Plan, the UPS/IBT Full-Time Employee Pension Plan and the UPS Excess Coordinating Benefit Plan, a non-qualified plan.

The UPS Retirement Plan is noncontributory and includes substantially all eligible employees of participating domestic subsidiaries hired prior to July 1, 2016 who are not members of a collective bargaining unit, as well as certain employees covered by a collective bargaining agreement. This plan generally provides for retirement benefits based on average compensation earned by employees prior to retirement. Benefits payable under this plan are subject to maximum compensation limits and the annual benefit limits for a tax-qualified defined benefit plan as prescribed by the Internal Revenue Service (“IRS”).

The UPS Pension Plan is noncontributory and includes certain eligible employees of participating domestic subsidiaries and members of collective bargaining units that elect to participate in the plan. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS/IBT Full Time Employee Pension Plan is noncontributory and includes employees that were previously members of the Central States Pension Fund ("CSPF"), a multiemployer pension plan, in addition to other eligible employees who are covered under certain collective bargaining agreements. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS Excess Coordinating Benefit Plan is a non-qualified plan that provides benefits to certain participants in the UPS Retirement Plan, hired prior to July 1, 2016, for amounts that exceed the benefit limits described above.

In the year ended December 31, 2017, we amended the UPS Retirement Plan and the UPS Excess Coordinating Benefit Plan to cease accruals of additional benefits for future service and compensation for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations for the affected pension plans as of June 30, 2017, resulting in a net actuarial gain of $569 million. This reflected a curtailment gain of $1.525 billion resulting from the benefit plan changes that was partially offset by net actuarial losses of $956 million, driven by a reduction of approximately 32 basis points in the discount rate compared to December 31, 2016, offset by actual asset returns approximately 275 basis points above our expected return as of the remeasurement date. The net curtailment gain reduced the actuarial loss recorded in AOCI in the equity section of the consolidated balance sheets. As actuarial losses were within the corridor (defined as 10% of the greater of the fair value of plan assets and the plan's projected benefit obligation), there was no impact to the statement of consolidated income as a result of this remeasurement.

During the fourth quarter of 2019, certain former U.S. employees were offered the option to receive a one-time payment of their vested pension benefit. Approximately 18,800 former employees accepted this option, accelerating $820 million in benefit payments during 2019 while reducing the number of participants who are due future payments from U.S. pension plans. As the cost of these settlements did not exceed the plans' service cost and interest cost for the year, the impact of the settlement was not recognized in earnings.

International Pension Benefits

We also sponsor various defined benefit plans covering certain of our international employees. The majority of our international obligations are for defined benefit plans in Canada and the United Kingdom. In addition, many of our international employees are covered by government-sponsored retirement and pension plans. We are not directly responsible for providing benefits to participants of government-sponsored plans.

U.S. Postretirement Medical Benefits

We also sponsor postretirement medical plans in the U.S. that provide healthcare benefits to our non-union retirees, as well as select union retirees who meet certain eligibility requirements and who are not otherwise covered by multiemployer plans. Generally, this includes employees with at least 10 years of service who have reached age 55 and employees who are eligible for postretirement medical benefits from a Company-sponsored plan pursuant to collective bargaining agreements. We have the right to modify or terminate certain of these plans. These benefits have been provided to certain retirees on a noncontributory basis; however, in many cases, retirees are required to contribute all or a portion of the total cost of the coverage.

Defined Contribution Plans

We also sponsor a defined contribution plan for employees not covered under collective bargaining agreements, and several smaller defined contribution plans for certain employees covered under collective bargaining agreements. The Company matches, in shares of UPS common stock or cash, a portion of the participating employees' contributions. Matching contributions charged to expense were $130, $127 and $119 million for 2019, 2018 and 2017, respectively.

In addition to current benefits under the UPS 401(k) Savings Plan, non-union employees hired after July 1, 2016, receive a retirement contribution. UPS contributes 3% to 8% of eligible pay to the UPS 401(k) Savings Plan based on years of vesting service and business unit. Contributions under this plan are subject to maximum compensation and contribution limits for a tax-qualified defined contribution plan as prescribed by the IRS. Contributions charged to expense were $67, $28 and $23 million for 2019, 2018 and 2017 respectively.

Effective June 23, 2017, the Company amended the UPS 401(k) Savings Plan so that non-union employees who currently participate in the UPS Retirement Plan will, in addition to current benefits under the UPS 401(k) Savings Plan, earn a retirement contribution beginning January 1, 2023. UPS will contribute 5% to 8% of eligible compensation to the UPS 401(k) Savings Plan based on years of vesting service. The amendment also provides for transition contributions for certain participants. There was no impact to the statement of consolidated income for 2019, 2018 and 2017 as a result of this change.

The UPS Restoration Savings Plan is a non-qualified plan that provides benefits to certain participants in the UPS 401(k) Savings Plan for amounts that exceed the benefit limits described above.

Contributions are also made to defined contribution money purchase plans under certain collective bargaining agreements. Amounts charged to expense were $97, $92 and $91 million for 2019, 2018 and 2017, respectively.

Net Periodic Benefit Cost

Information about net periodic benefit cost for the company-sponsored pension and postretirement defined benefit plans is as follows (in millions):

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2019	**2018**	**2017**	**2019**	**2018**	**2017**	**2019**	**2018**	**2017**
Net Periodic Benefit Cost:									
Service cost	$ 1,439	$ 1,661	$ 1,543	$ 23	$ 29	$ 29	$ 57	$ 62	$ 60
Interest cost	2,067	1,799	1,813	108	104	112	47	45	40
Expected return on assets	(3,130)	(3,201)	(2,883)	(8)	(8)	(7)	(76)	(77)	(66)
Amortization of prior service cost	218	193	192	7	7	7	2	1	1
Actuarial (gain) loss	2,296	1,603	729	37	—	53	54	24	18
Curtailment and settlement loss	—	—	—	—	—	—	—	—	2
Net periodic benefit cost	$ 2,890	$ 2,055	$ 1,394	$ 167	$ 132	$ 194	$ 84	$ 55	$ 55

Actuarial Assumptions

The table below provides the weighted-average actuarial assumptions used to determine the net periodic benefit cost.

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Discount rate	4.50 %	3.84 %	4.41 %	4.51 %	3.82 %	4.23 %	2.94 %	2.78 %	2.75 %
Rate of compensation increase	4.25 %	4.25 %	4.27 %	N/A	N/A	N/A	3.24 %	3.22 %	3.17 %
Expected return on assets	7.75 %	7.75 %	8.75 %	7.20 %	7.20 %	8.75 %	5.69 %	5.76 %	5.65 %
Cash balance interest credit rate	2.98 %	2.50 %	2.91 %	N/A	N/A	N/A	3.17 %	3.07 %	2.65 %

The table below provides the weighted-average actuarial assumptions used to determine the benefit obligations of our plans.

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2019	2018	2019	2018	2019	2018
Discount rate	3.60 %	4.50 %	3.59 %	4.51 %	2.21 %	2.94 %
Rate of compensation increase	4.22 %	4.25 %	N/A	N/A	3.00 %	3.24 %
Cash balance interest credit rate	2.50 %	2.98 %	N/A	N/A	2.59 %	3.17 %

A discount rate is used to determine the present value of our future benefit obligations. To determine the discount rate for our U.S. pension and postretirement benefit plans, we use a bond matching approach to select specific bonds that would satisfy our projected benefit payments. We believe the bond matching approach reflects the process we would employ to settle our pension and postretirement benefit obligations. In October 2019, we refined our bond matching approach by implementing advances in technology and modeling techniques. This refinement decreased the projected benefit obligation on our consolidated balance sheet for our U.S. pension and postretirement plans by approximately $900 million as of December 31, 2019. Additionally, we estimate that this refinement in method decreased our pre-tax mark-to-market charge by approximately $810 million and increased net income by $616 million, or $0.71 per share on a basic and diluted basis. For our international plans, the discount rate is determined by matching the expected cash flows of a sample plan of similar duration to a yield curve based on long-term, high quality fixed income debt instruments available as of the measurement date. These assumptions are updated each measurement date, which is typically annually.

As of December 31, 2019, the impact of each basis point change in the discount rate on the projected benefit obligation of our pension and postretirement medical benefit plans is as follows (in millions):

	Increase (Decrease) in the Projected Benefit Obligation	
	Pension Benefits	Postretirement Medical Benefits
One basis point increase in discount rate	$ (86)	$ (2)
One basis point decrease in discount rate	92	3

The Society of Actuaries ("SOA") published mortality tables and improvement scales are used in developing the best estimate of mortality for U.S. plans. In October 2019, the SOA published updated mortality tables and an updated improvement scale, both of which reduced expected mortality improvements from previously published tables and improvement scale. Based on our perspective of future longevity, we updated the mortality assumptions to incorporate these updated tables and improvement scale for purposes of measuring pension and other postretirement benefit obligations.

Assumptions for the expected return on plan assets are used to determine a component of net periodic benefit cost for the year. The assumption for our U.S. plans is developed using a long-term projection of returns for each asset class. Our asset allocation targets are reviewed and, if necessary, updated taking into consideration plan changes, funded status and actual performance. The expected return for each asset class is a function of passive, long-term capital market assumptions and excess returns generated from active management. The capital market assumptions used are provided by independent investment advisors, while excess return assumptions are supported by historical performance, fund mandates and investment expectations.

For plans outside the U.S., consideration is given to local market expectations of long-term returns. Strategic asset allocations are determined by plan, based on the nature of liabilities and considering the demographic composition of the plan participants.

Actuarial Assumptions - Central States Pension Fund

UPS was a contributing employer to the CSPF until 2007 when we withdrew from the CSPF and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters ("IBT"), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 ("the UPS Transfer Group") in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF. Under our withdrawal agreement with the CSPF, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law.

In December 2014, Congress passed the Multiemployer Pension Reform Act ("MPRA"). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury ("Treasury"). In May 2016, Treasury rejected the proposed plan submitted by the CSPF. In the first quarter of 2018, Congress established a Joint Select Committee to develop a recommendation to improve the solvency of multiemployer plans and the Pension Benefit Guaranty Corporation ("PBGC") before a November 30, 2018 deadline. While the Committee's efforts failed to meet its deadline, the Committee made significant progress towards finding solutions that will address the long term solvency of multiemployer pension plans. In the third quarter of 2019, the U.S. House of Representatives passed the Rehabilitation for Multiemployer Pensions Act of 2019 to provide assistance to critical and declining multiemployer pension plans. This bill is now with the U.S. Senate for consideration. UPS will continue to work with all stakeholders, including legislators and regulators, to implement an acceptable solution.

The CSPF has said that it believes a legislative solution to its funded status is necessary or that it will become insolvent in 2025, and we expect that the CSPF will continue to explore options to avoid insolvency. Numerous factors could affect the CSPF's funded status and UPS's potential obligation to pay coordinating benefits under the UPS/IBT Plan. Any obligation to pay coordinating benefits will be subject to a number of significant uncertainties, including whether the CSPF submits a revised MPRA filing and the terms thereof, or whether it otherwise seeks federal government assistance, as well as the terms of any applicable legislation, the extent to which benefits are paid by the PBGC and our ability to successfully defend legal positions we may take in the future under the MPRA, including the suspension ordering provisions, our withdrawal agreement and other applicable law.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under Accounting Standards Codification Topic 715- Compensation- Retirement Benefits ("ASC 715"), which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely outcome to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities.

As such, our best estimate of the next most likely outcome at the December 31, 2019 measurement date is that the CSPF will submit and implement another benefit reduction plan under the MPRA during 2020. We believe any MPRA filing would be designed to forestall insolvency by reducing benefits to participants other than the UPS Transfer Group to the maximum extent permitted, and then reducing benefits to the UPS Transfer Group by a lesser amount.

We evaluated this outcome using a deterministic cash flow projection, reflecting updated estimated CSPF cash flows and investment earnings, the lack of legislative action and the absence of a MPRA filing by the CSPF in 2019. As a result, at the December 31, 2019 measurement date, the best estimate of our projected benefit obligation for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group is $2.6 billion.

The future value of this estimate will be influenced by the terms and timing of any MPRA filing, changes in our discount rate, rate of return on assets and other actuarial assumptions, presumed solvency of the PBGC, as well as potential solutions resulting from federal government intervention. Any such event may result in a decrease or an increase in the best estimate of our projected benefit obligation. If the uncertainties are not resolved, it is reasonably possible that our projected benefit obligation could increase by approximately $2.2 billion, resulting in a total obligation for coordinating benefits of approximately $4.8 billion. If a future change in law occurs, it may be a significant event requiring an interim remeasurement of the UPS/IBT Plan at the date the law is enacted. We will continue to assess the impact of these uncertainties on our projected benefit obligation in accordance with ASC 715.

Other Actuarial Assumptions

Healthcare cost trends are used to project future postretirement medical benefits payable from our plans. For 2019 U.S. plan obligations, future postretirement medical benefit costs were forecasted assuming an initial annual rate of increase of 6.5%, decreasing to 4.5% by the year 2024 and with consistent annual increases at that ultimate level thereafter.

Funded Status

The following table discloses the funded status of our plans and the amounts recognized in our consolidated balance sheets as of December 31st (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Funded Status:						
Fair value of plan assets	$ 46,172	$ 39,554	$ 37	$ 26	$ 1,558	$ 1,284
Benefit obligation	(54,039)	(45,333)	(2,616)	(2,510)	(1,906)	(1,552)
Funded status recognized at December 31	$ (7,867)	$ (5,779)	$ (2,579)	$ (2,484)	$ (348)	$ (268)
Funded Status Recognized in our Balance Sheet:						
Other non-current assets	$ —	$ —	$ —	$ —	$ 34	$ 35
Other current liabilities	(22)	(20)	(200)	(195)	(5)	(4)
Pension and postretirement benefit obligations	(7,845)	(5,759)	(2,379)	(2,289)	(377)	(299)
Net liability at December 31	$ (7,867)	$ (5,779)	$ (2,579)	$ (2,484)	$ (348)	$ (268)
Amounts Recognized in AOCI:						
Unrecognized net prior service cost	$ (800)	$ (1,018)	$ (16)	$ (21)	$ (12)	$ (14)
Unrecognized net actuarial gain (loss)	(5,404)	(3,967)	(240)	(32)	(162)	(100)
Gross unrecognized cost at December 31	(6,204)	(4,985)	(256)	(53)	(174)	(114)
Deferred tax assets (liabilities) at December 31	1,497	1,205	62	13	40	28
Net unrecognized cost at December 31	$ (4,707)	$ (3,780)	$ (194)	$ (40)	$ (134)	$ (86)

The accumulated benefit obligation for our pension plans as of the measurement dates in 2019 and 2018 was $57.553 and $45.704 billion, respectively.

Benefit payments under the pension plans include $27 and $23 million paid from employer assets in 2019 and 2018, respectively. Benefit payments (net of participant contributions) under the postretirement medical benefit plans include $82 and $87 million paid from employer assets in 2019 and 2018, respectively. Such benefit payments from employer assets are also categorized as employer contributions.

At December 31, 2019 and 2018, the projected benefit obligation, the accumulated benefit obligation and the fair value of plan assets for pension plans with benefit obligations in excess of plan assets were as follows (in millions):

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	
	2019	**2018**	**2019**	**2018**
U.S. Pension Benefits:				
Projected benefit obligation	$ 54,039	$ 45,333	$ 54,039	$ 45,333
Accumulated benefit obligation	53,194	44,284	53,194	44,284
Fair value of plan assets	46,172	39,554	46,172	39,554
International Pension Benefits:				
Projected benefit obligation	$ 1,319	$ 630	$ 1,319	$ 630
Accumulated benefit obligation	1,210	539	1,210	539
Fair value of plan assets	948	339	948	339

The accumulated postretirement benefit obligation presented in the funded status table exceeds plan assets for all U.S. postretirement medical benefit plans.

Benefit Obligations and Fair Value of Plan Assets

The following tables provide a reconciliation of the changes in the plans' benefit obligations and fair value of plan assets as of the respective measurement dates in each year (in millions).

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Benefit Obligations:						
Projected benefit obligation at beginning of year	$ 45,333	$ 45,847	$ 2,510	$ 2,792	$ 1,552	$ 1,651
Service cost	1,439	1,661	23	29	57	62
Interest cost	2,067	1,799	108	104	47	45
Gross benefits paid	(2,394)	(1,390)	(288)	(263)	(40)	(33)
Plan participants' contributions	—	—	30	26	3	3
Plan amendments	—	331	—	—	1	13
Actuarial (gain)/loss	7,594	(2,915)	233	(178)	213	(81)
Foreign currency exchange rate changes	—	—		—	47	(110)
Curtailments and settlements	—	—		—	(2)	(1)
Other	—	—		—	28	3
Projected benefit obligation at end of year	$ 54,039	$ 45,333	$ 2,616	$ 2,510	$ 1,906	$ 1,552

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**
Fair Value of Plan Assets:						
Fair value of plan assets at beginning of year	$ 39,554	$ 41,932	$ 26	$ 183	$ 1,284	$ 1,333
Actual return on plan assets	6,991	(1,007)	(5)	(7)	171	(6)
Employer contributions	2,021	19	274	87	67	80
Plan participants' contributions	—	—	30	26	3	3
Gross benefits paid	(2,394)	(1,390)	(288)	(263)	(40)	(33)
Foreign currency exchange rate changes	—	—	—	—	49	(92)
Curtailments and settlements	—	—	—	—	(2)	(1)
Other	—	—	—	—	26	—
Fair value of plan assets at end of year	$ 46,172	$ 39,554	$ 37	$ 26	$ 1,558	$ 1,284

<u>2019 - $8.040 billion pre-tax actuarial loss related to benefit obligation:</u>

- *Discount Rates* ($7.477 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.45% at December 31, 2018 to 3.55% at December 31, 2019, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2019. This was partially offset by a refinement to our bond matching approach from advances in technology and modeling techniques.

- *Coordinating benefits attributable to the Central States Pension Fund* ($603 million pre-tax loss): This represents our current best estimate of the additional potential coordinating benefits that may be required to be paid related to the Central States Pension Fund before taking into account the impact of the change in discount rates.

- *Demographic and Assumption Changes* ($40 million pre-tax gain): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation changes, rates of termination, retirement, mortality and other changes.

2018 - $3.174 billion pre-tax actuarial gain related to benefit obligation:

- *Discount Rates* ($4.829 billion pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 3.81% at December 31, 2017 to 4.45% at December 31, 2018, primarily due to both an increase in U.S. treasury yields and an increase in credit spreads on AA-rated corporate bonds in 2018.

- *Coordinating benefits attributable to the Central States Pension Fund* ($1.550 billion pre-tax loss): This represents our current best estimate of potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

- *Demographic and Assumption Changes* ($105 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

Pension and Postretirement Plan Assets

Under the governance of plan trustees, the Investment Committee establishes investment guidelines and strategies and regularly monitors the performance of investments and investment managers. The investment guidelines address items such as establishing appropriate governance provisions; defining investment objectives; determining strategic asset allocation; monitoring and reporting the investments on a regular basis; appointing/dismissing investment managers, custodians, consultants and advisors; risk management; determining/defining the mandates for investment managers; rebalancing of assets and determining investment restrictions/prohibited investments.

Pension assets are invested in accordance with applicable laws and regulations. The primary long-term investment objectives for pension assets are to: (1) provide for a reasonable amount of long-term growth of capital given prudent levels of risk exposure while minimizing permanent loss of capital; (2) generate investment results that meet or exceed the long-term rate of return assumption for the plans and (3) match the duration of the liabilities and assets of the plans to reduce the need for large employer contributions in the future. In furtherance of these objectives, investment managers are engaged to actively manage assets within the guidelines and strategies set forth by the Investment Committee. Active managers are monitored regularly and their performance is compared to applicable benchmarks.

Fair Value Measurements

Pension assets valued utilizing Level 1 inputs include equity investments, corporate debt instruments and U.S. government securities. Fair values were determined by closing prices for those securities traded on national stock exchanges, while securities traded in the over-the-counter market and listed securities for which no sale was reported on the valuation date are valued at the mean between the last reported bid and asked prices.

Level 2 assets include certain bonds that are valued based on yields currently available on comparable securities of other issues with similar credit ratings; mortgage-backed securities that are valued based on cash flow and yield models using acceptable modeling and pricing conventions; and certain investments that are pooled with other investments in a commingled fund. We value our investments in commingled funds by taking the percentage ownership of the underlying assets, each of which has a readily determinable fair value.

Fair value estimates for certain investments are based on unobservable inputs that are not corroborated by observable market data and are thus classified as Level 3.

Investments that do not have a readily determinable fair value, and which provide a net asset value ("NAV") or its equivalent developed consistent with FASB measurement principles, are valued using NAV as a practical expedient. These investments are not classified in Levels 1, 2, or 3 of the fair value hierarchy but instead included within the subtotals by asset category. Such investments include hedge funds, risk parity funds, real estate investments, private debt and private equity funds. Investments in hedge funds and risk parity funds are valued using the reported NAV as of December 31st. Real estate investments, private debt and private equity funds are valued at NAV per the most recent partnership audited financial reports, and adjusted, as appropriate, for investment activity between the date of the financial reports and December 31st. Due to the inherent limitations in obtaining a readily determinable fair value measurement for alternative investments, the fair values reported may differ from the values that would have been used had readily available market information for the alternative investments existed. These investments are described further below:

- Hedge Funds: Plan assets are invested in hedge funds that pursue multiple strategies to diversify risk and reduce volatility. Most of these hedge funds allow redemptions either quarterly or semi-annually after a two to three month notice period, while others allow for redemption after only a brief notification period with no restriction on redemption frequency. No unfunded commitments existed with respect to hedge funds as of December 31, 2019.

- Risk Parity Funds: Plan assets are invested in risk parity strategies in order to provide diversification and balance risk/return objectives. These strategies reflect a multi-asset class balanced risk approach generally consisting of equity, interest rates, credit and commodities. These funds allow for monthly redemptions with only a brief notification period. No unfunded commitments existed with respect to risk parity funds as of December 31, 2019.

- Real Estate, Private Debt and Private Equity Funds: Plan assets are invested in limited partnership interests in various private equity, private debt and real estate funds. Limited provision exists for the redemption of these interests by the limited partners that invest in these funds until the end of the term of the partnerships, typically ranging between 10 and 15 years from the date of inception. An active secondary market exists for similar partnership interests, although no particular value (discount or premium) can be guaranteed. At December 31, 2019, unfunded commitments to such limited partnerships totaling approximately $2.241 billion are expected to be contributed over the remaining investment period, typically ranging between three and six years.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2019 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 964	$ 818	$ 146	$ —	2.1 %	1-5
Equity Securities:						
U.S. Large Cap	6,607	2,889	3,718	—		
U.S. Small Cap	505	376	129	—		
Emerging Markets	2,039	1,523	516	—		
Global Equity	2,892	2,553	339	—		
International Equity	4,591	2,499	2,092	—		
Total Equity Securities	16,634	9,840	6,794	—	36.0	25-55
Fixed Income Securities:						
U.S. Government Securities	14,077	12,980	1,097	—		
Corporate Bonds	5,051	—	5,051	—		
Global Bonds	50	—	50	—		
Municipal Bonds	24	—	24	—		
Total Fixed Income Securities	19,202	12,980	6,222	—	41.5	35-55
Other Investments:						
Hedge Funds	3,273	—	1,380	—	7.1	5-15
Private Equity	3,030	—	—	—	6.6	1-10
Private Debt	772	—	—	—	1.7	1-10
Real Estate	1,940	149	74	—	4.2	1-10
Structured Products[2]	153	—	153	—	0.3	1-5
Risk Parity Funds	241	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 46,209	$ 23,787	$ 14,769	$ —	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 72	$ 32	$ 40	—	4.6	1-10
Equity Securities:						
Local Markets Equity	209	—	209	—		
U.S. Equity	47	—	47	—		
Emerging Markets	33	33	—	—		
International / Global Equity	441	179	262	—		
Total Equity Securities	730	212	518	—	46.8	30-60
Fixed Income Securities:						
Local Government Bonds	94	—	94	—		
Corporate Bonds	177	20	157	—		
Global Bonds	110	110	—	—		
Total Fixed Income Securities	381	130	251	—	24.5	25-45
Other Investments:						
Real Estate	128	—	80	—	8.2	5-10

Other	247	—	218	12	15.9	1-20
Total International Plan Assets	$ 1,558	$ 374	$ 1,107	$ 12	100.0 %	
Total Plan Assets	$ 47,767	$ 24,161	$ 15,876	$ 12		

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.
(2) Represents mortgage and asset-backed securities.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2018 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 157	$ 108	$ 49	$ —	0.4 %	1-5
Equity Securities:						
U.S. Large Cap	5,276	2,155	3,121	—		
U.S. Small Cap	542	386	156	—		
Emerging Markets	1,859	1,436	423	—		
Global Equity	2,320	2,056	264	—		
International Equity	3,670	2,189	1,481	—		
Total Equity Securities	13,667	8,222	5,445	—	34.5	25-55
Fixed Income Securities:						
U.S. Government Securities	12,295	11,922	373	—		
Corporate Bonds	4,303	—	4,301	2		
Global Bonds	55	—	55	—		
Municipal Bonds	16	—	16	—		
Total Fixed Income Securities	16,669	11,922	4,745	2	42.1	35-55
Other Investments:						
Hedge Funds	3,154	—	1,185	—	8.0	5-15
Private Equity	2,763	—	—	—	7.0	1-10
Private Debt	836	—	178	—	2.1	1-10
Real Estate	1,989	152	53	—	5.0	1-10
Structured Products[2]	138	—	138	—	0.4	1-5
Risk Parity Funds	207	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 39,580	$ 20,404	$ 11,793	$ 2	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 45	$ 4	$ 41	—	3.5	1-10
Equity Securities:						
Local Markets Equity	171	—	171	—		
U.S. Equity	34	—	34	—		
Emerging Markets	33	33	—	—		
International / Global Equity	348	150	198	—		
Total Equity Securities	586	183	403	—	45.6	30-60
Fixed Income Securities:						
Local Government Bonds	102	24	78	—		
Corporate Bonds	195	54	141	—		
Global Bonds	27	27	—	—		
Total Fixed Income Securities	324	105	219	—	25.2	25-45
Other Investments:						
Real Estate	121	—	76	—	9.4	5-10
Other	208	—	191	4	16.3	1-20

Total International Plan Assets	$ 1,284	$ 292	$ 930	$ 4	100.0 %
Total Plan Assets	$ 40,864	$ 20,696	$ 12,723	$ 6	

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.
(2) Represents mortgage and asset-backed securities.

The following table presents the changes in the Level 3 instruments measured on a recurring basis for the years ended December 31, 2019 and 2018 (in millions).

	Corporate Bonds	Other	Total
Balance on January 1, 2018	$ 8	$ —	$ 8
Actual Return on Assets:			
Assets Held at End of Year	—	—	—
Assets Sold During the Year	(7)	—	(7)
Purchases	11	9	20
Sales	(10)	(5)	(15)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2018	$ 2	$ 4	$ 6
Actual Return on Assets:			
Assets Held at End of Year	—	1	1
Assets Sold During the Year	(4)	—	(4)
Purchases	4	7	11
Sales	(2)		(2)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2019	$ —	$ 12	$ 12

There were no shares of UPS class A or B common stock directly held in plan assets as of December 31, 2019 or December 31, 2018.

Expected Cash Flows

Information about expected cash flows for the pension and postretirement benefit plans is as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Expected Employer Contributions:			
2020 to plan trusts	$ 1,000	$ 186	$ 62
2020 to plan participants	21	11	5
2020	$ 1,645	$ 241	$ 32
2021	1,802	225	36
2022	1,942	215	41
2023	2,085	206	46
2024	2,230	196	52
2025 - 2029	13,293	857	353

Our funding policy for U.S. plans is to contribute amounts annually that are at least equal to the amounts required by applicable laws and regulations, or to directly fund payments to plan participants, as applicable. International plans will be funded in accordance with local regulations. Additional discretionary contributions may be made when deemed appropriate to meet the long-term obligations of the plans. Expected benefit payments for pensions will be primarily paid from plan trusts. Expected benefit payments for postretirement medical benefits will be paid from plan trusts and corporate assets.

NOTE 6. MULTIEMPLOYER EMPLOYEE BENEFIT PLANS

We contribute to a number of multiemployer defined benefit plans under the terms of collective bargaining agreements that cover our union-represented employees. These plans generally provide for retirement, death and/or termination benefits for eligible employees within the applicable collective bargaining units, based on specific eligibility/participation requirements, vesting periods and benefit formulas. The risks of participating in these multiemployer plans are different from single-employer plans in the following aspects:

- Assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If we negotiate to cease participating in a multiemployer plan, we may be required to pay that plan an amount based on our allocable share of its underfunded status, referred to as a "withdrawal liability". However, cessation of participation in a multiemployer plan and subsequent payment of any withdrawal liability is subject to the collective bargaining process.
- If any of the multiemployer pension plans in which we participate enter critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule, we could be required under the Pension Protection Act of 2006 to make additional surcharge contributions to the multiemployer pension plan in the amount of five to ten percent of the existing contributions required by our labor agreement. Such surcharges would cease upon the ratification of a new collective bargaining agreement, and could not recur unless a plan re-entered critical status at a later date.

The discussion that follows sets forth the financial impact on our results of operations and cash flows for the years ended December 31, 2019, 2018 and 2017, from our participation in multiemployer benefit plans. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans are determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 as described above).

The number of employees covered by our multiemployer pension plans has remained consistent over the past three years, and there have been no significant changes that affect the comparability of 2019, 2018 and 2017 contributions. We recognize expense for the contractually-required contribution for each period, and we recognize a liability for any contributions due and unpaid at the end of a reporting period.

Status of Collective Bargaining Agreements

As of December 31, 2019, we had approximately 290,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. The current National Master Agreement ("NMA") was ratified on April 28, 2019, and runs through July 31, 2023. Most of the economic provisions of the NMA are retroactive to August 1, 2018, which is the effective date of the NMA. The UPS Freight business unit national master agreement was ratified on November 11, 2018.

We have approximately 2,900 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which becomes amendable on September 1, 2021. On February 10, 2020, the Company and the IPA reached a tentative agreement on a two-year contract extension. Upon ratification, the extension will go into effect on September 1, 2021 and become amendable September 1, 2023.

We have approximately 1,500 airline mechanics who are covered by a collective bargaining agreement with Teamsters Local 2727 which becomes amendable November 1, 2023. In addition, approximately 3,300 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers ("IAM"). On May 2, 2019, the IAM ratified a new collective bargaining agreement which runs through July 31, 2024.

Multiemployer Pension Plans

The following table outlines our participation in multiemployer pension plans for the periods ended December 31, 2019, 2018 and 2017, and sets forth our calendar year contributions and accruals for each plan. The "EIN/Pension Plan Number" column provides the Employer Identification Number ("EIN") and the three-digit plan number. The most recent Pension Protection Act zone status available in 2019 and 2018 relates to the plans' two most recent fiscal year ends. The zone status is based on information that we received from the plans' administrators and is certified by each plan's actuary. Plans certified in the red zone are generally less than 65% funded; plans certified in the orange zone are both less than 80% funded and have an accumulated funding deficiency, or are expected to have a deficiency in any of the next six plan years; plans certified in the yellow zone are less than 80% funded; and plans certified in the green zone are at least 80% funded. The "FIP/RP Status Pending/Implemented" column indicates whether a financial improvement plan ("FIP") for yellow/orange zone plans, or a rehabilitation plan ("RP") for red zone plans, is either pending or has been implemented. As of December 31, 2019, all plans that have either a FIP or RP requirement have had the respective plan implemented.

Our collectively-bargained contributions satisfy the requirements of all implemented FIPs and RPs and do not currently require the payment of any surcharges. In addition, minimum contributions outside of the agreed upon contractual rates are not required. For the plans detailed in the following table, the expiration date of the associated collective bargaining agreements is July 31, 2023, with the exception of the Automotive Industries Pension Plan, the Automotive Machinists Pension Trust and the IAM National Pension Fund / National Pension Plan, which have a July 31, 2024 expiration date. For all plans detailed in the following table, we provided more than 5% of the total plan contributions from all employers for 2019, 2018 and 2017 (as disclosed in the annual filing with the Department of Labor for each respective plan).

Certain plans have been aggregated in the "all other multiemployer pension plans" line in the following table, as the contributions to each of these individual plans are not material.

	EIN / Pension Plan	Pension Protection Act Zone Status		FIP / RP Status Pending /	(in millions) UPS Contributions and Accruals			Surcharge
Pension Fund	**Number**	**2019**	**2018**	**Implemented**	**2019**	**2018**	**2017**	**Imposed**
Central Pennsylvania Teamsters Defined Benefit Plan	23-6262789-001	Green	Green	No	48	44	40	No
Employer-Teamsters Local Nos. 175 & 505 Pension Trust Fund	55-6021850-001	Red	Red	Yes/Implemented	14	13	12	No
Hagerstown Motor Carriers and Teamsters Pension Fund	52-6045424-001	Red	Red	Yes/Implemented	10	9	8	No
I.A.M. National Pension Fund / National Pension Plan	51-6031295-002	Green	Green	No	41	38	35	No
International Brotherhood of Teamsters Union Local No. 710 Pension Fund	36-2377656-001	Green	Green	No	142	129	118	No
Local 705, International Brotherhood of Teamsters Pension Plan	36-6492502-001	Yellow	Yellow	Yes/Implemented	113	104	93	No
Local 804 I.B.T. & Local 447 I.A.M. —UPS Multiemployer Retirement Plan	51-6117726-001	Yellow	Yellow	Yes/Implemented	112	116	110	No
Milwaukee Drivers Pension Trust Fund	39-6045229-001	Green	Green	No	48	42	38	No
New England Teamsters & Trucking Industry Pension Fund	04-6372430-001	Red	Red	Yes/Implemented	120	121	114	No
New York State Teamsters Conference Pension and Retirement Fund	16-6063585-074	Red	Red	Yes/Implemented	119	108	100	No
Teamster Pension Fund of Philadelphia and Vicinity	23-1511735-001	Yellow	Yellow	Yes/Implemented	74	66	60	No
Teamsters Joint Council No. 83 of Virginia Pension Fund	54-6097996-001	Green	Green	No	75	69	64	No

Teamsters Local 639—Employers Pension Trust	53-0237142-001	Green	Green	No	68	61	55	No
Teamsters Negotiated Pension Plan	43-6196083-001	Green	Green	No	37	34	32	No
Truck Drivers and Helpers Local Union No. 355 Retirement Pension Plan	52-6043608-001	Green	Green	No	24	22	20	No
United Parcel Service, Inc.—Local 177, I.B.T. Multiemployer Retirement Plan	13-1426500-419	Red	Red	Yes/Implemented	100	95	88	No
Western Conference of Teamsters Pension Plan	91-6145047-001	Green	Green	No	939	868	772	No
Western Pennsylvania Teamsters and Employers Pension Fund	25-6029946-001	Red	Red	Yes/Implemented	34	31	30	No
All Other Multiemployer Pension Plans					102	72	81	
				Total Contributions	$ 2,220	$ 2,042	$ 1,870	

Agreement with the New England Teamsters and Trucking Industry Pension Fund

In 2012, we reached an agreement with the New England Teamsters and Trucking Industry Pension Fund ("NETTI Fund"), a multiemployer pension plan in which UPS is a participant, to restructure the pension liabilities for approximately 10,200 UPS employees represented by the Teamsters. As of December 31, 2019 and 2018, we had $845 and $852 million, respectively, recognized in "Other Non-Current Liabilities" as well as $7 million as of December 31, 2019 and 2018 recorded in "Other current liabilities" on our consolidated balance sheets representing the remaining balance of the NETTI Fund withdrawal liability. This liability is payable in equal monthly installments over a remaining term of approximately 43 years. Based on the borrowing rates currently available to the Company for long-term financing of a similar maturity, the fair value of the NETTI Fund withdrawal liability as of December 31, 2019 and 2018 was $929 and $832 million, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of this liability.

Multiemployer Health and Welfare Plans

We also contribute to a number of multiemployer health and welfare plans covering both active and retired employees. Healthcare benefits are provided to participants who meet certain eligibility requirements as covered under the applicable collective bargaining unit. The following table sets forth our calendar year plan contributions and accruals. Certain plans have been aggregated in the “all other multiemployer health and welfare plans” line, as the contributions to each of these individual plans are not material.

	(in millions) UPS Contributions and Accruals		
Health and Welfare Fund	**2019**	**2018**	**2017**
Bay Area Delivery Drivers	37	40	37
Central Pennsylvania Teamsters Health & Pension Fund	31	29	27
Central States, South East & South West Areas Health and Welfare Fund	2,899	2,530	2,366
Delta Health Systems—East Bay Drayage Drivers	30	30	29
Joint Council #83 Health & Welfare Fund	45	40	37
Local 804 Welfare Trust Fund	101	90	84
Milwaukee Drivers Pension Trust Fund—Milwaukee Drivers Health and Welfare Trust Fund	48	43	38
New York State Teamsters Health & Hospital Fund	71	62	59
Northern California General Teamsters (DELTA)	157	153	132
Northern New England Benefit Trust	59	54	50
Oregon / Teamster Employers Trust	51	43	38
Teamsters 170 Health & Welfare Fund	19	18	17
Teamsters Benefit Trust	47	48	46
Teamsters Local 251 Health & Insurance Plan	18	17	15
Teamsters Local 638 Health Fund	53	48	43
Teamsters Local 639—Employers Health & Pension Trust Funds	32	29	27
Teamsters Local 671 Health Services & Insurance Plan	20	19	17
Teamsters Union 25 Health Services & Insurance Plan	59	56	52
Teamsters Western Region & Local 177 Health Care Plan	769	656	605
Truck Drivers and Helpers Local 355 Baltimore Area Health & Welfare Fund	19	18	16
Utah-Idaho Teamsters Security Fund	37	32	29
Washington Teamsters Welfare Trust	67	57	52
All Other Multiemployer Health and Welfare Plans	141	156	156
Total Contributions	$ 4,810	$ 4,268	$ 3,972

NOTE 7. GOODWILL AND INTANGIBLE ASSETS

The following table indicates the allocation of goodwill by segment (in millions):

	U.S. Domestic Package	International Package	Supply Chain & Freight	Consolidated
Balance on January 1, 2018	$ 715	$ 435	$ 2,722	$ 3,872
Acquired	—	—	—	—
Currency / Other	—	(18)	(43)	(61)
Balance on December 31, 2018	$ 715	$ 417	$ 2,679	$ 3,811
Acquired	—	2	3	5
Currency / Other	—	(3)	—	(3)
Balance on December 31, 2019	$ 715	$ 416	$ 2,682	$ 3,813

2019 Goodwill Activity

The goodwill acquired in the International Package segment is related to our January 2019 acquisition of Transmodal Services Private Limited in India. The goodwill acquired in the Supply Chain & Freight segment is primarily due to July 2019 acquisitions by Marken in Europe.

The remaining change in goodwill for the International Package segment was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

2018 Goodwill Activity

The change in goodwill for both the Supply Chain & Freight and the International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

Goodwill Impairment

We completed our annual goodwill impairment evaluation, as of July 1st, on a reporting unit basis. For the periods presented, no triggering events were identified that required an interim impairment test.

U.S. Domestic Package is our largest reporting segment and reporting unit. In our International Package reporting segment, we have the following reporting units: Europe, Asia, Americas and ISMEA. In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote.

In assessing our goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. We primarily determine the fair value of our reporting units using a discounted cash flow model, and supplement this with observable valuation multiples for comparable companies, as applicable. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit's goodwill with the carrying value of that goodwill.

In 2019, we utilized a qualitative assessment to determine that it was more likely than not that the reporting unit fair value exceeded the carrying value for U.S. Domestic Package, Forwarding, Logistics, Coyote, UPS Mail Innovations and The UPS Store. For the remaining reporting units owned at the annual goodwill impairment testing date, we utilized the two-step process to test goodwill for impairment. We did not have any goodwill impairment charges in 2019, 2018 or 2017. Cumulatively, our Supply Chain & Freight segment has recorded $622 million of goodwill impairment charges, while our International and U.S. Domestic Package segments have not recorded any goodwill impairment charges.

Intangible Assets

The following is a summary of intangible assets at December 31, 2019 and 2018 (in millions):

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted-Average Amortization Period (in years)
December 31, 2019				
Capitalized software	$ 4,125	$ (2,704)	$ 1,421	6.9
Licenses	117	(64)	53	3.9
Franchise rights	146	(109)	37	20.0
Customer relationships	730	(282)	448	10.6
Trade name	200	—	200	N/A
Trademarks, patents and other	29	(21)	8	7.7
Total Intangible Assets	$ 5,347	$ (3,180)	$ 2,167	7.7
December 31, 2018				
Capitalized software	$ 3,693	$ (2,478)	$ 1,215	
Licenses	117	(36)	81	
Franchise rights	145	(105)	40	
Customer relationships	736	(217)	519	
Trade name	200	—	200	
Trademarks, patents and other	52	(31)	20	
Total Intangible Assets	$ 4,943	$ (2,867)	$ 2,075	

A trade name and licenses with carrying values of $200 and $4 million, respectively, as of December 31, 2019 are deemed to be indefinite-lived intangible assets, and therefore are not amortized. Impairment tests for indefinite-lived intangible assets are performed on an annual basis. All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are thus amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that may indicate that the carrying value of the intangible may not be recoverable. Impairments of finite-lived intangible assets were $2 and $12 million in 2019 and 2018, respectively.

Amortization of intangible assets was $377, $339 and $287 million during 2019, 2018 and 2017, respectively. Expected amortization of finite-lived intangible assets recorded as of December 31, 2019 for the next five years is as follows (in millions): 2020—$481; 2021—$403; 2022—$332; 2023—$276; 2024—$220. Amortization expense in future periods will be affected by business acquisitions, software development, licensing agreements, franchise rights purchased and other factors.

NOTE 8. DEBT AND FINANCING ARRANGEMENTS

The carrying value of our outstanding debt obligations, as of December 31, 2019 and 2018 consists of the following (in millions):

	Principal Amount	Maturity	Carrying Value 2019	Carrying Value 2018
Commercial paper	$ 3,243	2020	$ 3,234	$ 2,662
Fixed-rate senior notes:				
5.125% senior notes	1,000	2019	—	998
3.125% senior notes	1,500	2021	1,524	1,492
2.050% senior notes	700	2021	699	698
2.450% senior notes	1,000	2022	1,003	1,023
2.350% senior notes	600	2022	598	597
2.500% senior notes	1,000	2023	995	994
2.800% senior notes	500	2024	497	496
2.200% senior notes	400	2024	398	—
2.400% senior notes	500	2026	498	498
3.050% senior notes	1,000	2027	992	991
3.400% senior notes	750	2029	745	—
2.500% senior notes	400	2029	397	—
6.200% senior notes	1,500	2038	1,483	1,482
4.875% senior notes	500	2040	490	490
3.625% senior notes	375	2042	368	368
3.400% senior notes	500	2046	491	491
3.750% senior notes	1,150	2047	1,136	1,136
4.250% senior notes	750	2049	742	—
3.400% senior notes	700	2049	688	—
Floating-rate senior notes:				
Floating-rate senior notes	350	2021	349	349
Floating-rate senior notes	400	2022	399	399
Floating-rate senior notes	500	2023	499	499
Floating-rate senior notes	1,041	2049-2067	1,028	1,029
8.375% Debentures:				
8.375% debentures	424	2020	426	419
8.375% debentures	276	2030	281	274
Pound Sterling Notes:				
5.500% notes	87	2031	86	84
5.125% notes	597	2050	566	546
Euro Senior Notes:				
0.375% senior notes	783	2023	779	797
1.625% senior notes	783	2025	779	798
1.000% senior notes	560	2028	556	570
1.500% senior notes	560	2032	556	569
Floating-rate senior notes	560	2020	559	572
Canadian senior notes:				

2.125% senior notes	573	2024	571	548
Finance lease obligations	498	2020 – 2210	498	534
Facility notes and bonds	320	2029 – 2045	320	320
Other debt	8	2020 – 2025	8	13
Total debt	$ 26,388		25,238	22,736
Less: current maturities			(3,420)	(2,805)
Long-term debt			$ 21,818	$ 19,931

Commercial Paper

We are authorized to borrow up to $10.0 billion under a U.S. commercial paper program and €5.0 billion (in a variety of currencies) under a European commercial paper program. We had the following amounts outstanding under these programs as of December 31, 2019: $2.172 billion with an average interest rate of 1.90% and €949 million ($1.062 billion) with an average interest rate of -0.44%. As of December 31, 2019, we have classified the entire commercial paper balance as a current liability on our consolidated balance sheets. The amount of commercial paper outstanding under these programs in 2020 is expected to fluctuate.

Debt Classification

We have classified both our 8.375% debentures due April 2020 with a principal balance of $424 million, and our €500 million ($560 million) floating-rate senior notes due July 2020, as long-term debt based on our intent and ability to refinance the debt as of December 31, 2019. We have classified certain floating-rate senior notes that are putable by the note holders as long-term debt due to our intent and ability to refinance the debt if the put option is exercised by the note holders.

Debt Issuances

On March 15, 2019 we issued two series of notes, both in the principal amounts of $750 million. These fixed-rate notes bear interest at 3.40% and 4.25% and will mature on March 15, 2029 and March 15, 2049, respectively. Interest on the fixed-rate senior notes is payable semi-annually, beginning September 2019. The 3.40% fixed-rate senior notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of remaining scheduled payments of principal and interest due from the redemption date until three months prior to maturity, discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 15 basis points, plus accrued and unpaid interest. The 4.25% fixed-rate senior notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of remaining scheduled payments of principal and interest due from the redemption date until six months prior to maturity discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 20 basis points, plus accrued and unpaid interest.

On August 16, 2019 we issued three series of notes, two with principal amounts of $400 million and one in the principal amount of $700 million. These notes bear interest at 2.20%, 2.50% and 3.40%, respectively, and will mature on September 1, 2024, September 1, 2029 and September 1, 2049, respectively. Interest on the notes is payable semi-annually, beginning March 2020. The 2.20% senior notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of scheduled payments of principal and interest due from the redemption date until one month prior to maturity, discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 10 basis points, plus accrued and unpaid interest. The 2.50% senior notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of scheduled payments of principal and interest due from the redemption date until three months prior to maturity discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 15 basis points, plus accrued and unpaid interest. The 3.40% senior notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of scheduled payments of principal and interest due from the redemption date until six months prior to maturity, discounted to the redemption date on a semi-annual basis at the discount rate of the Treasury Rate plus 20 basis points, plus accrued and unpaid interest.

Fixed-Rate Senior Notes

All of our fixed-rate notes pay interest semi-annually, and allow for redemption by UPS at any time by paying the greater of the principal amount or a "make-whole" amount, plus accrued interest. We subsequently entered into interest rate swaps on several of these notes, which effectively converted the fixed interest rates on the notes to variable LIBOR-based interest rates. The average interest rate payable on the notes where fixed interest rates were swapped to variable-based interest rates, including the impact of the interest rate swaps, for 2019 and 2018 were as follows:

	Principal Value	Maturity	Average Effective Interest Rate 2019	Average Effective Interest Rate 2018
5.50% senior notes	$ 750	2018	—%	3.63%
5.125% senior notes	1,000	2019	4.48%	3.99%
3.125% senior notes	1,500	2021	2.59%	2.32%
2.45% senior notes	1,000	2022	3.03%	2.77%

On April 1, 2019, our $1.00 billion 5.125% senior notes matured and were repaid in full.

8.375% Debentures

The 8.375% debentures consist of two separate tranches, as follows:

- $276 million of the debentures have a maturity of April 1, 2030. These debentures have an 8.375% interest rate until April 1, 2020, and, thereafter, the interest rate will be 7.62% for the final 10 years. These debentures are redeemable in whole or in part at our option at any time. The redemption price is equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption (at a benchmark treasury yield plus five basis points) plus accrued interest.

- $424 million of the debentures have a maturity of April 1, 2020. These debentures are not subject to redemption prior to maturity.

Interest is payable semi-annually in April and October for both tranches and neither tranche is subject to sinking fund requirements. We subsequently entered into interest rate swaps on the 2020 debentures, which effectively converted the fixed interest rates on the debentures to variable LIBOR-based interest rates. The average interest rate payable on the 2020 debentures, including the impact of the interest rate swaps, for 2019 and 2018 was 7.20% and 6.93%, respectively.

Floating-Rate Senior Notes

The floating-rate senior notes, with principal amounts totaling $1.041 billion, bear interest at either one or three-month LIBOR, less a spread ranging from 30 to 45 basis points. The average interest rate for 2019 and 2018 was 2.05% and 1.76%, respectively. These notes are callable at various times after 30 years at a stated percentage of par value, and putable by the note holders at various times after one year at a stated percentage of par value. The notes have maturities ranging from 2049 through 2067. We classified the floating-rate senior notes that are putable by the note holder as long-term liabilities, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

The remaining three floating-rate senior notes in the principal amounts of $350, $400, and $500 million, bear interest at three-month LIBOR, plus a spread ranging from 15 to 45 basis points. The average interest rate for 2019 and 2018 was 2.82% and 2.50%, respectively. These notes are not callable. The notes have maturities ranging from 2021 through 2023.

Finance Lease Obligations

We have certain property, plant and equipment subject to finance leases. For additional information on finance lease obligations, see note 10.

Facility Notes and Bonds

We have entered into agreements with certain municipalities or related entities to finance the construction of, or improvements to, facilities that support our operations in the United States. These facilities are located around airport properties in Louisville, Kentucky; Dallas, Texas; and Philadelphia, Pennsylvania. Under these arrangements, we enter into a lease or loan agreement that covers the debt service obligations on the bonds issued by these entities, as follows:

- Bonds with a principal balance of $149 million issued by the Louisville Regional Airport Authority associated with our Worldport facility in Louisville, Kentucky. The bonds, which are due in January 2029, bear interest at a variable rate, and the average interest rates for 2019 and 2018 were 1.49% and 1.43%, respectively.

- Bonds with a principal balance of $42 million and due in November 2036 issued by the Louisville Regional Airport Authority associated with our air freight facility in Louisville, Kentucky. The bonds bear interest at a variable rate, and the average interest rates for 2019 and 2018 were 1.49% and 1.39%, respectively.

- Bonds with a principal balance of $29 million issued by the Dallas / Fort Worth International Airport Facility Improvement Corporation associated with our Dallas, Texas airport facilities. The bonds are due in May 2032 and bear interest at a variable rate, however the variable cash flows on the obligation have been swapped to a fixed 5.11%.

- Bonds with a principal balance of $100 million issued by the Delaware County, Pennsylvania Industrial Development Authority associated with our Philadelphia, Pennsylvania airport facilities. These bonds, which are due September 2045, bear interest at a variable rate. The average interest rate for 2019 and 2018 was 1.48% and 1.35%, respectively.

Pound Sterling Notes

The Pound Sterling notes consist of two separate tranches, as follows:

- Notes with a principal amount of £66 million accrue interest at a 5.50% fixed rate, and are due in February 2031. These notes are not callable.

- Notes with a principal amount of £455 million accrue interest at a 5.125% fixed rate, and are due in February 2050. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark U.K. government bond yield plus 15 basis points, plus accrued interest.

Canadian Dollar Senior Notes

The Canadian Dollar notes consist of a single series a follows:

- Notes in the principal amount of C$750 million, which bear interest at a 2.125% fixed interest rate and mature in May 2024. Interest on the notes is payable semi-annually. The notes are callable at our option, in whole or in part at the Government of Canada yield plus 21.5 basis points, and on or after the par call date, at par value.

Euro Senior Notes

The Euro notes consist of four separate issuances, as follows:

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Notes in the principal amount of €500 million accrue interest at a 1% fixed rate and are due in November 2028. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable German government bond yield plus 15 basis points, plus accrued interest.

- Notes with a principal amount of €500 million accrue interest at a variable rate equal to three-month EURIBOR plus 43 basis points and are due in July 2020. Interest is payable quarterly on the notes. These notes are not callable. The notes bear interest at a variable rate, and the average interest rates for 2019 and 2018 were 0.08% and 0.11%, respectively.

- Notes with a principal amount of €700 million accrue interest at a 1.625% fixed rate and are due in November 2025. Interest is payable annually on the notes. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark German government bond yield plus 20 basis points, plus accrued interest.

- Notes with principal amounts of €700 million and €500 million accrue interest at 0.375% and 1.500% fixed rates, respectively, and are due in November 2023 and November 2032, respectively. Interest on these notes is payable annually. The notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable government bond yield plus 10 and 20 basis points, respectively, plus accrued interest.

Contractual Commitments

The following table sets forth the aggregate annual principal payments due under our long-term debt and the aggregate amounts expected to be spent for purchase commitments (in millions).

Year	Debt Principal	Purchase Commitments[1]
2020	$ 4,232	3,569
2021	2,551	1,982
2022	2,001	966
2023	2,284	323
2024	1,474	261
After 2024	12,349	201
Total	$ 24,891	$ 7,302

[1] Purchase commitments includes amounts due under aircraft leases that we entered into in 2019 and our January 29, 2020 announced commitment to purchase 10,000 electric vehicles.

As of December 31, 2019, we had outstanding letters of credit totaling approximately $1.267 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2019, we had $1.327 billion of surety bonds written.

Sources of Credit

We maintain two credit agreements with a consortium of banks. One of these agreements provides revolving credit facilities of $2.0 billion, and expires on December 8, 2020. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, subject to a minimum rate of 0.25% and a maximum rate of 1.00%. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not lower than 0.00%). We are also able to request advances under this facility based on competitive bids for the applicable interest rate. There were no amounts outstanding under this facility as of December 31, 2019.

The second agreement provides revolving credit facilities of $2.5 billion, and expires on December 11, 2023. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) the rate of interest last quoted by The Wall Street Journal as the prime rate in the United States; (2) the Federal Funds effective rate plus 0.50%; and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, interpolated for a period from the date of determination of such credit default swap spread in connection with a new interest period until the latest maturity date of this facility then in effect (but not less than a period of one year). The minimum applicable margin rate is 0.10% and the maximum applicable margin rate is 0.75% per annum. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not less than 0.00%). We are also able to request advances under this facility based on competitive bids. There were no amounts outstanding under this facility as of December 31, 2019.

Debt Covenants

Our existing debt instruments and credit facilities subject us to certain financial covenants. As of December 31, 2019 and for all prior periods presented, we have satisfied these financial covenants. These covenants limit the amount of secured indebtedness that we may incur, and limit the amount of attributable debt in sale-leaseback transactions, to 10% of net tangible assets. As of December 31, 2019, 10% of net tangible assets is equivalent to $3.646 billion; however, we have no covered sale-leaseback transactions or secured indebtedness outstanding. We do not expect these covenants to have a material impact on our financial condition or liquidity.

Fair Value of Debt

Based on the borrowing rates currently available to the Company for long-term debt with similar terms and maturities, the fair value of long-term debt, including current maturities, is approximately $26.949 and $23.293 billion as of December 31, 2019 and 2018, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of all of our debt instruments.

NOTE 9. LEGAL PROCEEDINGS AND CONTINGENCIES

We are involved in a number of judicial proceedings and other matters arising from the conduct of our business.

Although there can be no assurance as to the ultimate outcome, we have generally denied, or believe we have a meritorious defense and will deny, liability in all pending matters, including (except as otherwise noted herein) the matters described below, and we intend to vigorously defend each matter. We accrue amounts associated with legal proceedings when and to the extent a loss becomes probable and can be reasonably estimated. The actual costs of resolving legal proceedings may be substantially higher or lower than the amounts accrued on those claims.

For matters as to which we are not able to estimate a possible loss or range of losses, we are not able to determine whether any such loss will have a material adverse effect on our business, financial condition, results of operations or liquidity. For matters in this category, we have indicated in the descriptions that follow the reasons that we are unable to estimate the possible loss or range of losses.

Judicial Proceedings

In February 2015, the State and City of New York filed suit against UPS in the U.S. District Court for the Southern District of New York, arising from alleged shipments of cigarettes to New York State and City residents. The complaint asserted claims under various federal and state laws. The complaint also included a claim that UPS violated the Assurance of Discontinuance it entered into with the New York Attorney General in 2005 concerning cigarette deliveries. On March 24, 2017, the District Court issued an opinion and order finding liability against UPS on each of the plaintiffs' causes of action. On May 25, 2017, the District Court issued a corrected opinion and order on liability and an order awarding the plaintiffs damages of $9 million and penalties of $238 million. Following an appeal, on November 7, 2019, the U.S. Court of Appeals for the Second Circuit issued an order awarding the plaintiffs damages of $19 million and penalties of $79 million. An accrual of $100 million with respect to this matter is included on our consolidated balance sheets at December 31, 2019. We estimate that the amount of losses could be up to $247 million, plus interest; however, the amount of penalties ultimately payable, if any, is subject to a variety of complex factors and potential outcomes that could be determined in future legal proceedings, which would include a petition for a writ of certiorari with the U.S. Supreme Court.

We are a defendant in a number of lawsuits filed in state and federal courts containing various class action allegations under state wage-and-hour laws. At this time, we do not believe that any loss associated with any matter would have a material adverse effect on our financial condition, results of operations or liquidity. One of these matters, Hughes v. UPS Supply Chain Solutions, Inc. and United Parcel Service, Inc. had previously been certified as a class action in Kentucky state court. In the second quarter of 2019, the court granted our motion for judgment on the pleadings related to the wage-and-hour claims. The plaintiffs have appealed this decision.

Other Matters

In October 2015, the Department of Justice ("DOJ") informed us of an industry-wide inquiry into the transportation of mail under the United States Postal Service ("USPS") International Commercial Air contracts. In October 2017, we received a Civil Investigative Demand seeking certain information relating to our contracts. The DOJ has indicated it is investigating potential violations of the False Claims Act or other statutes. We are cooperating with the DOJ. We are unable to predict what action, if any, might be taken in the future by any government authorities as a result of their investigation. Accordingly, at this time, we are not able to estimate a possible loss or range of losses that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

In August 2016, Spain's National Markets and Competition Commission ("CNMC") announced an investigation into 10 companies in the commercial delivery and parcel industry, including UPS, related to alleged nonaggression agreements to allocate customers. In May 2017, UPS received a Statement of Objections issued by the CNMC. In July 2017, UPS received a Proposed Decision from the CNMC. On March 8, 2018, the CNMC adopted a final decision, finding an infringement and imposing a fine on UPS of €19 million. UPS appealed the decision and in

September 2018, obtained a suspension of the implementation of the decision (including payment of the fine). The appeal is pending. There are multiple factors that prevent us from being able to estimate a possible loss or range of losses that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity including: (1) we are vigorously defending ourselves and believe that we have a number of meritorious legal defenses; and (2) there are unresolved questions of law and fact that could be important to the ultimate resolution of this matter.

In February 2018, the Turkish Competition Authority ("Authority") opened an investigation into nine companies in the small package industry, including UPS, related to alleged customer allocations in violation of Turkish competition law. In April 2018, the Authority consolidated this investigation with two other investigations involving similar allegations. The consolidated investigation involves over 30 companies. In January 2020, the Authority held a hearing and announced a summary decision, finding an infringement and imposing an immaterial fine on UPS. We do not believe that any loss associated with this matter will have a material adverse effect on our financial condition, results of operations or liquidity.

We are a party in various other matters that arose in the normal course of business. We do not believe that the eventual resolution of these other matters (either individually or in the aggregate), including any reasonably possible losses in excess of current accruals, will have a material adverse effect on our financial condition, results of operations or liquidity.

NOTE 10. LEASES

We adopted ASU 2016-02, *Leases (Topic 842)*, on January 1, 2019. The standard requires lessees to recognize a right-of-use ("ROU") asset and lease liability for all leases. Some of our leases contain both lease and non-lease components, which we have elected to treat as a single lease component. We have also elected not to recognize leases that have an original lease term, including reasonably certain renewal or purchase options, of twelve months or less in our consolidated balance sheets for all classes of underlying assets. Lease costs for short-term leases are recognized on a straight-line basis over the lease term. We elected the package of transition practical expedients for existing contracts, which allowed us to carry forward our historical assessments of whether contracts are, or contain, leases, lease classification and determination of initial direct costs.

We lease property and equipment under finance and operating leases. We have finance and operating leases for package centers, airport facilities, warehouses, corporate office space, aircraft, aircraft engines, information technology equipment (primarily mainframes, servers and copiers), vehicles and various other equipment used in operating our business. Certain leases for real estate and aircraft contain options to purchase, extend or terminate the lease. Determining the lease term and amount of lease payments to include in the calculation of the ROU asset and lease liability for leases containing options requires the use of judgment to determine whether the exercise of an option is reasonably certain, and if the optional period and payments should be included in the calculation of the associated ROU asset and liability. In making this determination, we consider all relevant economic factors that would compel us to exercise or not exercise an option.

When our leases contain future payments that are dependent on an index or rate, such as the consumer price index, we initially measure the lease liability and ROU asset using the index or rate at the commencement date. In subsequent periods, lease payments dependent on an index or rate are not remeasured. Rather, changes to payments due to a change in an index or rate are recognized in our statements of consolidated income in the period of the change.

When available, we use the rate implicit in the lease to discount lease payments; however, the rate implicit in the lease is not readily determinable for substantially all of our leases. For these leases, we use an estimate of our incremental borrowing rate to discount lease payments based on information available at lease commencement. The incremental borrowing rate is derived using multiple inputs including our credit rating, the impact of full collateralization, lease term and denominated currency. The remaining lease terms vary from 1 month to 190 years.

Aircraft

In addition to the aircraft that we own, we have leases for 342 aircraft. Of these leased aircraft, 31 are classified as finance leases, 14 are classified as operating leases and the remaining 297 are classified as short-term leases. A majority of the obligations associated with the aircraft classified as finance leases have been legally defeased. Most of our long-term aircraft operating leases are operated by a third party to handle package and cargo volume in geographic regions where, due to government regulations, we are restricted from operating an airline.

In order to meet customers' needs, we charter aircraft to handle package and cargo volume on certain international trade lanes and domestic routes. Due to the nature of these agreements, primarily being that either party can cancel the agreement with short notice, we have classified these as short-term leases. Additionally, all of the lease payments associated with these charter agreements are variable in nature based on the number of hours flown.

Real Estate

We have operating and finance leases for package centers, airport facilities, warehouses, corporate office space and expansion facilities utilized during peak shipping periods. Many of our leases contain charges for common area maintenance or other miscellaneous expenses that are updated based on landlord estimates. Due to this variability, the cash flows associated with these charges are not included in the minimum lease payments used in determining the ROU asset and associated lease liability.

Some of our real estate leases contain options to renew or extend the lease or terminate the lease before the expiration date. These options are factored into the determination of the lease term and lease payments when their exercise is considered to be reasonably certain.

We also enter into real estate leases that contain lease incentives, such as tenant improvement allowances or move-in allowances, that are received or receivable at lease commencement. These incentives reduce lease payments for classification purposes and reduce the initial ROU asset. When lease incentives are receivable at lease commencement, they also reduce the initial lease liability.

From time to time, we enter into leases with the intention of purchasing the property, either through purchase options with a fixed price or a purchase agreement negotiated contemporaneously with the lease agreement. We classify these leases as finance leases and include the purchase date and purchase price in the lease term and lease payments, respectively, when the option to exercise or purchase is reasonably certain.

Transportation and other equipment

We enter into both long-term and short-term leases for transportation equipment to supplement our capacity or meet contractual demands. Some of these assets are leased on a month-to-month basis and the leases can be terminated without penalty. The lease term for these types of leases is determined by the length of the underlying customer contract or based on the judgment of the business unit. We also enter into multi-year leases for trailers to increase capacity during periods of high demand, which are typically only used for 90-120 days during the year. These leases are treated as short-term as the cumulative right-of-use is less than 12 months over the term of the contract.

The remainder of our leases are primarily related to equipment used in our air operations, vehicles required to meet capacity needs during periods of higher demand for our shipping services, technology equipment and office equipment used in our facilities.

Some of our transportation and technology equipment leases require us to make additional lease payments based on the underlying usage of the assets. Due to the variable nature of these costs, these are expensed as incurred and are not included in the ROU asset and lease liability.

The components of lease expense for the year ended December 31, 2019 are as follows (in millions):

	Year Ended December 31, 2019
Operating lease costs	$ 643
Finance lease costs:	
Amortization of assets	$ 73
Interest on lease liabilities	19
Total finance lease costs	92
Variable lease costs	206
Short-term lease costs	1,122
Total lease costs	$ 2,063

Supplemental information related to leases and location within our consolidated balance sheets are as follows (in millions, except lease term and discount rate):

	December 31, 2019
Operating Leases:	
Operating lease right-of-use assets	$ 2,856
Current maturities of operating leases	$ 538
Non-current operating leases	2,391
Total operating lease liabilities	$ 2,929
Finance Leases:	
Aircraft	$ 2,087
Buildings	272
Vehicles, plant equipment, technology equipment and other	27
Accumulated amortization	(884)
Property, plant and equipment, net	$ 1,502
Current maturities of long-term debt, commercial paper and finance leases	$ 181
Long-term debt and finance leases	317
Total finance lease liabilities	$ 498
Weighted average remaining lease term (in years):	
Operating leases	9.7
Finance leases	8.9
Weighted average discount rate:	
Operating leases	2.78 %
Finance leases	4.03 %

Supplemental cash flow information related to leases is as follows (in millions):

	Year Ended December 31, 2019
Cash paid for amounts included in measurement of liabilities:	
Operating cash flows from operating leases	$ 620
Operating cash flows from finance leases	19
Financing cash flows from finance leases	140
Right-of-use assets obtained in exchange for lease liabilities:	
Operating leases	$ 810
Finance leases	$ 110

Maturities of lease liabilities as of December 31, 2019 are as follows (in millions):

	Finance Leases	Operating Leases
2020	$ 199	$ 619
2021	44	536
2022	39	451
2023	37	360
2024	35	256
Thereafter	259	1,267
Total lease payments	613	3,489
Less: Imputed interest	(115)	(560)
Total lease obligations	498	2,929
Less: Current obligations	(181)	(538)
Long-term lease obligations	$ 317	$ 2,391

As of December 31, 2019, we have additional leases which have not commenced. These leases will commence when we are granted access to the property, such as when leasehold improvements are completed by the lessor or a certificate of occupancy is obtained. These leases will commence in 2020.

Disclosures related to periods prior to adoption of the new lease standard

Rent expense related to our operating leases was $959 and $804 million for 2018 and 2017, respectively. The following table sets forth the aggregate minimum lease payments under capital and operating leases as of December 31, 2018 (in millions):

	Capital Leases	Operating Leases
2019	$ 158	$ 578
2020	95	477
2021	42	399
2022	39	325
2023	36	262
After 2023	293	926
Total lease payments	663	2,967
Less: Imputed interest	(129)	
Total lease obligations	534	
Less: Current obligations	(140)	
Long-term lease obligations	$ 394	

NOTE 11. SHAREOWNERS' EQUITY

Capital Stock, Additional Paid-In Capital and Retained Earnings

We maintain two classes of common stock, which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange ("NYSE") under the symbol "UPS". Class A and B shares both have a $0.01 par value, and as of December 31, 2019, there were 4.6 billion class A shares and 5.6 billion class B shares authorized to be issued. Additionally, there are 200 million preferred shares authorized to be issued, with a par value of $0.01 per share. As of December 31, 2019, no preferred shares had been issued.

The following is a rollforward of our common stock, additional paid-in capital, retained earnings and non-controlling interests accounts for the year ended December 31, 2019, 2018 and 2017 (in millions, except per share amounts):

Year Ended December 31:	2019		2018		2017	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Class A Common Stock:						
Balance at beginning of year	163	$ 2	173	$ 2	180	$ 2
Common stock purchases	(3)	—	(3)	—	(4)	—
Stock award plans	5	—	3	—	4	—
Common stock issuances	3	—	4	—	3	—
Conversions of class A to class B common stock	(12)	—	(14)	—	(10)	—
Class A shares issued at end of year	156	$ 2	163	$ 2	173	$ 2
Class B Common Stock:						
Balance at beginning of year	696	$ 7	687	$ 7	689	$ 7
Common stock purchases	(7)	—	(5)	—	(12)	—
Conversions of class A to class B common stock	12	—	14	—	10	—
Class B shares issued at end of year	701	$ 7	696	$ 7	687	$ 7
Additional Paid-In Capital:						
Balance at beginning of year		$ —		$ —		$ —
Stock award plans		778		419		396
Common stock purchases		(1,005)		(859)		(813)
Common stock issuances		356		406		363
Option premiums received (paid)		21		34		54
Balance at end of year		$ 150		$ —		$ —
Retained Earnings:						
Balance at beginning of year		$ 8,006		$ 5,852		$ 4,880
Net income attributable to controlling interests		4,440		4,791		4,905
Dividends ($3.84, $3.64, and $3.32 per share) [(1)]		(3,341)		(3,189)		(2,928)
Common stock purchases		—		(141)		(1,003)
Reclassification from AOCI pursuant to the early adoption of ASU 2018-02		—		735		—
Other		—		(42)		(2)
Balance at end of year		$ 9,105		$ 8,006		$ 5,852

Non-Controlling Interests			
Balance at beginning of year	$ 16	$ 30	$ 24
Change in non-controlling interests	—	(14)	6
Balance at end of year	$ 16	$ 16	$ 30

(1) The dividend per share amount is the same for both class A and class B common stock. Dividends include $147, $178 and $157 million for 2019, 2018 and 2017, respectively, that were settled in shares of class A common stock.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion for shares of class A and class B common stock, which has no expiration date. As of December 31, 2019, we had 2.334 billion of this share repurchase authorization available.

Share repurchases may be in the form of accelerated share repurchase programs, open market purchases or other such methods as we deem appropriate. The timing of share repurchases will depend upon market conditions. Unless terminated earlier by the Board, the program will expire when we have purchased all shares authorized for repurchase under the program.

For the years ended December 31, 2019, 2018 and 2017, we repurchased a total of 9.1, 8.9 and 16.1 million shares of class A and class B common stock for $1.005, $1.000 and $1.816 billion, respectively ($1.004, $1.011 and $1.813 billion in repurchases for 2019, 2018 and 2017, respectively, are reported on the cash flow statement due to the timing of settlements).

From time to time, we enter into share repurchase programs with large financial institutions to assist in our buyback of company stock. These programs may allow us to repurchase our shares at a price below the weighted average UPS share price for a given period. We did not enter into any such program during the years ended December 31, 2019, 2018 or 2017.

In order to lower the average cost of acquiring shares in our ongoing share repurchase program, we periodically enter into structured repurchase agreements involving the use of capped call options for the purchase of UPS class B shares. We pay a fixed sum of cash upon execution of each agreement in exchange for the right to receive either a pre-determined amount of cash or stock. Upon expiration of each agreement, if the closing market price of our common stock is above the pre-determined price, we will have our initial investment returned with a premium in either cash or shares (at our election). If the closing market price of our common stock is at or below the pre-determined price, we will receive the number of shares specified in the agreement. We received net premiums of $21, $34 and $54 million during the years ended December 31, 2019, 2018 and 2017, respectively, related to entering into and settling capped call options for the purchase of class B shares. As of December 31, 2019, we had no capped call options outstanding.

Accumulated Other Comprehensive Income (Loss)

We recognize activity in AOCI for unrealized holding gains and losses on available-for-sale securities, foreign currency translation adjustments, unrealized gains and losses from derivatives that qualify as hedges of cash flows and unrecognized pension and postretirement benefit costs. Additionally, effective January 1, 2018, we adopted an ASU that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act (see note 1 for further information). The activity in AOCI for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

Year Ended December 31:	**2019**	**2018**	**2017**
Foreign Currency Translation Gain (Loss), Net of Tax:			
Balance at beginning of year	$ (1,126)	$ (930)	$ (1,016)
Translation adjustment (net of tax effect of $10, $37 and $(161))	48	(149)	86
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	(47)	—
Balance at end of year	$ (1,078)	$ (1,126)	$ (930)
Unrealized Gain (Loss) on Marketable Securities, Net of Tax:			
Balance at beginning of year	$ (2)	$ (2)	$ (1)
Current period changes in fair value (net of tax effect of $4, $(1) and $(1))	11	(3)	(2)
Reclassification to earnings (net of tax effect of $(1), $1 and $1)	(5)	3	1
Balance at end of year	$ 4	$ (2)	$ (2)
Unrealized Gain (Loss) on Cash Flow Hedges, Net of Tax:			
Balance at beginning of year	$ 40	$ (366)	$ (45)
Current period changes in fair value (net of tax effect of $61, $135 and $(190))	195	429	(316)
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	(79)	—
Reclassification to earnings (net of tax effect of $(39), $18 and $(3))	(123)	56	(5)
Balance at end of year	$ 112	$ 40	$ (366)
Unrecognized Pension and Postretirement Benefit Costs, Net of Tax:			
Balance at beginning of year	$ (3,906)	$ (3,569)	$ (3,421)
Reclassification to earnings (net of tax effect of $626, $439 and $269)	1,988	1,389	731
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	—	(609)	—
Net actuarial gain (loss) and prior service cost resulting from remeasurements of plan assets and liabilities (net of tax effect of $(979), $(355) and $(180))	(3,117)	(1,117)	(879)
Balance at end of year	$ (5,035)	$ (3,906)	$ (3,569)
Accumulated other comprehensive income (loss) at end of year	$ (5,997)	$ (4,994)	$ (4,867)

Detail of the gains (losses) reclassified from AOCI to the statements of consolidated income for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

Year Ended December 31:	**Amount Reclassified from AOCI**			**Affected Line Item in the Income Statement**
	2019	**2018**	**2017**	
Unrealized Gain (Loss) on Marketable Securities:				
Realized gain (loss) on sale of securities	6	(4)	(2)	Investment income (expense) and other
Income tax (expense) benefit	(1)	1	1	Income tax expense
Impact on net income	5	(3)	(1)	Net income
Unrealized Gain (Loss) on Cash Flow Hedges:				
Interest rate contracts	(15)	(24)	(27)	Interest expense
Foreign exchange contracts	177	(50)	35	Revenue
Income tax (expense) benefit	(39)	18	(3)	Income tax expense
Impact on net income	123	(56)	5	Net income
Unrecognized Pension and Postretirement Benefit Costs:				
Prior service costs	(227)	(201)	(200)	Investment income (expense) and other
Remeasurement of benefit obligation	(2,387)	(1,627)	(800)	Investment income (expense) and other
Income tax (expense) benefit	626	439	269	Income tax expense
Impact on net income	(1,988)	(1,389)	(731)	Net income
Total amount reclassified for the year	$ (1,860)	$ (1,448)	$ (727)	Net income

Deferred Compensation Obligations and Treasury Stock

We maintain a deferred compensation plan whereby certain employees were previously able to elect to defer the gains on stock option exercises by deferring the shares received upon exercise into a rabbi trust. The shares held in this trust are classified as treasury stock, and the liability to participating employees is classified as “Deferred compensation obligations” in the shareowners’ equity section of the consolidated balance sheets. The number of shares needed to settle the liability for deferred compensation obligations is included in the denominator in both the basic and diluted earnings per share calculations. Employees are generally no longer able to defer the gains from stock options exercised subsequent to December 31, 2004.

Activity in the deferred compensation program for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

Year Ended December 31:	**2019**		**2018**		**2017**	
	Shares	**Dollars**	**Shares**	**Dollars**	**Shares**	**Dollars**
Deferred Compensation Obligations:						
Balance at beginning of year		$ 32		$ 37		$ 45
Reinvested dividends		2		2		2
Benefit payments		(8)		(7)		(10)
Balance at end of year		$ 26		$ 32		$ 37
Treasury Stock:						
Balance at beginning of year	(1)	$ (32)	(1)	$ (37)	(1)	$ (45)
Reinvested dividends	—	(2)	—	(2)	—	(2)
Benefit payments	1	8	—	7	—	10

Balance at end of year	—	$ (26)	(1)	$ (32)	(1)	$ (37)

NOTE 12. STOCK - BASED COMPENSATION

The UPS Incentive Compensation Plan permits the grant of non-qualified and incentive stock options, stock appreciation rights, restricted stock and stock units, and restricted performance shares and units to eligible employees. On May 14, 2018 our shareholders approved our 2018 Omnibus Incentive Compensation Plan under which we are authorized to issue an additional 26 million shares. Each share issued in the form of restricted stock units and restricted performance units (collectively referred to as "Restricted Units"), stock options and other permitted awards reduces the share reserve by one share. We had 13 million shares available to be issued under the Incentive Compensation Plan as of December 31, 2019.

The primary compensation programs offered under the UPS Incentive Compensation Plan include the UPS Management Incentive Award program, the Coyote Restricted Stock Award, the UPS Long-Term Incentive Performance Award program and the UPS Stock Option program. These awards are discussed in the following paragraphs. The total expense recognized in our income statement under all stock compensation award programs was $915, $634 and $584 million during 2019, 2018 and 2017, respectively. The associated income tax benefit recognized in our statements of consolidated income was $216, $186 and $227 million during 2019, 2018 and 2017, respectively. The cash income tax benefit received from the exercise of stock options and the lapsing of Restricted Units was $148, $175 and $276 million during 2019, 2018 and 2017, respectively.

Management Incentive Award Program ("MIP")

Non-executive management earning the right to receive MIP awards is determined annually by the Salary Committee, which is comprised of executive officers of UPS. Awards granted to executive officers are determined annually by the Compensation Committee of the UPS Board of Directors. Our MIP provides, with certain exceptions, that one-half to two-thirds of the annual award will be made in Restricted Units, depending upon the level of management involved. The remaining one-third to one-half of the award is electable in the form of cash or unrestricted shares of class A common stock, and is fully vested at the time of grant.

Upon vesting, Restricted Units result in the issuance of the equivalent number of UPS class A common shares after required tax withholdings. Except in the case of death, Restricted Units granted under the MIP prior to 2019 vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. The grant value, less estimated forfeitures, is expensed on a straight-line basis over the requisite service period, except in the case of death, disability or retirement, in which case immediate expensing occurs. These historical awards will continue to vest through 2023.

Beginning with the MIP award in the first quarter of 2019, Restricted Units vest one year following the grant date, except in the case of death, disability or retirement, in which case immediate vesting occurs. The grant value, less estimated forfeitures, is expensed on a straight-line basis over the requisite service period, except in the case of death, disability or retirement, in which case immediate expensing occurs. All Restricted Units granted are subject to early cancellation or vesting under certain conditions. Dividends earned on Restricted Units are reinvested in additional Restricted Units at each dividend payable date until they have fully vested.

Coyote Restricted Stock Award

In August 2015 we acquired Coyote, a U.S.-based truckload brokerage company. During the third quarter of 2015, we granted Restricted Units to eligible Coyote management employees. The vesting of Restricted Units granted under this award varied between one and four years with an equal number of restricted units vesting at each anniversary date, except in the case of death or disability, in which case immediate vesting occurred. The entire grant was expensed on a straight-line basis over the requisite service period, except in the case of death or disability, in which case immediate expensing occurred. All Restricted Units granted under this award had vested as of December 31, 2019.

As of December 31, 2019, we had the following outstanding Restricted Units, including reinvested dividends, granted under the MIP:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Nonvested at January 1, 2019	10,139	$ 104.47		
Vested	(5,100)	102.54		
Granted	5,516	108.78		
Reinvested Dividends	410	N/A		
Forfeited / Expired	(226)	107.22		
Nonvested at December 31, 2019	10,739	$ 106.94	0.71	$ 1,257
Restricted Units Expected to Vest	12,690	$ 106.59	0.74	$ 1,485

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2019, 2018 and 2017 was $108.78, $110.95 and $105.62, respectively. The total fair value of Restricted Units vested was $457, $596 and $534 million in 2019, 2018 and 2017, respectively. As of December 31, 2019, there was $341 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of two years and one month.

Long-Term Incentive Performance ("LTIP") Program

We award Restricted Units in conjunction with our LTIP program to certain eligible employees. Performance targets are equally-weighted among consolidated operating return on invested capital, growth in currency-constant consolidated revenue and total shareowner return relative to a peer group of companies ("RTSR"). The Restricted Units granted under this award vest at the end of a three-year period, except in the case of death, disability or retirement, in which case immediate vesting occurs on a prorated basis. The number of Restricted Units earned will be based on the percentage achievement of the performance targets set forth on the grant date. The range of percentage achievement can vary from 0% to 200% of the target award.

For the two-thirds of the award related to consolidated operating return on invested capital and growth in currency-constant consolidated revenue, we recognize the grant date fair value of these units, less estimated forfeitures, as compensation expense ratably over the vesting period, based on the number of awards expected to be earned. The remaining one-third of the award related to RTSR is valued using a Monte Carlo model. This portion of the award, less estimated forfeitures, is recognized as compensation expense ratably over the vesting period.

The weighted-average assumptions used by year, and the calculated weighted-average fair values of the RTSR portion of the grants, are as follows:

	2019	2018	2017
Risk-free interest rate	2.23 %	2.61 %	1.46 %
Expected volatility	19.64 %	16.51 %	16.59 %
Weighted-average fair value of units granted	$ 123.44	$ 137.57	$ 119.29
Share payout	115.04 %	123.47 %	113.55 %

There is no expected dividend yield as units earn dividend equivalents.

As of December 31, 2019, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our LTIP program:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Nonvested at January 1, 2019	1,701	$ 108.63		
Vested	(898)	106.12		
Granted	974	107.30		
Reinvested Dividends	83	N/A		
Forfeited / Expired	(169)	108.60		
Nonvested at December 31, 2019	1,691	$ 109.18	1.54	$ 198
Restricted Units Expected to Vest	1,677	$ 109.16	1.55	$ 196

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2019, 2018 and 2017 was $107.30, $111.42 and $105.65, respectively. The total fair value of Restricted Units vested was $71, $97 and $71 million in 2019, 2018 and 2017, respectively. As of December 31, 2019, there was $103 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of one year and eight months.

Non-qualified Stock Options

We maintain stock option plans, under which options are granted to purchase shares of UPS class A common stock. Stock options granted in connection with the UPS Incentive Compensation Plan must have an exercise price at least equal to the NYSE closing price of UPS class B common stock on the date the option is granted.

Executive officers and certain senior managers receive a non-qualified stock option grant annually, in which the value granted is determined as a percentage of salary. Options granted generally vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. All options granted are subject to earlier cancellation or vesting under certain conditions. The options granted will expire ten years after the date of the grant. Option holders may exercise their options via the payment of cash or class A common stock and new class A shares are issued upon exercise.

The following is an analysis of options to purchase shares of class A common stock issued and outstanding:

	Shares (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at January 1, 2019	1,384	$ 95.36		
Exercised	(147)	69.33		
Granted	261	111.68		
Forfeited / Expired	—	—		
Outstanding at December 31, 2019	1,498	$ 100.74	6.37	$ 24
Options Vested and Expected to Vest	1,498	$ 100.74	6.37	$ 24
Exercisable at December 31, 2019	915	$ 96.12	5.25	$ 19

The fair value of each option grant is estimated using the Black-Scholes option pricing model. The weighted-average assumptions used, by year, and the calculated weighted-average fair values of options, are as follows:

	2019	2018	2017
Expected dividend yield	2.94 %	2.93 %	2.89 %
Risk-free interest rate	2.60 %	2.84 %	2.15 %
Expected life in years	7.5	7.5	7.5
Expected volatility	17.79 %	16.72 %	17.81 %
Weighted-average fair value of options granted	$ 16.34	$ 15.23	$ 14.70

Expected volatilities are based on the historical returns on our stock and the implied volatility of our publicly-traded options. The expected dividend yield is based on the recent historical dividend yields for our stock, taking into account changes in dividend policy. The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time options are expected to remain outstanding, and we have relied upon a combination of the observed exercise behavior of our prior grants with similar characteristics, the vesting schedule of the grants and an index of peer companies with similar grant characteristics in estimating this variable.

We received cash of $7, $12 and $41 million during 2019, 2018 and 2017, respectively, from option holders resulting from the exercise of stock options. The total intrinsic value of options exercised during 2019, 2018 and 2017 was $5, $6 and $22 million, respectively. As of December 31, 2019, there was $2 million of total unrecognized compensation cost related to nonvested options. That cost is expected to be recognized over a weighted-average period of three years and five months.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2019:

	Options Outstanding			Options Exercisable	
Exercise Price Range	**Shares (in thousands)**	**Weighted-Average Remaining Contractual Term (in years)**	**Weighted-Average Exercise Price**	**Shares (in thousands)**	**Weighted-Average Exercise Price**
$65.01 - $80.00	157	1.52	$ 74.06	157	$ 74.06
$80.01 - $95.00	100	3.17	82.89	100	82.89
$95.01 - $110.00	985	6.75	103.93	635	103.09
$110.01 - $125.00	256	9.13	111.80	23	111.80
	1,498	6.37	$ 100.74	915	$ 96.12

Discounted Employee Stock Purchase Plan

We maintain an employee stock purchase plan for all eligible employees. Under this plan, shares of UPS class A common stock may be purchased at quarterly intervals at 95% of the NYSE closing price of UPS class B common stock on the last day of each quarterly period. Employees purchased 1, 0.9 and 0.9 million shares at average prices of $102.11, $105.53 and $108.98 per share, during 2019, 2018 and 2017, respectively. This plan is not considered to be compensatory, and therefore no compensation cost is measured for the employees' purchase rights.

NOTE 13. SEGMENT AND GEOGRAPHIC INFORMATION

We report our operations in three segments: U.S. Domestic Package operations, International Package operations and Supply Chain & Freight operations. Package operations represent our most significant business and are broken down into regional operations around the world. Regional operations managers are responsible for both domestic and export products within their geographic area.

U.S. Domestic Package

Domestic Package operations include the time-definite delivery of letters, documents and packages throughout the United States.

International Package

International Package operations include delivery to more than 220 countries and territories worldwide, including shipments wholly outside the United States, as well as shipments with either origin or destination outside the United States. Our International Package reporting segment includes the operations of our Europe, Asia, Americas and ISMEA operating segments.

Supply Chain & Freight

Supply Chain & Freight includes our Forwarding, Logistics, Coyote, Marken, UPS Mail Innovations, UPS Freight and other aggregated business units. Our Forwarding, Logistics and UPS Mail Innovations units provide services in more than 200 countries and territories worldwide and include international air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting services. UPS Freight offers a variety of less-than-truckload and truckload services to customers in North America. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the healthcare and life sciences industry. Other aggregated business units within this segment include The UPS Store and UPS Capital.

In evaluating financial performance, we focus on operating profit as a segment’s measure of profit or loss. Operating profit is before investment income (expense) and other, interest expense and income taxes. The accounting policies of the segments are the same as those described in the "Supplemental Information - Items Affecting Comparability" section of Management's Discussion and Analysis, with certain expenses allocated between the segments using activity-based costing methods. As we operate an integrated, global multimodal network, we evaluate many of our capital expenditure decisions at a network level. Accordingly, expenditures on property, plant and equipment by segment are not presented. Unallocated assets are comprised primarily of cash, marketable securities and certain investment partnerships. In 2018, we changed the segment allocation methodology for certain shared assets. All prior periods have been recast to reflect this change in methodology.

Segment information for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

	2019	2018	2017
Revenue:			
U.S. Domestic Package	$ 46,493	$ 43,593	$ 40,761
International Package	14,220	14,442	13,342
Supply Chain & Freight	13,381	13,826	12,482
Consolidated	$ 74,094	$ 71,861	$ 66,585
Operating Profit:			
U.S. Domestic Package	$ 4,164	$ 3,643	$ 4,303
International Package	2,657	2,529	2,429
Supply Chain & Freight	977	852	797
Consolidated	$ 7,798	$ 7,024	$ 7,529
Assets:			
U.S. Domestic Package	$ 32,795	$ 28,216	$ 25,449
International Package	14,044	12,070	10,361
Supply Chain & Freight	9,045	8,411	8,267
Unallocated	1,973	1,319	1,497
Consolidated	$ 57,857	$ 50,016	$ 45,574
Depreciation and Amortization Expense:			
U.S. Domestic Package	$ 1,520	$ 1,375	$ 1,479
International Package	547	526	509
Supply Chain & Freight	293	306	294
Consolidated	$ 2,360	$ 2,207	$ 2,282

Revenue by product type for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

	2019	2018	2017
U.S. Domestic Package:			
Next Day Air	$ 8,479	$ 7,618	$ 7,088
Deferred	5,180	4,752	4,422
Ground	32,834	31,223	29,251
Total U.S. Domestic Package	46,493	43,593	40,761
International Package:			
Domestic	2,836	2,874	2,646
Export	10,837	10,973	10,170
Cargo	547	595	526
Total International Package	14,220	14,442	13,342
Supply Chain & Freight:			
Forwarding	5,867	6,580	5,674
Logistics	3,435	3,234	3,017
Freight	3,265	3,218	3,000
Other	814	794	791
Total Supply Chain & Freight	13,381	13,826	12,482
Consolidated	$ 74,094	$ 71,861	$ 66,585

Geographic information for the years ended December 31, 2019, 2018 and 2017 is as follows (in millions):

	2019	2018	2017
United States:			
Revenue	$ 58,699	$ 56,115	$ 52,080
Long-lived assets	$ 27,976	$ 24,918	$ 21,141
International:			
Revenue	$ 15,395	$ 15,746	$ 14,505
Long-lived assets	$ 9,567	$ 8,577	$ 7,966
Consolidated:			
Revenue	$ 74,094	$ 71,861	$ 66,585
Long-lived assets	$ 37,543	$ 33,495	$ 29,107

Long-lived assets include property, plant and equipment, pension and postretirement benefit assets, long-term investments, goodwill and intangible assets.

No countries outside of the United States provided 10% or more of consolidated revenue for the years ended December 31, 2019, 2018 or 2017. For the year ended December 31, 2019, Amazon.com, Inc. and its affiliates ("Amazon") represented 11.6% of our consolidated revenues. Substantially all of this revenue was attributed to our U.S. Domestic Package segment. As of December 31, 2019, Amazon accounted for approximately 16.9% of accounts receivable, net, included within the consolidated balance sheets. No single customer represented 10% or more of our consolidated revenues for the years ended December 31, 2018 or 2017.

NOTE 14. INCOME TAXES

The income tax expense (benefit) for the years ended December 31, 2019, 2018 and 2017 consists of the following (in millions):

	2019	2018	2017
Current:			
U.S. Federal	$ 570	$ 89	$ 671
U.S. State and Local	183	7	49
Non-U.S.	359	374	288
Total Current	1,112	470	1,008
Deferred:			
U.S. Federal	255	668	1,115
U.S. State and Local	(93)	75	118
Non-U.S.	(62)	15	(9)
Total Deferred	100	758	1,224
Total Income Tax Expense	$ 1,212	$ 1,228	$ 2,232

Income before income taxes includes the following components (in millions):

	2019	2018	2017
United States	$ 3,972	$ 4,307	$ 5,987
Non-U.S.	1,680	1,712	1,150
Total Income Before Income Taxes:	$ 5,652	$ 6,019	$ 7,137

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2019, 2018 and 2017 consists of the following:

	2019	2018	2017
Statutory U.S. federal income tax rate	21.0 %	21.0 %	35.0 %
U.S. state and local income taxes (net of federal benefit)	1.4	1.4	1.5
Non-U.S. tax rate differential	0.3	0.2	(2.0)
U.S. federal tax credits	(1.4)	(1.1)	(1.8)
Income tax benefit from the Tax Cuts and Jobs Act and other non-U.S. tax law changes	—	—	(3.6)
Defined benefit plans mark-to-market charge tax rate differential [1]	—	—	1.5
Non-U.S. valuation allowance release	(1.2)	—	—
Other	1.3	(1.1)	0.7
Effective income tax rate	21.4 %	20.4 %	31.3 %

[1] Impact of applying Tax Act corporate rate enacted of 21% versus 35%

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions in which we operate and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year, but may not be consistent from year to year.

Our effective tax rate was 21.4% in 2019, compared with 20.4% in 2018 and 31.3% in 2017, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items.

Tax Cuts and Jobs Act

On December 22, 2017, the United States enacted into law the Tax Act. The Tax Act made broad and complex changes to the U.S. tax code, including a permanent corporate rate reduction to 21% and a transition to a territorial international system effective in 2018. The Tax Act includes provisions that affected 2017, including: (1) requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries (“Transition Tax”) that is payable over eight years; (2) requiring a remeasurement of all U.S. deferred tax assets and liabilities to the newly enacted corporate tax rate of 21% and (3) providing for additional first-year depreciation that allows full expensing of qualified property placed into service after September 27, 2017.

In late December 2017, the SEC staff issued Staff Accounting Bulletin ("SAB") 118, which provided guidance on accounting for the tax effects of the Tax Act. SAB 118 provided a measurement period up to one year from the Tax Act enactment date for companies to complete the related accounting under GAAP. We recorded a $272 million provisional benefit inclusive of our Transition Tax liability, the change in our indefinite reinvestment assertion for certain foreign subsidiaries and the remeasurement of our U.S. net deferred tax liabilities for the year ended December 31, 2017. During the fourth quarter of 2018, we completed our accounting for the Tax Act based on the current regulatory guidance available at the end of the SAB 118 measurement period and recorded no material net adjustments to our provisional estimate.

The Tax Act also enacted provisions that took effect in 2018 including but not limited to: (1) a provision that imposes U.S. tax on certain foreign subsidiary income known as GILTI, (2) a new deduction for Foreign-Derived Intangible Income ("FDII"), (3) additional limitations on tax deductions for expenses such as interest and executive compensation and (4) a new minimum tax based on certain payments from a U.S. company to foreign related parties known as the Base Erosion and Anti-Abuse Tax ("BEAT").

We included the impact of each of the newly effective Tax Act provisions in our computation of the 2018 and 2019 income tax expense. Throughout 2018 and 2019, the U.S. Department of the Treasury and IRS issued regulatory guidance clarifying certain provisions of the Tax Act, and we anticipate additional regulatory guidance and technical clarifications during future years. When additional guidance is issued, we will recognize the related tax impact in the quarter of enactment.

2019 Discrete Items

In the fourth quarter of 2019, we recognized an income tax benefit of $571 million related to pre-tax mark-to-market losses of $2.387 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $255 million during the year ended December 31, 2019. As a result, we recorded an additional income tax benefit of $59 million. This income tax benefit was generated at a higher average tax rate than the 2019 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

As discussed in note 9, $97 million of legal contingencies and expenses were accrued during 2019 in respect of certain legal proceedings for which we recorded an additional income tax benefit of $6 million. This income tax benefit was generated at a lower average tax rate than the U.S. federal statutory tax rate due to the portion of the accrual related to penalties, which are not deductible for tax purposes.

As of December 31, 2018, we maintained a valuation allowance against certain deferred tax assets, primarily related to foreign net operating loss carryforwards. As of each reporting date, we consider new evidence, both positive and negative, that could affect the future realization of deferred tax assets. During 2019, we determined that there is sufficient positive evidence to conclude that it is more likely than not that the deferred tax assets related to certain foreign net operating loss carryforwards will be realized. This conclusion is primarily related to achieving cumulative three-year income and anticipated future earnings within the relevant jurisdiction. Accordingly, we reversed the related valuation allowance and recognized a discrete tax benefit of approximately $68 million.

Other factors that impacted our 2019 effective tax rate include favorable tax provisions enacted in the Taxpayer Certainty and Disaster Tax Relief Act of 2019.

2018 Discrete Items

The decrease in our effective tax rate from 2017 to 2018 was primarily due to the impact of the Tax Act which reduced the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018.

In the fourth quarter of 2018, we recognized an income tax benefit of $390 million related to pre-tax mark-to-market losses of $1.627 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $360 million during the year ended December 31, 2018. As a result, we recorded an additional income tax benefit of $87 million. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $38 million and reduced our effective tax rate by 0.6% during the year ended December 31, 2018.

Other factors that impacted our 2018 effective tax rate include favorable resolutions of uncertain tax positions, favorable U.S. state and local tax law changes, favorable tax provisions enacted in the Bipartisan Budget Act of 2018 and discrete tax credits associated with the filing of our 2017 U.S. federal income tax return.

2017 Discrete Items

In addition to the impact of the Tax Act described above, the following discrete items were recorded during the year ended December 31, 2017.

In the fourth quarter of 2017, we recognized an income tax benefit of $193 million related to pre-tax mark-to-market losses of $800 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average tax rate than the 2017 U.S. federal statutory tax rate due to future tax rate changes enacted by the Tax Act and differences between U.S. and foreign statutory rates, which was partially offset by the effect of U.S. state and local taxes.

In the fourth quarter of 2017, tax law changes were enacted in certain non-U.S. jurisdictions in which we operate. As a result, we recorded a decrease to our foreign net deferred tax assets of $14 million with a corresponding net increase to deferred tax expense of $14 million.

In the first quarter of 2017, we adopted a new accounting standard that requires the recognition of excess tax benefits related to share-based compensation in income tax expense, which resulted in tax benefits for the year ended December 31, 2017 of $71 million and reduced our effective tax rate by 1.0%.

Other Items

Beginning in 2012, we were granted a tax incentive for certain of our non-U.S. operations, which is effective through December 31, 2021. The tax incentive is conditional upon our meeting specific employment and investment thresholds. The impact of this tax incentive decreased non-U.S. tax expense by $27 million, $27 million and $24 million (increased diluted earnings per share by $0.03, $0.03 and $0.03) for 2019, 2018 and 2017, respectively.

Deferred income tax assets and liabilities are comprised of the following at December 31, 2019 and 2018 (in millions):

	2019	2018
Fixed assets and capitalized software	$ (4,720)	$ (4,010)
Operating lease right-of-use assets	(685)	—
Other	(538)	(493)
Deferred tax liabilities	(5,943)	(4,503)
Pension and postretirement benefits	2,522	1,743
Loss and credit carryforwards	328	298
Insurance reserves	413	437
Stock compensation	249	189
Accrued employee compensation	287	274
Operating lease liabilities	691	—
Other	205	196
Deferred tax assets	4,695	3,137
Deferred tax assets valuation allowance	(54)	(112)
Deferred tax asset (net of valuation allowance)	4,641	3,025
Net deferred tax asset (liability)	$ (1,302)	$ (1,478)
Amounts recognized in the consolidated balance sheets:		
Deferred tax assets	$ 330	$ 141
Deferred tax liabilities	(1,632)	(1,619)
Net deferred tax asset (liability)	$ (1,302)	$ (1,478)

The valuation allowance changed by $(58), $(14) and $(33) million during the years ended December 31, 2019, 2018 and 2017, respectively.

We have a U.S. federal capital loss carryforward of $21 million as of December 31, 2019, $20 million of which expires on December 31, 2021, and the remainder of which expires on December 31, 2022. In addition, we have U.S. federal tax credit carryforwards of $3 million, which can be carried forward for periods ranging from ten years to twenty years.

Further, we have U.S. state and local operating loss and credit carryforwards as follows (in millions):

	2019	2018
U.S. state and local operating loss carryforwards	$ 1,374	$ 1,014
U.S. state and local credit carryforwards	$ 110	$ 80

The U.S. state and local operating loss carryforwards and credits can be carried forward for periods ranging from one year to indefinitely. We also have non-U.S. loss carryforwards of $670 million as of December 31, 2019, the majority of which may be carried forward indefinitely. As indicated in the table above, we have established a valuation allowance for certain U.S. federal, state and non-U.S. carryforwards due to the uncertainty resulting from a lack of previous taxable income within the applicable tax jurisdictions and other limitations.

Undistributed earnings and profits ("E&P") of our foreign subsidiaries amounted to $6.060 billion at December 31, 2019. As a result of the Tax Act, during the year ended December 31, 2017, we changed our indefinite reinvestment assertion with respect to the earnings of certain foreign subsidiaries. For all other foreign subsidiaries, we continue to assert that these earnings are indefinitely reinvested. $1.597 billion of the undistributed E&P of our foreign subsidiaries is considered to be indefinitely reinvested and, accordingly, no deferred income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to U.S. state and local taxes and withholding taxes payable in various jurisdictions. Determination of the amount of unrecognized deferred income tax liability is not practicable because of the complexities associated with its hypothetical calculation.

The following table summarizes the activity related to our uncertain tax positions (in millions):

	Tax	Interest	Penalties
Balance at January 1, 2017	$ 144	$ 50	$ 6
Additions for tax positions of the current year	16	—	—
Additions for tax positions of prior years	33	14	3
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(24)	(18)	—
Settlements during the period	(6)	(3)	—
Lapses of applicable statute of limitations	(3)	—	—
Balance at December 31, 2017	160	43	9
Additions for tax positions of the current year	47	—	1
Additions for tax positions of prior years	7	10	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(43)	(8)	(5)
Settlements during the period	(1)	(1)	—
Lapses of applicable statute of limitations	(3)	—	—
Balance at December 31, 2018	167	44	5
Additions for tax positions of the current year	6	—	—
Additions for tax positions of prior years	51	13	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(45)	(4)	(1)
Settlements during the period	(3)	(1)	—
Lapses of applicable statute of limitations	(4)	—	—
Balance at December 31, 2019	$ 172	$ 52	$ 4

The total amount of gross uncertain tax positions as of December 31, 2019, 2018 and 2017 that, if recognized, would affect the effective tax rate was $171, $165 and $159 million, respectively. Our continuing policy is to recognize interest and penalties associated with income tax matters as a component of income tax expense.

We file income tax returns in the U.S. federal jurisdiction, most U.S. state and local jurisdictions, and many non-U.S. jurisdictions. We have substantially resolved all U.S. federal income tax matters for tax years prior to 2015.

A number of years may elapse before an uncertain tax position is audited and ultimately settled. It is difficult to predict the ultimate outcome or the timing of resolution for uncertain tax positions. It is reasonably possible that the liability for uncertain tax positions could significantly increase or decrease within the next twelve months. Items that may cause changes to uncertain tax positions include the timing of interest deductions and the allocation of income and expense between tax jurisdictions. These changes could result from the settlement of ongoing litigation, the completion of ongoing examinations, the expiration of the statute of limitations, additional regulatory guidance on the Tax Act or other unforeseen circumstances. At this time, an estimate of the range of the reasonably possible change cannot be made.

NOTE 15. EARNINGS PER SHARE

The earnings per share amounts are the same for class A and class B common shares as the holders of each class are legally entitled to equal per share distributions whether through dividends or in liquidation.

The following table sets forth the computation of basic and diluted earnings per share (in millions, except per share amounts):

	2019	2018	2017
Numerator:			
Net income attributable to common shareowners	$ 4,440	$ 4,791	$ 4,905
Denominator:			
Weighted-average shares	859	860	865
Deferred compensation obligations	—	1	1
Vested portion of restricted shares	5	5	5
Denominator for basic earnings per share	864	866	871
Effect of Dilutive Securities:			
Restricted performance units	5	4	3
Stock options	—	—	1
Denominator for diluted earnings per share	869	870	875
Basic Earnings Per Share	$ 5.14	$ 5.53	$ 5.63
Diluted Earnings Per Share	$ 5.11	$ 5.51	$ 5.61

Diluted earnings per share for the years ended December 31, 2019, 2018 and 2017 exclude the effect of 0.5, 0.2 and 0.1 million shares, respectively, of common stock that may be issued upon the exercise of employee stock options because such effect would be antidilutive.

NOTE 16. DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT

Risk Management Policies

Changes in fuel prices, interest rates and foreign currency exchange rates impact our results of operations. These exposures are actively monitored by management. To manage the impact of these exposures, we enter into a variety of derivative financial instruments. Our objective is to manage, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency rates, commodity prices and interest rates. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures. As we use price sensitive instruments to hedge a certain portion of our existing and anticipated transactions, we expect that any loss in value from those instruments generally would be offset by increases in the value of those hedged transactions. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Credit Risk Management

The forward contracts, swaps and options discussed below contain an element of risk that the counterparties may be unable to meet the terms of the agreements; however, we seek to minimize such risk exposures for these instruments by limiting the counterparties to banks and financial institutions that meet established credit guidelines and by monitoring counterparties to prevent concentrations of credit risk with any single counterparty.

We have agreements with all of our active counterparties (covering the majority of our derivative positions) containing early termination rights and/or zero threshold bilateral collateral provisions whereby cash is required based on the net fair value of derivatives associated with those counterparties.

At December 31, 2019 and 2018, we held cash collateral of $495 and $325 million, respectively, under these agreements; this collateral is included in "Cash and cash equivalents" on the consolidated balance sheets and its use by UPS is not restricted. At December 31, 2019 and 2018 respectively, no additional collateral was required to be posted with our counterparties.

Events such as a counterparty credit rating downgrade (depending on the ultimate rating level) could also allow us to take additional protective measures such as the early termination of trades. Alternatively, we could be required to provide additional collateral or terminate transactions with certain counterparties in the event of a downgrade of our credit rating. The amount of collateral required would be determined by the net fair value of the associated derivatives with each counterparty. We have not historically incurred, and do not expect to incur in the future, any losses as a result of counterparty default.

At December 31, 2019, there were no instruments in a net liability position that were not covered by the zero threshold bilateral collateral provisions.

Types of Hedges

Commodity Risk Management

Currently, the fuel surcharges that we apply to our domestic and international package and less-than-truckload services are the primary means of reducing the risk of adverse fuel price changes on our business. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. We periodically enter into derivative contracts on energy commodity products to manage the price risk associated with forecasted transactions involving refined fuels, principally jet-A, diesel and unleaded gasoline. The objective of the hedges is to reduce the variability of cash flows, due to changing fuel prices, associated with the forecasted transactions involving those products. We normally designate and account for these contracts as cash flow hedges of the underlying forecasted transactions involving these fuel products and, therefore, the resulting gains and losses from these hedges are recognized as a component of fuel expense or revenue when the underlying transactions occur.

Foreign Currency Risk Management

To protect against the reduction in value of forecasted foreign currency cash flows from our international package business, we maintain a foreign currency cash flow hedging program. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We hedge portions of our forecasted revenue denominated in foreign currencies with option and forward contracts. We normally designate and account for these contracts as cash flow hedges of anticipated foreign currency denominated revenue and, therefore, the resulting gains and losses from these hedges are recognized as a component of international package revenue when the underlying sales transactions occur.

We also hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement using foreign currency forward contracts. We normally designate and account for these contracts as cash flow hedges of forecasted foreign currency denominated transactions; therefore, the resulting gains and losses from these hedges are recognized as a component of investment income and other when the underlying transactions are subject to currency remeasurement.

We hedge our net investment in certain foreign operations with foreign currency denominated debt instruments. The use of foreign denominated debt as the hedging instrument allows the debt to be remeasured to foreign currency translation adjustment within AOCI to offset the translation risk from those investments. Balances in the cumulative translation adjustment accounts remain until the sale or substantially complete liquidation of the foreign entity, upon which they are recognized as a component of investment income and other.

Interest Rate Risk Management

Our indebtedness under our various financing arrangements creates interest rate risk. We use a combination of derivative instruments as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment date and maturity date of the swaps match the terms of the associated debt being hedged. Interest rate swaps allow us to maintain a target range of floating-rate debt within our capital structure.

We have designated and account for the majority of our interest rate swaps that convert fixed-rate interest payments into floating-rate interest payments as hedges of the fair value of the associated debt instruments. Therefore, the gains and losses resulting from fair value adjustments to the interest rate swaps and fair value adjustments to the associated debt instruments are recorded to interest expense in the period in which the gains and losses occur. We have designated and account for interest rate swaps that convert floating-rate interest payments into fixed-rate interest payments as cash flow hedges of the forecasted payment obligations. The gains and losses resulting from fair value adjustments to the interest rate swaps are recorded to AOCI.

We periodically hedge the forecasted fixed-coupon interest payments associated with anticipated debt offerings by using forward starting interest rate swaps, interest rate locks or similar derivatives. These agreements effectively lock a portion of our interest rate exposure between the time the agreement is entered into and the date when the debt offering is completed, thereby mitigating the impact of interest rate changes on future interest expense. These derivatives are settled commensurate with the issuance of the debt, and any gain or loss upon settlement is amortized as an adjustment to the effective interest yield on the debt.

Outstanding Positions

The notional amounts of our outstanding derivative positions were as follows as of December 31, 2019 and 2018 (in millions):

		2019	2018
Currency Hedges:			
Euro	EUR	4,571	4,924
British Pound Sterling	GBP	1,494	2,037
Canadian Dollar	CAD	1,402	1,443
Hong Kong Dollar	HKD	3,327	3,642
Singapore Dollar	SGD	—	20
Interest Rate Hedges:			
Fixed to Floating Interest Rate Swaps	USD	3,674	4,674
Floating to Fixed Interest Rate Swaps	USD	778	778

As of December 31, 2019 and 2018, we had no outstanding commodity hedge positions.

Balance Sheet Recognition

The following table indicates the location in the consolidated balance sheets where our derivative assets and liabilities have been recognized, the fair value hierarchy level applicable to each derivative type and the related fair values of those derivatives (in millions).

We have master netting arrangements with substantially all of our counterparties giving us the right of offset for our derivative positions. However, we have not elected to offset the fair value positions of our derivative contracts recorded in the consolidated balance sheets. The columns labeled "Net Amounts if Right of Offset had been Applied" indicate the potential net fair value positions by type of contract and location in the consolidated balance sheets had we elected to apply the right of offset.

			Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Asset Derivatives	**Balance Sheet Location**	**Fair Value Hierarchy Level**	**2019**	**2018**	**2019**	**2018**
Derivatives designated as hedges:						
Foreign exchange contracts	Other current assets	Level 2	$ 138	$ 90	$ 131	$ 83
Interest rate contracts	Other current assets	Level 2	2	1	2	1
Foreign exchange contracts	Other non-current assets	Level 2	252	230	236	215
Interest rate contracts	Other non-current assets	Level 2	21	14	20	6
Derivatives not designated as hedges:						
Foreign exchange contracts	Other current assets	Level 2	7	7	7	5
Foreign exchange contracts	Other non-current assets	Level 2	—	1	—	1
Interest rate contracts	Other non-current assets	Level 2	12	18	11	18
Total Asset Derivatives			$ 432	$ 361	$ 407	$ 329

			Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Liability Derivatives	**Balance Sheet Location**	**Fair Value Hierarchy Level**	**2019**	**2018**	**2019**	**2018**
Derivatives designated as hedges:						
Foreign exchange contracts	Other current liabilities	Level 2	$ 7	$ 7	$ —	$ —
Foreign exchange contracts	Other non-current liabilities	Level 2	16	15	—	—
Interest rate contracts	Other non-current liabilities	Level 2	11	41	10	33
Derivatives not designated as hedges:						
Foreign exchange contracts	Other current liabilities	Level 2	—	3	—	1

Foreign exchange contracts	Other non-current liabilities	Level 2	—	1	—	1
Interest rate contracts	Other non-current liabilities	Level 2	3	—	2	—
Total Liability Derivatives			$ 37	$ 67	$ 12	$ 35

Our foreign exchange, interest rate and investment market price derivatives are largely comprised of over-the-counter derivatives, which are primarily valued using pricing models that rely on market observable inputs such as yield curves, currency exchange rates and investment forward prices; therefore, these derivatives are classified as Level 2. At December 31, 2019 and 2018 we did not have any derivatives that were classified as Level 1 (valued using quoted prices in active markets for identical assets) or Level 3 (valued using significant unobservable inputs).

Balance Sheet Location of Hedged Item in Fair Value Hedges

The following table indicates the amounts that were recorded in the consolidated balance sheets related to cumulative basis adjustments for fair value hedges as of December 31, 2019 and December 31, 2018 (in millions).

Line Item in the Consolidated Balance Sheets in Which the Hedged Item is Included	Carrying Amount of Hedged Liabilities	Cumulative Amount of Fair Value Hedge Adjustments	Carrying Amount of Hedged Liabilities	Cumulative Amount of Fair Value Hedge Adjustments
	December 31, 2019	December 31, 2019	December 31, 2018	December 31, 2018
Long-Term Debt and Finance Leases	3,234	40	4,207	16

The cumulative amount of fair value hedging losses remaining for any hedged assets and liabilities for which hedge accounting has been discontinued as of December 31, 2019 is $17 million. These amounts will be recognized over the next 11 years.

Income Statement and AOCI Recognition

The following table indicates the amount of gains and losses that have been recognized in the income statement for the fair value and cash flow hedges, as well as the associated gain or (loss) for the underlying hedged item for fair value hedges for the years ended December 31, 2019 and 2018 (in millions):

	Year Ended December 31,			Year Ended December 31,		
	2019			2018		
Location and Amount of Gain (Loss) Recognized in Income on Fair Value and Cash Flow Hedging Relationships	**Revenue**	**Interest Expense**	**Investment Income and Other**	**Revenue**	**Interest Expense**	**Investment Income and Other**
Gain or (loss) on fair value hedging relationships:						
Interest Contracts:						
Hedged items	$ —	$ (38)	$ —	$ —	$ 57	$ —
Derivatives designated as hedging instruments	—	38	—	—	(57)	—
Gains or (loss) on cash flow hedging relationships:						
Interest Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	—	(15)	—	—	(24)	—
Foreign Exchange Contracts:						
Amount of gain or (loss) reclassified from accumulated other comprehensive income	177	—	—	(50)	—	—
Total amounts of income and expense line items presented in the statement of income in which the effects of fair value or cash flow hedges are recorded	$ 177	$ (15)	$ —	$ (50)	$ (24)	$ —

The following table indicates the amount of gains and (losses) that have been recognized in AOCI for the years ended December 31, 2019 and 2018 for those derivatives designated as cash flow hedges (in millions):

	Amount of Gain (Loss) Recognized in AOCI on Derivatives	
Derivative Instruments in Cash Flow Hedging Relationships	**2019**	**2018**
Interest rate contracts	$ 6	$ 1
Foreign exchange contracts	250	563
Total	$ 256	$ 564

As of December 31, 2019, there were $162 million of pre-tax gains related to cash flow hedges that are currently deferred in AOCI that are expected to be reclassified to income over the 12 month period ended December 31, 2020. The actual amounts that will be reclassified to income over the next 12 months will vary from this amount as a result of changes in market conditions. The maximum term over which we are hedging exposures to the variability of cash flows is approximately 13 years.

The following table indicates the amount of gains and losses that have been recognized in AOCI within foreign currency translation adjustment for the years ended December 31, 2019 and 2018 for those instruments designated as net investment hedges (in millions):

	Amount of Gain (Loss) Recognized in AOCI on Debt	
Non-derivative Instruments in Net Investment Hedging Relationships	**2019**	**2018**
Foreign denominated debt	$ 75	$ 211
Total	$ 75	$ 211

Additionally, we maintain interest rate swaps, foreign exchange forwards and investment market price forward contracts that are not designated as hedges. The interest rate swap contracts are intended to provide an economic hedge of portions of our outstanding debt. The foreign exchange forward contracts are intended to provide an economic offset to foreign currency remeasurement and settlement risk for certain assets and liabilities on our consolidated balance sheets. The investment market price forward contracts are intended to provide an economic offset to fair value fluctuations of certain investments in marketable securities.

We also periodically terminate interest rate swaps and foreign exchange options by entering into offsetting swap and foreign currency positions with different counterparties. As part of this process, we de-designate our original swap and foreign exchange contracts. These transactions provide an economic offset that effectively eliminates the effects of changes in market valuation.

The following is a summary of the amounts recorded in the statements of consolidated income related to fair value changes and settlements of these interest rate swaps, foreign currency forward and investment market price forward contracts not designated as hedges for the years ended December 31, 2019 and 2018 (in millions):

Derivative Instruments Not Designated in Hedging Relationships	**Location of Gain (Loss) Recognized in Income**	**Amount of Gain (Loss) Recognized in Income** 2019	2018
Interest rate contracts	Interest expense	$ (9)	$ (9)
Foreign exchange contracts	Investment income and other	(1)	(102)
Investment market price contracts	Investment income and other	—	16
Total		$ (10)	$ (95)

NOTE 17. TRANSFORMATION STRATEGY COSTS

In the first quarter of 2018, we launched the first phase of a multi-year, enterprise-wide transformation strategy impacting our organization. Over the next several years additional phases will be implemented. The program includes investments, as well as changes in processes and technology, that impact global direct and indirect operating costs.

The table below presents the transformation strategy costs for the years ended December 31, 2019 and 2018 (in millions):

	Year Ended December 31,	
Transformation Strategy Costs	**2019**	**2018**
Compensation and benefits	$ 166	$ 262
Total other expenses	89	98
Total Transformation Strategy Costs	$ 255	$ 360
Income Tax Benefit from Transformation Strategy Costs	(59)	(87)
After Tax Transformation Strategy Costs	$ 196	$ 273

The income tax effects of transformation strategy costs are calculated by multiplying the amount of the adjustments by the statutory tax rates applicable in each tax jurisdiction.

NOTE 18. QUARTERLY INFORMATION (UNAUDITED)

Our revenue, segment operating profit, other income and (expense), net income, basic and diluted earnings per share on a quarterly basis are presented below (in millions, except per share amounts):

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Revenue:								
U.S. Domestic Package	$ 10,480	$ 10,227	$ 11,150	$ 10,354	$ 11,455	$ 10,437	$ 13,408	$ 12,575
International Package	3,459	3,533	3,505	3,602	3,494	3,478	3,762	3,829
Supply Chain & Freight	3,221	3,353	3,393	3,500	3,369	3,529	3,398	3,444
Total revenue	17,160	17,113	18,048	17,456	18,318	17,444	20,568	19,848
Operating Profit:								
U.S. Domestic Package	666	756	1,208	939	1,216	949	1,074	999
International Package	528	594	663	618	667	536	799	781
Supply Chain & Freight	200	170	272	216	245	242	260	224
Total operating profit	1,394	1,520	2,143	1,773	2,128	1,727	2,133	2,004
Total Other Income and (Expense)	$ 46	$ 141	$ 61	$ 153	$ 78	$ 162	$ (2,331)	$ (1,461)
Net Income	$ 1,111	$ 1,345	$ 1,685	$ 1,485	$ 1,750	$ 1,508	$ (106)	$ 453
Net Income Per Share:								
Basic	$ 1.28	$ 1.55	$ 1.95	$ 1.71	$ 2.03	$ 1.74	$ (0.12)	$ 0.52
Diluted	$ 1.28	$ 1.55	$ 1.94	$ 1.71	$ 2.01	$ 1.73	$ (0.12)	$ 0.52

Our quarterly results were impacted by transformation strategy costs, legal contingencies and expenses and defined benefit plan mark-to-market charges. The table below presents the impact on operating profit and other income and (expense) for each period.

(in millions, except per share amounts)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2019	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
Impact to Operating Profit								
Transformation Strategy - Employee Benefits	$ 106	$ —	$ 2	$ 192	$ 41	$ 70	$ 17	$ —
Transformation Strategy - Other Costs	17	—	19	71	22	27	31	—
Legal Contingencies and Expenses	—	—	—	—	—	—	97	—
Allocation of Matters Impacting Operating Profit to Segments								
U.S. Domestic Package	$ 28	—	18	196	26	39	133	—
International Package	84	—	2	36	26	40	10	—
Supply Chain & Freight	11	—	1	31	11	18	2	—
Impact to Other Income and (Expense)								
Defined Benefit Plan Mark-to-Market Charges	$ —	$ —	$ —	$ —	$ —	$ —	$ 2,387	$ 1,627

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, management, including our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures. Based upon, and as of the date of, the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported as and when required and is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control:

There were no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting:

UPS management is responsible for establishing and maintaining adequate internal control over financial reporting for United Parcel Service, Inc. and its subsidiaries (the "Company"). Based on the criteria for effective internal control over financial reporting established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, management has assessed the Company's internal control over financial reporting as effective as of December 31, 2019. The independent registered public accounting firm of Deloitte & Touche LLP, as auditors of the consolidated balance sheets of United Parcel Service, Inc. and its subsidiaries as of December 31, 2019 and the related statements of consolidated income, consolidated comprehensive income and consolidated cash flows for the year ended December 31, 2019, has issued an attestation report on the Company's internal control over financial reporting, which is included herein.

Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 20, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of a new accounting standard.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 20, 2020

Item 9B. ***Other Information***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Information about our Executive Officers

Name and Office	Age	Principal Occupation and Employment For the Last Five Years
David P. Abney Chairman and Chief Executive Officer	64	Chief Executive Officer (2014 - present), Chairman (2016 - present) Senior Vice President and Chief Operating Officer (2007 - 2014).
Norman M. Brothers, Jr. Senior Vice President, General Counsel and Corporate Secretary	52	Senior Vice President, General Counsel and Corporate Secretary (2016 - present), Corporate Legal Department Manager (2014 - 2016), Vice President, Corporate Legal (2004 - 2014).
Nando Cesarone Senior Vice President and President, UPS International	48	President, UPS International (2018 - present), Europe Region Manager (2016 - 2018), Asia Pacific Region Manager (2013 - 2016).
Philippe Gilbert Senior Vice President and President, UPS Supply Chain Solutions	55	President, UPS Supply Chain Solutions (2019 - present), Regional CEO, Americas, DB Schenker Logistics (2015 - 2018), Regional CEO, West Europe, DB Schenker Logistics (2013 - 2015).
Kate M. Gutmann Senior Vice President, Chief Sales and Solutions Officer	51	Chief Sales and Solutions Officer; Senior Vice President The UPS Store and UPS Capital (2017 - present), Senior Vice President, Worldwide Sales and Solutions (2014 - 2017), President, Worldwide Sales (2011 - 2014).
Brian Newman Senior Vice President, Chief Financial Officer and Treasurer	51	Chief Financial Officer and Treasurer (2019 - present), Executive Vice President, Finance and Operations, Latin America, PepsiCo, Inc. (2017 - 2019), Executive Vice President, Global Operations, PepsiCo, Inc. (2015 - 2017), Global Head of e-Commerce, PepsiCo, Inc. (2014 - 2015).
Juan R. Perez Senior Vice President, Chief Information Officer	53	Chief Information Officer and Engineering Officer (2017 - present), Chief Information Officer (2016 - 2017), Vice President, Information Services (2011 - 2016).
Scott A. Price Senior Vice President, Chief Transformation Officer	57	Chief Strategy Transformation Officer (2017 - present), Executive Vice President of Global Leverage - Walmart International, Walmart Stores, Inc. (2017), Chief Administrative Officer and Executive Vice President - Walmart International, Walmart Stores Inc. (2016 - 2017), Chief Executive Officer and President of Walmart Asia Pte. Ltd. (2014 - 2016).
Charlene Thomas Senior Vice President, Chief Human Resources Officer	52	Chief Human Resources Officer (2019 - present), President, Human Capital Transformation (2019), West Region Manager (2018 - 2019), North Atlantic District Manager (2018), Mid-South District Manager (2016-2018), West-OPS Package Operations Manager (2016), U.S. Operations Training Staff Manager (2015-2016).
Kevin Warren Senior Vice President, Chief Marketing Officer	57	Chief Marketing Officer (2018 - present), Executive Vice President and Chief Commercial Officer, Xerox Corp. (2017 - 2018), President, Commercial Business Group, Xerox Corp. (2016 - 2017), President, Industrial, Retail and Hospitality Business Group,

		Xerox Corp. (2015 - 2016), President of Strategic Growth Initiatives, Xerox Corp. (2014 - 2015).
George Willis Senior Vice President and President, United States Operations	55	President, U.S. Operations (2018 - present), President, West Region (2015 - 2018), U.K., Ireland, and Nordics District Manager (2013 - 2015).

Information about our directors is presented under the caption “Our Board of Directors" in our definitive proxy statement for the Annual Meeting of Shareowners to be held on May 14, 2020 (the “Proxy Statement”) and is incorporated herein by reference.

Information about our Audit Committee is presented under the caption “Our Board of Directors - Committees of the Board of Directors” and "Audit Committee Matters" in our Proxy Statement and is incorporated herein by reference.

Information about our Code of Business Conduct is presented under the caption “Where You Can Find More Information” in Part I, Item 1 of this report.

Item 11. *Executive Compensation*

Information about our board and executive compensation is presented under the captions “Our Board of Directors - Director Compensation" and "Executive Compensation" in our Proxy Statement and is incorporated herein by reference.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

Information about security ownership is presented under the caption “Ownership of Our Securities - Securities Ownership of Certain Beneficial Owners and Management” in our Proxy Statement and is incorporated herein by reference.

Information about our equity compensation plans is presented under the caption “Executive Compensation - Equity Compensation Plans” in our Proxy Statement and is incorporated herein by reference.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

Information about transactions with related persons is presented under the caption “Corporate Governance - Conflicts of Interest and Related Person Transactions” in our Proxy Statement and is incorporated herein by reference.

Information about director independence is presented under the caption “Corporate Governance - Director Independence” in our Proxy Statement and is incorporated herein by reference.

Item 14. *Principal Accountant Fees and Services*

Information about aggregate fees billed to us by our principal accountant is presented under the caption “Audit Committee Matters - Principal Accounting Firm Fees” in our Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits and Financial Statement Schedules***

(a) *Documents filed as a part of this report:*

1. *Financial Statements*.

See Item 8 for the financial statements filed with this report.

2. *Financial Statement Schedules*.

None.

3. *Exhibits*.

See the Exhibit Index below for a list of the exhibits incorporated by reference into or filed with this report.

(b) *Exhibits Required To Be Filed*

See Item 15(a)1 above

(c) *Financial Statement Schedules Required To Be Filed*

See Item 15(a) 2 above

Item 16. ***Form 10-K Summary***

None.

EXHIBIT INDEX

Exhibit No.		Description
3.1	—	Restated Certificate of Incorporation of United Parcel Service, Inc. (incorporated by reference to Exhibit 3.3 to Form 8-K filed on May 12, 2010).
3.2	—	Amended and Restated Bylaws of United Parcel Service, Inc. as of November 17, 2017 (incorporated by reference to Exhibit 3.1 to Form 8-K, filed on November 17, 2017).
4.1	—	Indenture relating to 8 3/8% Debentures due April 1, 2020 (incorporated by reference to Exhibit 4(c) to Registration Statement No. 33-32481, filed on December 7, 1989)(1).
4.2	—	Indenture dated as of December 18, 1997 (incorporated by reference to Exhibit T-3C to Form T-3 (No. 022-22295), filed on December 18, 1997) (1).
4.3	—	Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to Form S-3 (No. 333-08369), filed on January 26, 1999) (1).
4.4	—	Form of First Supplemental Indenture to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.2 to Post-Effective Amendment No. 1 to Form S-3 (No. 333-08369-01), filed on March 15, 2000).
4.5	—	Second Supplemental Indenture dated as of September 21, 2001 to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4 to Form 10-Q for the quarter ended September 30, 2001).
4.6	—	Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.1 to Form S-3 (No. 333-108272), filed on August 27, 2003).
4.7	—	First Supplemental Indenture dated as of November 15, 2013 to Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.2 to Form S-3ASR (No. 333-192369), filed on November 15, 2013).
4.8	—	Second Supplemental Indenture dated as of May 18, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 18, 2017).
4.9	—	Form of 6.20% Senior Notes due January 15, 2038 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on January 15, 2008).
4.10	—	Form of 3.125% Senior Notes due January 15, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 12, 2010).
4.11	—	Form of 4.875% Senior Notes due November 15, 2040 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 12, 2010).
4.12	—	Form of 2.450% Senior Notes due October 1, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on September 27, 2012).
4.13	—	Form of 3.625% Senior Notes due October 1, 2042 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on September 27, 2012).
4.14	—	Form of Floating Rate Senior Notes due December 15, 2064 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on December 15, 2014).
4.15	—	Form of Floating Rate Senior Notes due September 15, 2065 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on September 17, 2015).
4.16	—	

Form of Floating Rate Senior Notes due July 15, 2020 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 20, 2015).

4.17	—	Form of 1.625% Senior Notes due November 15, 2025 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 20, 2015).
4.18	—	Form of Floating Rate Senior Notes due March 15, 2066 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on April 1, 2016).
4.19	—	Form of 2.40% Senior Notes Due November 2026 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on October 25, 2016).
4.20	—	Form of 3.40% Senior Notes Due November 2046 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on October 25, 2016).

4.21	—	Form of 1.00% Senior Notes Due November 2028 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on October 25, 2016).
4.22	—	Form of Floating Rate Senior Notes due March 15, 2067 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on March 31, 2017).
4.23	—	Form of Floating Rate Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 16, 2017).
4.24	—	Form of 2.350% Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 16, 2017).
4.25	—	Form of 2.125% Senior Notes due May 21, 2024 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 18, 2017).
4.26	—	Form of 0.375% Senior Notes due November 15, 2023 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 13, 2017).
4.27	—	Form of 1.500% Senior Notes due November 15, 2032 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 13, 2017).
4.28	—	Form of Floating Rate Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 14, 2017).
4.29	—	Form of Floating Rate Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 14, 2017).
4.30	—	Form of 2.050% Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on November 14, 2017).
4.31	—	Form of 2.500% Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.4 to Form 8-K, filed on November 14, 2017).
4.32	—	Form of 2.800% Senior Notes due November 15, 2024 (incorporated by reference to Exhibit 4.5 to Form 8-K, filed on November 14, 2017).
4.33	—	Form of 3.050% Senior Notes due November 15, 2027 (incorporated by reference to Exhibit 4.6 to Form 8-K, filed on November 14, 2017).
4.34	—	Form of 3.750% Senior Notes due November 15, 2047 (incorporated by reference to Exhibit 4.7 to Form 8-K, filed on November 14, 2017).
4.35	—	Form of Floating Rate Senior Notes due November 15, 2067 (incorporated by reference to Exhibit 4.8 to Form 8-K, filed on November 14, 2017).
4.36	—	Form of 3.400% Senior Notes due March 15, 2029 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on March 15, 2019).
4.37	—	Form of 4.250% Senior Notes due March 15, 2049 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on March 15, 2019).
4.38	—	Form of 2.200% Senior Notes due September 1, 2024 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on August 16, 2019).
4.39	—	Form of 2.500% Senior Notes due September 1, 2029 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on August 16, 2019).

4.40	—	Form of 3.400% Senior Notes due September 1, 2049 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on August 16, 2019).
4.41	—	Description of Securities.
10.1	—	UPS Retirement Plan Amendment and Restatement Effective January 1, 2014 (incorporated by reference to Exhibit 10.1 to Form 10-K for the year ended December 31, 2014).*
10.1(a)	—	Amendment No. 1 to UPS Retirement Plan, as Amended and Restated, effective as of June 30, 2016 (incorporated by reference to Exhibit 10.1 to Form 10-Q for the quarter ended June 30, 2016).*

10.1(b)	—	Amendment Four to the Amended and Restated UPS Retirement Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.2 to Form 8-K, filed on June 27, 2017).*
10.2	—	UPS 401(k) Savings Plan, Amendment and Restatement effective as of January 1, 2017 (incorporated by reference to Exhibit 10.1 to Form 8-K, filed on June 27, 2017).*
10.3	—	UPS Restoration Savings Plan effective January 1, 2017 (incorporated by reference to Exhibit 10.3 to Form 8-K, filed on June 27, 2017).*
10.4	—	Amendment One to the Amended and Restated UPS Excess Coordinating Benefit Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.4 to Form 8-K, filed on June 27, 2017).*
10.4(a)	—	UPS Excess Coordinating Benefit Plan, as Amended and Restated, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to Form 10-K for the year ended December 31, 2012).*
10.5	—	United Parcel Service, Inc. 2012 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement, filed on March 12, 2012).*
10.5(a)	—	Form of Long-Term Incentive Performance Award Agreement (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2011).*
10.5(b)	—	Form of Non-Employee Director Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2019).*
10.5(c)	—	UPS Management Incentive Program Terms and Conditions effective as of January 1, 2011 (incorporated by reference to Exhibit 10.10(3) to the Form 10-K) for the year ended December 31, 2010).*
10.5(d)	—	UPS Stock Option Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(4) to the Form 10-K for the year ended December 31, 2011).*
10.5(e)	—	UPS Long-Term Incentive Performance Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(5) to the Form 10-K for the year ended December 31, 2011).*
10.6	—	Form of UPS Deferred Compensation Plan as Amended and Restated effective January 1, 2012 (incorporated by reference to Exhibit 10.6 to Form 10-K for the year ended December 31, 2018).*
10.6(a)	—	Amendment No. 1 to Amended and Restated UPS Deferred Compensation Plan (incorporated by reference to Exhibit 10.7(1) to the Form 10-K for the year ended December 31, 2012).*
10.7	—	2015 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 24, 2015).*
10.8	—	2018 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 16, 2018).*
10.8(a)	—	UPS Management Incentive Program Amended and Restated Terms and Conditions effective November 8, 2018 (incorporated by reference to Exhibit 10.8(a) to Form 10-K for the year ended December 31, 2018).*
10.8(b)	—	UPS Stock Option Program Amended and Restated Terms and Conditions effective November 8, 2018 (incorporated by reference to Exhibit 10.8(b) to Form 10-K for the year ended December 31, 2018).*
10.8(c)	—	UPS Long-Term Incentive Performance Program Amended and Restated Terms and Conditions effective as of November 8, 2018 (incorporated by reference to Exhibit 10.8(c) to Form 10-K for the year ended December 31, 2018).*
10.9	—	

		Employment offer letter agreement between the Company and Scott Price, dated November 28, 2017 (incorporated by reference to Exhibit 10.9 to Form 10-K for the year ended December 31, 2018).*
10.10	—	Form of Protective Covenant Agreement between the Company and Scott Price (incorporated by reference to Exhibit 10.10 to Form 10-K for the year ended December 31, 2018).*
10.11	—	Employment offer letter agreement between the Company and Kevin Warren, dated May 5, 2018 (incorporated by reference to Exhibit 10.11 to Form 10-K for the year ended December 31, 2018).*
10.12	—	Form of Protective Covenant Agreement between the Company and Kevin Warren (incorporated by reference to Exhibit 10.12 to Form 10-K for the year ended December 31, 2018).*
10.13	—	Employment offer letter agreement between the Company and Brian Newman, dated August 7, 2019 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on August 13, 2019).*

10.14	—	Protective Covenant Agreement between the Company and Brian Newman, dated August 7, 2019 (incorporated by reference to Exhibit 10.2 to Form 8-K filed on August 13, 2019).*
10.15	—	Transition Agreement between the Company and James J. Barber, dated October 21, 2019 (incorporated by reference to Exhibit 10.1 to Form 8-K, filed on October 22, 2019).*
10.16	—	UPS Long-Term Incentive Performance Program Amended and Restated Terms and Conditions effective as of February 13, 2020*.
21	—	Subsidiaries.
23	—	Consent of Deloitte & Touche LLP.
31.1	—	Certificate of the Principal Executive Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	—	Certificate of the Principal Financial Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	—	Certification of the Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	—	Certification of the Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	—	The following financial information from the Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statements of Cash Flows and (v) the Notes to the Consolidated Financial Statements.
104	—	Cover Page Interactive Data File - The cover page from this Annual Report on Form 10-K for the year ended December 31, 2019 is formatted in iXBRL (included as Exhibit 101).

(1) Filed in paper format.

* Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, United Parcel Service, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNITED PARCEL SERVICE, INC.
(REGISTRANT)

By: /s/ DAVID P. ABNEY

David P. Abney
Chairman and Chief Executive Officer (Principal Executive Officer)

Date: February 20, 2020

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ DAVID P. ABNEY **David P. Abney**	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 20, 2020
/S/ BRIAN NEWMAN **Brian Newman**	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	February 20, 2020
/S/ RODNEY C. ADKINS **Rodney C. Adkins**	Director	February 20, 2020
/S/ MICHAEL J. BURNS **Michael J. Burns**	Director	February 20, 2020
/S/ WILLIAM R. JOHNSON **William R. Johnson**	Director	February 20, 2020
/S/ ANN M. LIVERMORE **Ann M. Livermore**	Director	February 20, 2020
/S/ RUDY H.P. MARKHAM **Rudy H. P. Markham**	Director	February 20, 2020
/S/ FRANCK J. MOISON **Franck J. Moison**	Director	February 20, 2020
/S/ CLARK T. RANDT, JR. **Clark T. Randt, Jr.**	Director	February 20, 2020
/S/ CHRISTIANA SMITH SHI	Director	

		February 20, 2020
Christiana Smith Shi		
/S/ JOHN T. STANKEY	Director	February 20, 2020
John T. Stankey		
/S/ CAROL B. TOMÉ	Director	February 20, 2020
Carol B. Tomé		
/S/ KEVIN M. WARSH	Director	February 20, 2020
Kevin M. Warsh		

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

**FOR ANNUAL AND TRANSITION REPORTS
PURSUANT TO SECTIONS 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2018

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 001-15451

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United Parcel Service, Inc.

Delaware	**58-2480149**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification No.)***
55 Glenlake Parkway, N.E. Atlanta, Georgia	**30328**
(Address of Principal Executive Offices)	***(Zip Code)***

(404) 828-6000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Class B common stock, par value $.01 per share	New York Stock Exchange
Floating-Rate Senior Notes due 2020	New York Stock Exchange
1.625% Senior Notes due 2025	New York Stock Exchange
1% Senior Notes due 2028	New York Stock Exchange
0.375% Senior Notes due 2023	New York Stock Exchange
1.500% Senior Notes due 2032	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:

Class A common stock, par value $.01 per share

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company or an emerging growth company. See definition of "accelerated filer", "large accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. Check one:

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the class B common stock held by non-affiliates of the registrant was $73,643,493,685 as of June 30, 2018. The registrant's class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of the registrant's class A common stock is convertible into one share of the registrant's class B common stock.

As of February 6, 2019, there were 164,239,863 outstanding shares of class A common stock and 695,989,113 outstanding shares of class B common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its annual meeting of shareowners scheduled for May 9, 2019 are incorporated by reference into Part III of this report.

UNITED PARCEL SERVICE, INC.
ANNUAL REPORT ON FORM 10-K
TABLE OF CONTENTS

PART I

PART I

Cautionary Statement About Forward-Looking Statements

This report, our Annual Report to Shareowners and our other filings with the Securities and Exchange Commission ("SEC") contain certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Statements in the future tense, and all statements accompanied by terms such as "believe," "project," "expect," "estimate," "assume," "intend," "anticipate," "target," "plan" and variations thereof and similar terms, are intended to be forward-looking statements. Forward-looking statements are made subject to the safe harbor protections of the federal securities laws pursuant to Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

From time to time, we also include written or oral forward-looking statements in other publicly disclosed materials. Such statements relate to our intent, belief and current expectations about our strategic direction prospects and future results, and give our current expectations or forecasts of future events; they do not relate strictly to historical or current facts. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or anticipated results. These risks and uncertainties are described in Part I, "Item 1A. Risk Factors" and may also be described from time to time in our future reports filed with the SEC. You should consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of predictions contained in such forward-looking statements. We do not undertake any obligation to update forward-looking statements to reflect events, circumstances, changes in expectations or the occurrence of unanticipated events after the date of those statements.

Item 1. *Business*

Overview

United Parcel Service, Inc. ("UPS") was founded in 1907 as a private messenger and delivery service in Seattle, Washington. Today, we are the world's largest package delivery company, a leader in the U.S. less-than-truckload industry and a premier provider of global supply chain management solutions. We operate one of the largest airlines in the world, as well as the world's largest fleet of alternative-powered vehicles. We deliver packages each business day for 1.5 million shipping customers to 9.1 million receivers ("consignees") in over 220 countries and territories. In 2018, we delivered an average of 20.7 million pieces per day, or a total of 5.2 billion packages. Total revenue in 2018 was $71.861 billion.

We serve the global market for logistics services, which includes transportation, distribution, contract logistics, ground freight, ocean freight, air freight, customs brokerage, insurance and financing. We have three reporting segments: U.S. Domestic Package and International Package, which together we refer to as our global small package operations, and Supply Chain & Freight, all of which are described below.

Strategy

Our market strategy is to provide customers with advanced logistics solutions made possible by a broad portfolio of differentiated services and capabilities expertly assembled and integrated into our customers' businesses. This approach, supported by our efficient and globally balanced multimodal network, enables us to deliver value to our customers and thereby build lasting partnerships with them.

Customers are able to leverage our broad portfolio of logistics capabilities comprised of: our balanced global presence in North America, Europe, Middle East, Africa, Asia Pacific and Latin America; reliability; and industry-leading technologies and solutions expertise for competitive advantage in markets where they choose to compete.

We continue to invest in the expansion of the UPS business to serve our existing and prospective customers with a full range of advanced logistics products, services and capabilities across an ever-increasing geographical and industry footprint. Achieving our objectives has required new methods and innovative approaches to logistics services, including the acquisition and creation of platform-based businesses, specialized healthcare services such as Marken’s clinical trial capabilities, a full range of brokerage and transportation insurance services, retail offerings such as UPS My Choice and more.

We have a long history of operating with joint venture and partnership arrangements to provide flexibility as we build scale. We often reevaluate these arrangements to ensure they are optimally designed for our future aspirations. For example, in 2018, we acquired full ownership of our express services unit in India, signaling a new era of opportunity and operational design in a high-growth international market. We closely monitor global trade and economic, geopolitical, regulatory and environmental factors, as well as other areas of risk and change to ensure we quickly adjust to a fast-moving world.

We aim to be a disciplined and focused business that purposefully reinvests capital to achieve both long-term strategic benefits and favorable returns. In September 2018, we communicated our commitment to continuous transformation to modernize our business and operations through state-of-the art technology. We see transformation as an ongoing commitment to enhance quality and efficiency as we deliver innovative capabilities and services. Our strategic investments are primarily focused in areas we believe will drive growth and lasting profit potential:

- Services and solutions for small and medium-sized businesses.
- International growth markets.
- Global Business to Consumer ("B2C") and Business to Business ("B2B") e-commerce.
- Healthcare and life-sciences logistics.
- Operational advancements and efficiencies through our technology-enabled network.

In 2018, we added nearly 400,000 pieces per hour of automated sort capacity globally, along with numerous new technologies to help control the network and ensure resources are in the right place at the right time.

We have a long history of sound financial management, and our consolidated balance sheet showcases financial strength. Cash generation is a significant strength of UPS, giving us ample capacity to service our obligations and facilitate distributions to shareowners, reinvest in our business and pursue growth opportunities.

Reporting segments and products & services

Global Small Package

Our global small package operations provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. We serve more than 220 countries and territories around the world along with domestic delivery service in more than 50 countries. We handle packages up to 108 inches in length that weigh up to 150 pounds and are up to 165 inches in combined length and girth, as well as palletized shipments weighing more than 150 pounds. All of our package services are supported by numerous shipping, visibility and billing technologies.

We handle all levels of service (air, ground, domestic, international, commercial and residential) through one global integrated pickup and delivery network. We combine all packages within our network, unless dictated by specific service commitments. This enables one UPS driver to pick up customers' shipments for any of our services at the same scheduled time each day. Compared to companies with single service network designs, our integrated network uniquely provides operational and capital efficiencies while being more environmentally friendly.

We offer same-day pickup of air and ground packages upon request. Customers can schedule pickups up to six days a week, based on their specific needs. Additionally, our wholly-owned and partnered global network offers roughly 150,000 entry points where customers can tender a package to us at a location or time convenient to them. This combined network includes UPS drivers who can accept packages provided to them, UPS drop boxes, UPS Access Point locations, The UPS Store locations, authorized shipping outlets and commercial counters, alliance locations and customer centers attached to UPS facilities. Some of these locations offer a full array of services, including pickup, delivery and packing options, while others are drop-off locations only.

The continued growth of online and mobile shopping has increased our customers' needs for efficient and reliable returns, resulting in our development of a robust selection of returns services that are available in more than

145 countries. The portfolio provides a range of cost-effective label options and a vast network of consumer drop points, as well as a selection of returns technologies that promote efficiency and a friction-free consumer experience. These options vary based on customer need and country and include solutions such as UPS Returns, as well as more-specialized services such as UPS Returns Exchange. Our technologies promote systems integration, client ease of use and visibility of inbound merchandise, which help reduce costs and improve efficiency of our merchants' reverse logistics processes. UPS Returns Manager is an excellent example of this value.

We operate one of the largest airlines in the world, with global operations centered at our Worldport hub in Louisville, Kentucky. Worldport sort capacity has expanded over the years due to volume growth and centralization efforts. Our European air hub is located in Cologne, Germany, and we maintain Asia Pacific air hubs in Shanghai, China; Shenzhen, China and Hong Kong. Our regional air hub in Canada is located in Hamilton, Ontario and our regional air hub for Latin America and the Caribbean is in Miami, Florida.

Our U.S. regional air hubs in Dallas, Texas; Ontario, California; Philadelphia, Pennsylvania and Rockford, Illinois support Worldport. This network design creates cost-effective package processing in our most technology-enabled facilities, which allows us to use fewer, larger and more fuel-efficient aircraft. Our U.S. ground fleet serves all business and residential zip codes in the contiguous U.S.

U.S. Domestic Package Reporting Segment

We are a leader in time-definite, money-back guaranteed, small package delivery services in the United States. We offer a full spectrum of U.S. domestic guaranteed ground and air package transportation services.

- Customers can select from same day, next day, two day and three day delivery alternatives. UPS's Air portfolio offers options enabling customers to specify a time-of-day guarantee for their delivery (e.g., by 8:00 A.M., 10:30 A.M., noon, end of day, etc.).

- Customers can also leverage our extensive ground network to ship using our day-definite guaranteed ground service that serves every U.S. business and residential address. We deliver more ground packages in the U.S. than any other carrier, with average daily package volume of 14.5 million, most within one to three business days.

- We also offer UPS SurePost, an economy residential ground service for customers with non-urgent, lightweight residential shipments. UPS SurePost is a contractual residential ground service that combines the consistency and reliability of the UPS Ground network with final delivery often provided by the U.S. Postal Service. We utilize our operational technology to identify multiple package delivery opportunities and redirect UPS SurePost packages for final delivery, improving time in transit, customer service and operational efficiency.

We continue to invest in our smart global logistics network. Within our facilities, we are expanding automated capacity, driving greater efficiencies and providing additional network flexibilities. We also continue to invest in our air network capacity through aircraft acquisitions. In 2018, we expanded Saturday operations and opened 22 new facilities, including regional facilities in the Atlanta, Indianapolis, Phoenix, Salt Lake City and Dallas areas.

International Package Reporting Segment

Our International Package reporting segment includes small package operations in Europe, Asia Pacific, Canada and Latin America and the Indian sub-continent, Middle East and Africa ("ISMEA"). We offer a wide selection of guaranteed day- and time-definite international shipping services. We offer more guaranteed time-definite express options (Express Plus, Express and Express Saver) than any other carrier.

- In 2018, we continued expansion of our Express time-definite portfolios:

    - We expanded UPS WorldWide Express to 14 new countries around the globe.

    - UPS Express now reaches 137 countries with guaranteed mid-day delivery and 57 countries with guaranteed morning delivery with Express Plus.

    - Express Saver reaches 220 countries and territories with guaranteed end-of-day delivery.

    - We grew our Worldwide Express Freight Midday footprint by five times in 12 European countries by expanding this service to 39,000 new postal codes.

- Worldwide Express Freight is available from 71 origin countries to 67 destination countries.

- For international package shipments that do not require Express services, UPS Worldwide Expedited offers a reliable, deferred, guaranteed day-definite service option. The service is available from more than 80 origin countries to more than 220 countries and territories.

- For cross-border ground package delivery, we offer UPS Standard delivery services within Europe, between the U.S. and Canada and between the U.S. and Mexico.

Europe, our largest region outside of the U.S., accounts for approximately half of international revenue and is one of the primary drivers of our growth. To accommodate the strong potential for growth in small package exports, we made a series of enhancements to both our ground and air networks that help reduce transit time by one to two days and will result in improved exporting opportunities for customers in Europe.

We are constantly striving to provide our customers with better service. In 2018, we provided our customers with greater flexibility by offering later pick-up times in nearly 52,000 postal codes across Europe, creating production and fulfillment benefits. We continue to make major European infrastructure investments, including a $146 million facility in Eindhoven, the Netherlands, the opening of a $150 million hub in London and the construction of a $100 million hub in Paris. These investments are part of ongoing efforts allowing customers using UPS Standard to reach more than 80 percent of Europe's population within two business days. These recent expansions and enhancements are part of our commitment to invest nearly $2 billion in our European infrastructure.

Asia Pacific remains a strategic market due to growth rates in intra-Asia trade and the expanding Chinese economy. To capitalize on these opportunities, we are bringing faster time-in-transit to customers focused on intra-Asia trade and reducing transit time from Asia to the U.S. and Europe. Through added flight frequencies, we provide our customers the ability to ship next day to more places in the U.S. and Europe - guaranteed - than any other express carrier. We serve more than 40 Asia Pacific countries and territories through more than two dozen alliances with local delivery companies that supplement company-owned operations. Our joint venture with SF Express combines SF's extensive Chinese network with UPS's delivery capabilities in the U.S. and Europe to increase our market presence and help provide Chinese enterprises with greater global access.

In 2018, we extended cut-off times by four hours for export shipment pickups, lengthening production windows. We upsized four daily flights to our Shenzhen Intra-Asia hub and Hong Kong to our new Boeing 747-8s for greater capacity to support customers with import needs through gateways in Shanghai, Shenzhen and Hong Kong.

High-growth markets are also a strategic imperative for UPS. A new direct flight from the U.S. to Dubai improves time in transit to key destinations in the ISMEA region for shippers throughout the U.S., Canada and the Americas. Markets like India in the ISMEA region provide new opportunities for growth. In 2018, we made additional investments in India to acquire full ownership of our express services unit, previously a joint venture. This follows the construction of a new facility in Hyderabad and an integrated logistics facility in Ahmedabad. These enhancements allow customers in ISMEA to reach markets in the U.S. and Europe within a 48-hour delivery window. In addition to these upgrades, we added Saturday delivery to seven countries in the region. The additional operating day gives our customers greater flexibility with their operations and scheduling.

Supply Chain & Freight

Supply Chain & Freight consists of our forwarding, logistics, truckload brokerage, UPS Freight, UPS Capital and other businesses. Supply chain complexity creates demand for a global service offering that incorporates transportation, distribution and international trade and brokerage services, with complementary financial and information services. Outsourcing of non-core logistics activity is a strategy more companies are pursuing. With increased competition and growth opportunities in new markets, businesses require flexible and responsive supply chains to support their business strategies. We meet this demand by offering a broad array of supply chain services in more than 200 countries and territories.

Forwarding

We are one of the largest U.S. domestic air freight carriers and among the top international air freight forwarders globally. We offer a portfolio of guaranteed and non-guaranteed global air freight services. Additionally, as one of the world's leading non-vessel operating common carriers, we provide ocean freight full-container load, less-than-container load and multimodal transportation services between most major ports around the world.

Truckload Brokerage

Coyote Logistics Midco, Inc. ("Coyote"), a U.S.-based third party logistics provider, was acquired in August 2015. We successfully integrated this large-scale truckload brokerage and transportation management services operation into our Supply Chain & Freight segment and have seen significant synergies in the areas of purchased transportation, backhaul utilization, technology systems and industry best practices. Coyote's access to our UPS fleet, combined with its broad carrier network, has created a customized capacity solution for all markets, customers and situations. Moreover, Coyote creates access to UPS services (such as air freight, customs brokerage and global freight forwarding) for its customer base.

Freightex, a U.K.- based freight brokerage firm, was acquired in January 2017. The acquisition of Freightex added a full-scale truckload brokerage and transportation management solution to UPS's European portfolio, creating a single-source solution for shippers throughout Europe with freight ranging from parcel to full truckload. In 2018, Freightex was rebranded to Coyote Logistics to further leverage the centralized technology and business models with the market knowledge, talent and established customer and carrier bases already in Europe. The Coyote Logistics European division complements UPS's North American truckload brokerage business, as many international shippers know and trust the Coyote truckload product.

Logistics

We provide value-added fulfillment and transportation management services to customers through our global network of company-owned and leased distribution centers and field stocking locations. We leverage a global network of more than 900 facilities in more than 100 countries around the globe to ensure products and parts are in the right place, at the right time.

Our distribution centers are strategically located near UPS air and ground transportation hubs for rapid delivery to consumer and business markets. In 2017, UPS began piloting a new integrated transportation fulfillment solution for small business e-commerce merchants, enabling them to rapidly expand and grow their offerings without additional capital investments. In 2018, we expanded our network to support new business growth by adding more than 1.6 million square feet of distribution capacity.

Also in 2018, we rolled out new cloud-based transportation and warehouse management software platforms to drive higher operational efficiency and improve service to customers. The result has been better visibility, more rapid onboarding of customers and improved flexibility and response times.

Building on a 2017 pilot program, in 2018 we expanded a new integrated transportation-fulfillment solution for small business e-commerce merchants in the United States. The program enables small merchants to rapidly expand and grow their online offerings by providing connectivity to multiple marketplaces.

UPS Post Sales, our service parts logistics solution, relies on a global network of central and field stocking sites to provide critical spare parts when and where customers need them. In 2018, we implemented new technology to support our Implantable Medical Device solution, which helps ensure surgical kits and devices arrive safely and on time at hospitals and surgery centers. This integrated solution was built in collaboration with WebOps, a medical device logistics and analytics technology provider, and Baxter Planning, an inventory planning and optimization solutions provider. We continue to expand UPS Access Point locations into our network, offering greater flexibility, more convenience and improved service for our customers.

UPS Express Critical provides urgent, secure transportation for time-sensitive and high-value goods. It includes same-day, next-flight-out and door-to-door ground services, including specialized charter and hand-carry services for both lightweight and heavyweight shipments.

UPS Freight

UPS Freight offers regional, inter-regional and long-haul less-than-truckload ("LTL") services in all 50 states, Canada, Puerto Rico, Guam, the U.S. Virgin Islands and Mexico. UPS Freight provides reliable LTL service backed by a day-definite, on-time guarantee at no additional cost. UPS Freight also provides dedicated contract carriage truckload services to select clients. Additionally, user friendly shipping, visibility and billing technology offerings, including UPS WorldShip, Quantum View and UPS Billing Center, allow freight customers to create electronic bills of lading, monitor shipment progress and reconcile shipping charges.

Customs Brokerage

We are among the world's largest customs brokers by both the number of shipments processed annually and by the number of dedicated brokerage employees worldwide. In addition to customs clearance services, we also provide product classification, trade management, duty drawback and consulting services through STTAS, a UPS company. STTAS was acquired in 2017 and is a major differentiator in our ability to become the global broker of choice in all markets important to our customers. In 2017, we also added to our portfolio UPS Zone Solutions, a leader in Foreign Trade Zone administration services in the United States.

UPS Capital

UPS Capital provides financial, insurance and payment services to leverage cash and help protect companies from risk in their supply chains. With services available in 22 countries and territories, UPS Capital and its affiliates support all aspects of the order-to-cash cycle, including financing inventory warehoused overseas, insuring shipments and providing payment solutions. The UPS Capital suite of insurance services, trade finance and payment solutions helps customers protect their assets and keeps their businesses running smoothly. UPS Capital also offers insured transportation of high value goods including loose gemstones, finished jewelry and wristwatches.

Our People

The strength of our company is our people, working together with a common purpose. We had more than 481,000 employees (excluding temporary seasonal employees) as of December 31, 2018, of which 399,000 are in the U.S. and 82,000 are located internationally. Our global workforce includes approximately 85,000 management employees (41% of whom are part-time) and 396,000 hourly employees (50% of whom are part-time).

As of December 31, 2018, we had approximately 283,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements expired on July 31, 2018. On October 5, 2018, the Teamsters declared that the tentative national master agreement for the U.S. Domestic Package business unit was considered ratified, and will be implemented as soon as five remaining local and supplemental agreements are negotiated and ratified. We remain in the process of negotiating and ratifying four of these local and supplemental agreements which, when ratified, will be retroactive to August 1, 2018. The UPS Freight business unit national master agreement was ratified on November 11, 2018.

We have approximately 2,800 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which becomes amendable on September 1, 2021.

Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727. On February 8, 2019, the airline mechanics who are covered by this agreement voted to ratify a new contract which will become amendable November 1, 2023. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers (“IAM”) that will expire on July 31, 2019.

Competition

UPS is a global leader in logistics. We offer a broad array of services in the package and freight delivery industry and compete with many different local, regional, national and international logistics providers. Our competitors include worldwide postal services, various motor carriers, express companies, freight forwarders, air couriers and others, including startups that combine technology with crowdsourcing to focus on local market needs. Through our supply chain service offerings, we compete with a number of providers in the supply chain, financial services and information technology industries.

Competitive Strengths

Our competitive strengths include:

Global Network. We believe that our integrated global ground and air network is the most extensive in the industry. We provide all types of package services (air, ground, domestic, international, commercial and residential) through a single pickup and delivery service network. We also have extensive air freight, ocean freight, ground freight and logistics networks that provide additional capabilities in the global transportation and logistics market. Our sophisticated engineering systems allow us to optimize our network efficiency and asset utilization on a daily basis.

Global Presence. We serve more than 220 countries and territories around the world. We have a significant presence in all of the world’s major economies.

Cutting-Edge Technology. We are a global leader in developing technology that helps our customers enhance their shipping and logistics business processes to lower costs, improve service and increase efficiency.

Technology powers virtually every service we offer and every operation we perform. Customer need drives our technology offerings. We offer a variety of online service options that enable our customers to integrate UPS functionality into their own businesses not only to send, manage and track their shipments conveniently, but also to provide their customers with better information services. We provide the infrastructure for an internet presence that extends to tens of thousands of customers who have integrated UPS tools directly into their own websites.

Broad Portfolio of Services. Our portfolio of services helps customers choose the delivery option that is most appropriate for their requirements. Increasingly, our customers benefit from business solutions that integrate many UPS services beyond package delivery. For example, our supply chain services – such as freight forwarding, truckload brokerage, customs brokerage, order fulfillment and returns management – help improve the efficiency of the supply chain management process.

Customer Relationships. We focus on building and maintaining long-term customer relationships. We serve 1.5 million shipping customers and more than 9.1 million delivery customers daily. Cross selling small package, supply chain and freight services across our customer base is an important growth mechanism for UPS.

Brand Equity. We have built a leading and trusted brand that stands for quality service, reliability and service innovation. The distinctive appearance of our vehicles and the professional courtesy of our drivers are major contributors to our brand equity.

Distinctive Culture. We believe that the dedication of our employees comes in large part from our distinctive "employee-owner" concept. Our employee stock ownership tradition dates back to 1927, when our founders, who believed that employee stock ownership was a vital foundation for successful business, first offered stock to employees. To encourage employee stock ownership, we maintain several stock-based compensation programs.

Financial Strength. Our financial strength gives us the resources to achieve global scale; to invest in employee development, technology, transportation equipment and facilities; to pursue strategic opportunities that facilitate our growth; to service our obligations and to return value to our shareowners in the form of dividends, share repurchases and steady share growth.

Government Regulation

We are subject to numerous laws and regulations in connection with our package and non-package businesses in the countries in which we operate. Certain of these laws and regulations are summarized below.

Air Operations

The U.S. Department of Transportation ("DOT"), the Federal Aviation Administration ("FAA") and the U.S. Department of Homeland Security, through the Transportation Security Administration ("TSA"), have regulatory authority over United Parcel Service Co.'s ("UPS Airlines") air transportation services. The Federal Aviation Act of 1958, as amended, is the statutory basis for DOT and FAA authority and the Aviation and Transportation Security Act of 2001, as amended, is the basis for TSA aviation security authority.

The DOT's authority primarily relates to economic aspects of air transportation, such as insurance requirements, discriminatory pricing, non-competitive practices, interlocking relations and cooperative agreements. The DOT also regulates, subject to the authority of the President of the United States, international routes, fares, rates and practices and is authorized to investigate and take action against discriminatory treatment of U.S. air carriers abroad. International operating rights for U.S. airlines are usually subject to bilateral agreements between the U.S. and foreign governments or, in the absence of such agreements, by principles of reciprocity. We are also subject to current and potential aviation regulations imposed by foreign governments in the countries in which we operate, including registration and license requirements and security regulations. UPS Airlines has international route operating rights granted by the DOT and we may apply for additional authorities when those operating rights are available and are required for the efficient operation of our international network. The efficiency and flexibility of our international air transportation network is dependent on DOT and foreign government regulations and operating restrictions.

The FAA's authority primarily relates to safety aspects of air transportation, including aircraft operating procedures, transportation of hazardous materials, record keeping standards and maintenance activities and personnel. In 1988, the FAA granted us an operating certificate, which remains in effect so long as we meet the safety and operational requirements of the applicable FAA regulations. In addition, we are subject to non-U.S. government regulation of aviation rights involving non-U.S. jurisdictions and non-U.S. customs regulation.

UPS aircraft maintenance programs and procedures, including aircraft inspection and repair at periodic intervals, are approved for all aircraft under FAA regulations. The future cost of repairs pursuant to these programs may fluctuate according to aircraft condition, age and the enactment of additional FAA regulatory requirements.

The TSA regulates various security aspects of air cargo transportation in a manner consistent with the TSA mission statement to "protect the Nation's transportation systems to ensure freedom of movement for people and commerce." UPS Airlines, and specified airport and off-airport locations, are regulated under TSA regulations applicable to the transportation of cargo in an air network. In addition, personnel, facilities and procedures involved in air cargo transportation must comply with TSA regulations.

UPS Airlines, along with a number of other domestic airlines, participates in the Civil Reserve Air Fleet ("CRAF") program. Our participation in the CRAF program allows the U.S. Department of Defense ("DOD") to requisition specified UPS Airlines aircraft for military use during a national defense emergency. The DOD is required to compensate us for the use of aircraft under the CRAF program. In addition, participation in CRAF entitles UPS Airlines to bid for other U.S. Government opportunities including small package and air freight.

Ground Operations

Our ground transportation of packages in the U.S. is subject to regulation by the DOT and its agency, the Federal Motor Carrier Safety Administration (the “FMCSA”) and the states’ jurisdiction with respect to the regulation of operations, safety, insurance and hazardous materials. We also must comply with the safety and fitness regulations promulgated by the FMCSA, including those relating to drug and alcohol testing and hours of service for drivers. We are subject to similar regulation in many non-U.S. jurisdictions.

The Postal Reorganization Act of 1970 created the U.S. Postal Service as an independent establishment of the executive branch of the federal government, and created the Postal Rate Commission, an independent agency, to recommend postal rates. The Postal Accountability and Enhancement Act of 2006 amended the 1970 Act to give the re-named Postal Regulatory Commission revised oversight authority over many aspects of the Postal Service, including postal rates, product offerings and service standards. We sometimes participate in the proceedings before the Postal Regulatory Commission in an attempt to secure fair postal rates for competitive services.

Our ground operations are subject to compliance with various cargo-security and transportation regulations issued by the U.S. Department of Homeland Security, including regulation by the TSA.

Customs

We are subject to the customs laws in the countries in which we operate, regarding the import and export of shipments, including those related to the filing of documents on behalf of client importers and exporters. Our activities in the U.S., including customs brokerage and freight forwarding, are subject to regulation by the Bureau of Customs and Border Protection, the TSA, the U.S. Federal Maritime Commission and the DOT. Our international operations are subject to similar regulatory structures in their respective jurisdictions.

Environmental

We are subject to federal, state and local environmental laws and regulations across all of our business units. These laws and regulations cover a variety of processes, including, but not limited to: proper storage, handling and disposal of waste materials; appropriately managing wastewater and stormwater; monitoring and maintaining the integrity of underground storage tanks; complying with laws regarding clean air, including those governing emissions; protecting against and appropriately responding to spills and releases and communicating the presence of reportable quantities of hazardous materials to local responders. We have established site- and activity-specific environmental compliance and pollution prevention programs to address our environmental responsibilities and remain compliant. In addition, we have created numerous programs which seek to minimize waste and prevent pollution within our operations.

Pursuant to the Federal Aviation Act, the FAA, with the assistance of the Environmental Protection Agency (“EPA”), is authorized to establish standards governing aircraft noise. Our aircraft fleet is in compliance with current noise standards of the federal aviation regulations. Our international operations are also subject to noise regulations in certain countries in which we operate.

Communications and Data Protection

Because of our extensive use of radio and other communication facilities in our aircraft and ground transportation operations, we are subject to the Federal Communications Act of 1934, as amended. In addition, the Federal Communications Commission regulates and licenses our activities pertaining to satellite communications. There has recently been increased regulatory and enforcement focus on data protection in the U.S. (at both the state and federal level) and in other countries. For example, the European Union (“E.U.”) General Data Protection Regulation (“GDPR”), which became effective in May 2018, greatly increases the jurisdictional reach of E.U. law and increases the requirements related to personal data, including individual notice and opt-out preferences and public disclosure of significant data breaches. Additionally, violations of the GDPR can result in significant fines. Other governments have enacted or are enacting similar data protection laws, and are considering data localization laws that would govern the use of data outside of their respective jurisdictions.

Where You Can Find More Information

We maintain a website at *www.ups.com*. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed with or furnished to the SEC pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available through our website *www.investors.ups.com* as soon as reasonably practical after we electronically file or furnish the reports to the SEC. However, information on these websites is not incorporated by reference into this report or any other report filed with or furnished to the SEC.

We have adopted a written Code of Business Conduct that applies to all of our directors, officers and employees, including our principal executive officer and senior financial officers. It is available in the governance section of our investor relations website, located at *www.investors.ups.com*. In the event that we make changes in, or provide waivers from, the provisions of the Code of Business Conduct that the SEC requires us to disclose, we intend to disclose these events in the governance section of our investor relations website.

Our Corporate Governance Guidelines and the Charters for our Audit Committee, Compensation Committee, Executive Committee, Risk Committee and Nominating and Corporate Governance Committee are also available in the governance section of our investor relations website.

Our sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society, is available at *www.sustainability.ups.com*. We provide the addresses to our internet sites solely for the information of investors. We do not intend for any addresses to be active links or to otherwise incorporate the contents of any website into this report.

Item 1A. *Risk Factors*

Our business, financial condition and results are subject to numerous risks and uncertainties. In connection with any investment decision, you should carefully consider the following factors, which could materially affect our business, financial condition or results of operations. You should read these Risk Factors in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7 and our Consolidated Financial Statements and related notes in Item 8.

General economic conditions, both in the U.S. and internationally, may adversely affect our results of operations.

We conduct operations in over 220 countries and territories. Our U.S. and international operations are subject to normal cycles affecting the economy in general, as well as the local economic environments in which we operate. The factors that create cyclical changes to the economy and to our business are beyond our control, may adversely impact our credit rating and it may be difficult for us to adjust our business model to mitigate the impact of these factors. In particular, our business is affected by levels of industrial production, consumer spending and retail activity and our business, financial position and results of operations could be materially affected by adverse developments in these aspects of the economy. In addition, there remains substantial economic uncertainty arising from the United Kingdom's 2016 vote to leave the European Union. In 2017 the U.K. government initiated a process to leave the E.U., and the U.K. and the E.U. continue to negotiate the future relationship between the U.K. and the E.U., which could take several years to finalize. The results of these negotiations could result in, among other things, fewer goods being transported globally, volatility in currency exchange rates and further regulations relating to, among other things, trade and aviation. Any of the foregoing could materially adversely affect our business, financial position and results of operations.

We face significant competition which could adversely affect our business, financial position and results of operations.

We face significant competition on a local, regional, national and international basis. Our competitors include the postal services of the U.S. and other nations, various motor carriers, express companies, freight forwarders, air couriers and others, including start ups and other companies that combine technologies with crowdsourcing to focus on local market needs. Competition may also come from other sources in the future, including as a result of the development of new technologies. Some of our competitors may have cost and organizational structures that differ from ours and may offer services and pricing terms that we may not be willing or able to offer. Additionally, to remain competitive, we may have to raise costs to our customers and our customers may not be willing to accept these higher costs. If we are unable to timely and appropriately respond to competitive pressures, our business, financial position and results of operations could be adversely affected.

The transportation industry continues to consolidate and competition remains strong. As a result of consolidation, our competitors may increase their market share and improve their financial capacity, and may strengthen their competitive positions. Business combinations could also result in competitors providing a wider variety of services and products at competitive prices, which could adversely affect our financial performance.

Changes in our relationships with our significant customers, including the loss or reduction in business from one or more of them, could have an adverse impact on us.

No single customer accounts for 10% or more of our consolidated revenue. We do not believe the loss of any single customer would materially impair our overall financial condition or results of operations; however, collectively, some of our large customers might account for a relatively significant portion of the growth in revenue in a particular quarter or year. These customers can drive the growth in revenue for particular services based on factors such as: new customer product launches; trends in the e-commerce industry, such as the seasonality associated with the fourth quarter holiday season; business mergers and acquisitions and the overall fast growth of a customer's underlying business. These customers could choose to divert all or a portion of their business with us to one of our competitors, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or develop their own shipping and distribution capabilities. If these factors drove some of our large customers to cancel all or a portion of their business relationships with us, it could materially impact the growth in our business and the ability to meet our current and long-term financial forecasts.

Our business is subject to complex and stringent regulation in the U.S. and internationally, which could increase our operating costs.

We are subject to complex and stringent aviation, transportation, environmental, security, labor, employment and other governmental laws, regulations and policies, both in the U.S. and in the other countries in which we operate. In addition, our business is impacted by laws, regulations and policies that affect global trade, including tariff and trade policies, export requirements, taxes, monetary policies and other restrictions and charges. Recently, trade discussions between the U.S. and some of its trading partners have been fluid, and any trade agreements that may be entered into are subject to a number of uncertainties, including the imposition of new tariffs or adjustments and changes to the products covered by existing tariffs. The impact of new laws, regulations and policies cannot be predicted. Compliance with new laws and regulations may increase our operating costs or require significant capital expenditures. Any failure to comply with applicable laws or regulations in the U.S. or in any of the countries in which we operate could result in substantial fines or possible revocation of our authority to conduct our operations, which could adversely affect our financial performance.

Increased security requirements could impose substantial costs on us and we could be the target of an attack or have a security breach.

As a result of concerns about global terrorism and homeland security, governments around the world have adopted or may adopt stricter security requirements that will result in increased operating costs for businesses in the transportation industry. These requirements may change periodically as a result of regulatory and legislative requirements and in response to evolving threats. We cannot determine the effect that these new requirements will have on our cost structure or our operating results, and these rules or other future security requirements may increase our costs of operations and reduce operating efficiencies. Regardless of our compliance with security requirements or the steps we take to secure our facilities or fleet, we could be the target of an attack or security breaches could occur, which could materially adversely affect our operations or our reputation.

We are subject to increasingly stringent regulations related to climate change, and new regulations could materially increase our operating costs.

Concern over climate change, including the impact of global warming, has led to significant legislative and regulatory efforts, particularly internationally but also in the United States, to limit greenhouse gas (“GHG”) emissions. State and local governments also are increasingly considering GHG regulation. The possibility of increased regulation of GHG emissions potentially exposes our transportation and logistics businesses to significant new taxes, fees and other costs. Compliance with such potential regulation or the associated potential costs is further complicated by the fact that various countries and regions are following different approaches to the regulation of climate change.

For example, in 2009 the European Commission approved the extension to the airline industry of the European Union Emissions Trading Scheme (“ETS”) for GHG emissions. Under this decision, all of our flights operating within the European Union are covered by the ETS requirements, and we are required annually to purchase emission allowances in an amount exceeding the number of free allowances allocated to us under the ETS. Similarly, in 2016, the International Civil Aviation Organization (“ICAO”) passed a resolution adopting the Carbon Offsetting and Reduction Scheme for International Aviation (“CORSIA”), which is a global, market-based emissions offset program to encourage carbon-neutral growth beyond 2020. A pilot phase is scheduled to begin in 2021 in which countries may voluntarily participate, and full mandatory participation is scheduled to begin in 2027. ICAO continues to develop details regarding implementation, but compliance with CORSIA will increase our operating costs.

In the U.S., Congress in the past several years has considered various bills that would regulate GHG emissions, but these bills so far have not received sufficient Congressional support for enactment. Nevertheless, some form of federal climate change legislation is possible in the future. Even in the absence of such legislation, the Environmental Protection Agency (“EPA”), spurred by judicial interpretation of the Clean Air Act, could determine to regulate GHG emissions, especially aircraft or diesel engine emissions, and this could impose substantial costs on us.

In August 2017, the U.S. announced its intention to withdraw from the Paris climate accord, an agreement among 196 countries to reduce GHG emissions, and the effect of that withdrawal on future U.S. policy regarding GHG emissions, on CORSIA and on other GHG regulation is uncertain. Nevertheless, the extent to which other countries implement that agreement could have an adverse direct or indirect effect on our business.

We may face additional regulations regarding GHG emissions internationally and in the United States. Potential costs to us of increased regulation regarding GHG emissions, especially aircraft or diesel engine emissions, include an increase in the cost of the fuel and other energy we purchase and capital costs associated with updating or replacing our aircraft or vehicles prematurely. We cannot predict the impact any future regulation would have on our cost structure or our operating results. It is possible that such regulation could significantly increase our operating expenses if we are unable to pass such costs along to our customers. Moreover, even without such regulation, increased awareness and any adverse publicity in the global marketplace about the GHGs emitted by companies in the airline and transportation industries could harm our reputation and reduce customer demand for our services, especially our air services.

Strikes, work stoppages and slowdowns by our employees could adversely affect our business, financial position and results of operations.

A significant number of our employees are employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. In addition, our airline pilots, airline mechanics, ground mechanics and certain other employees are employed under other collective bargaining agreements. Strikes, work stoppages and slowdowns by our employees could adversely affect our ability to meet our customers' needs, and customers may do more business with competitors if they believe that such actions or threatened actions may adversely affect our ability to provide services. We may face a permanent loss of customers if we are unable to provide uninterrupted service, and this could materially adversely affect our business, financial position and results of operations. The terms of future collective bargaining agreements also may affect our competitive position and results of operations.

We are exposed to the effects of changing prices of energy, as well as gasoline, diesel and jet fuel, and interruptions in supplies of these commodities.

Changing fuel and energy costs may have a significant impact on our operations. We require significant quantities of fuel for our aircraft and delivery vehicles and are exposed to the risk associated with variations in the market price for petroleum products, including gasoline, diesel and jet fuel. We mitigate our exposure to changing fuel prices through our indexed fuel surcharges and we may also enter into hedging transactions from time to time. If we are unable to maintain or increase our fuel surcharges, higher fuel costs could adversely impact our operating results. Even if we are able to offset the cost of fuel with our surcharges, high fuel surcharges may result in a mix shift from our higher-yielding air products to lower-yielding ground products or an overall reduction in volume. There can be no assurance that our hedging transactions will be effective to protect us from changes in fuel prices. Moreover, we could experience a disruption in energy supplies as a result of war, actions by producers or other factors beyond our control, which could have a material adverse effect on our business.

Changes in exchange rates or interest rates may have a material adverse effect on our results.

We conduct business across the globe with a significant portion of our revenue derived from operations outside the United States. Our operations in international markets are affected by changes in the exchange rates for local currencies, and in particular the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar.

We are exposed to changes in interest rates, primarily on our short-term debt and that portion of our long-term debt that carries floating interest rates. The impact of a 100-basis-point change in interest rates affecting our debt is discussed in the “Quantitative and Qualitative Disclosures about Market Risk” section of this report. Additionally, changes in interest rates impact the valuation of our pension and postretirement benefit obligations and the related benefit cost recognized in the income statement. The impact of changes in interest rates on our pension and postretirement benefit obligations and costs is discussed further in the "Critical Accounting Policies and Estimates" section of this report.

We monitor and manage our exposures to changes in currency exchange rates and interest rates, and make use of derivative instruments to mitigate the impact of changes in these rates on our financial position and results of operations; however, changes in exchange rates and interest rates cannot always be predicted or hedged.

If we are unable to maintain our brand image and corporate reputation, our business may suffer.

Our success depends in part on our ability to maintain the image of the UPS brand and our reputation for providing excellent service to our customers. Service quality issues, actual or perceived, even when false or unfounded, could tarnish the image of our brand and may cause customers to use other companies. Also, adverse publicity surrounding labor relations, environmental concerns, security matters, political activities and the like, or attempts to connect our company to these sorts of issues, either in the United States or other countries in which we operate, could negatively affect our overall reputation and acceptance of our services by customers. Social media may accelerate and amplify the scope of negative publicity, and increase the challenge of responding to negative claims. Damage to our reputation and loss of brand equity could reduce demand for our services and thus have a material adverse effect on our business, financial position and results of operations, and could require additional resources to rebuild our reputation and restore the value of our brand.

A significant data breach or IT system disruption could adversely affect our business, financial results, or reputation, and we may be required to increase our spending on data and system security.

We rely heavily on information technology networks and systems, including the Internet, to manage or support a wide variety of important business processes and activities throughout our operations. For example, we rely on information technology to receive package level information in advance of physical receipt of packages, to track items that move through our delivery systems, to efficiently plan deliveries, to execute billing processes, and to track and report financial and operational data. Our franchised center locations and businesses we have acquired also are reliant on the use of information technology systems to manage their business processes and activities.

In addition, the provision of service to our customers and the operation of our networks and systems involve the storage and transmission of significant amounts of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. To conduct our operations, we regularly move data across national borders, and consequently we are subject to a variety of continuously evolving and developing laws and regulations in the United States and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the European Union’s General Data Protection Regulation (“GDPR”), which greatly increases the jurisdictional reach of European Union law and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches, became effective in May 2018. Other countries have enacted or are enacting data localization laws that require data to stay within their borders. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time.

Our information technology systems (as well as those of our franchisees and acquired businesses) may be susceptible to damage, disruptions or shutdowns due to failures during the process of upgrading or replacing software, databases or components thereof, power outages, hardware failures, computer viruses, cyber-attacks, ransomware attacks, malware attacks, malicious employees or other insiders, telecommunications failures, human errors or catastrophic events. Hackers, foreign governments, cyber-terrorists and cyber-criminals, acting individually or in coordinated groups, may launch distributed denial of service attacks or other coordinated attacks that may cause service outages, gain inappropriate or block legitimate access to systems or information, or result in other interruptions in our business. In addition, breaches in security could expose us, our customers and franchisees, or the individuals affected, to a risk of loss or misuse of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. The techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, may be difficult to detect for a long time and often are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate preventative measures.

We also depend on and interact with the information technology networks and systems of third-parties for many aspects of our business operations, including our customers and franchisees and service providers such as cloud service providers and third-party delivery services. These third parties may have access to information we maintain about our company, operations, customers, employees and vendors, or operating systems that are critical to or can significantly impact our business operations. Like us, these third-parties are subject to risks imposed by data breaches and cyber-attacks and other events or actions that could damage, disrupt or close down their networks or systems. Security processes, protocols and standards that we have implemented and contractual provisions requiring security measures that we may have sought to impose on such third-parties may not be sufficient or effective at preventing such events, which could result in unauthorized access to, or disruptions or denials of access to, or misuse of, information or systems that are important to our business, including proprietary information, sensitive or confidential data, and other information about our operations, customers, employees and suppliers, including personal information.

Any of these events that impact our information technology networks or systems, or those of acquired businesses, franchisees, customers, service providers or other third-parties, could result in disruptions in our operations, the loss of existing or potential customers, damage to our brand and reputation, regulatory scrutiny, and litigation and potential liability for us. Among other consequences, our customers' confidence in our ability to protect data and systems and to provide services consistent with their expectations could be impacted, further disrupting our operations. Similarly, an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation, fines, sanctions or other penalties.

We have invested and continue to invest in technology security initiatives, information technology risk management and disaster recovery plans. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly intense, complex and sophisticated global cyber threats. Despite our best efforts, we are not fully insulated from data breaches and system disruptions. For example, in 2014, a broad-based malware intrusion targeting retailers throughout the U.S. was discovered and subsequently eradicated at approximately 1% of our franchisees' locations. While the impact of this cyber-attack, including the costs associated with investigation and remediation activities, was not material to our business and our financial results, there is no assurance that such impacts will not be material in the future, and our efforts to deter, identify, mitigate and/or eliminate future breaches may require significant additional effort and expense and may not be successful.

Severe weather or other natural or manmade disasters could adversely affect our business.

Severe weather conditions and other natural or manmade disasters, including storms, floods, fires or earthquakes, epidemics or pandemics, conflicts or unrest, or terrorist attacks, may result in decreased revenues, as our customers reduce their shipments, or increased costs to operate our business, which could have a material adverse effect on our results of operations for a quarter or year. Any such event affecting one of our major facilities could result in a significant interruption in or disruption of our business.

We make significant capital investments in our business of which a significant portion is tied to projected volume levels.

We require significant capital investments in our business consisting of aircraft, vehicles, technology, facilities and sorting and other types of equipment to support both our existing business and anticipated growth. Forecasting projected volume involves many factors which are subject to uncertainty, such as general economic trends, changes in governmental regulation and competition. If we do not accurately forecast our future capital investment needs, we could have excess capacity or insufficient capacity, either of which would negatively affect our revenues and profitability. In addition to forecasting our capital investment requirements, we adjust other elements of our operations and cost structure in response to adverse economic conditions; however, these adjustments may not be sufficient to allow us to maintain our operating margins in a weak economy.

We derive a significant portion of our revenues from our international operations and are subject to the risks of doing business in international markets.

We have significant international operations, and while the geographical diversity of our international operations helps ensure that we are not overly reliant on a single region or country, we are continually exposed to changing economic, political and social developments that are beyond our control. Emerging markets are typically more volatile than those in the developed world, and any broad-based downturn in these markets could reduce our revenues and adversely affect our business, financial position and results of operations. We are subject to many laws governing our international operations, including those that prohibit improper payments to government officials and commercial customers, and restrict where we can do business, our shipments to certain countries and the information that we can provide to non-U.S. governments.

We are subject to changes in markets and our business plans that have resulted, and may in the future result, in substantial write-downs of the carrying value of our assets, thereby reducing our net income.

Our regular review of the carrying value of our assets has resulted, from time to time, in significant impairments, and we may in the future be required to recognize additional impairment charges. Changes in business strategy, government regulations, or economic or market conditions have resulted and may result in further substantial impairments of our intangible, fixed or other assets at any time in the future. In addition, we have been and may be required in the future to recognize increased depreciation and amortization charges if we determine that the useful lives of our fixed assets or intangible assets are shorter than we originally estimated. Such changes could reduce our net income.

Employee health and retiree health and pension benefit costs represent a significant expense to us; further cost increases could materially and adversely affect us.

Our expenses relating to employee health and retiree health and pension benefits are significant. In recent years, we have experienced significant increases in some of these costs, largely as a result of economic factors beyond our control, including, in particular, ongoing increases in healthcare costs well in excess of the rate of inflation and historically low discount rates that we use to value our benefit plan obligations. Continually increasing healthcare costs, volatility in investment returns and discount rates, as well as changes in laws, regulations and assumptions used to calculate retiree health and pension benefit expenses, may adversely affect our business, financial position, results of operations or require significant contributions to our benefit plans. Our national master agreement with the Teamsters includes provisions that are designed to mitigate certain of these healthcare expenses, but there can be no assurance that our efforts will be successful or that the failure or success of these efforts will not materially adversely affect our business, financial position, results of operations or liquidity.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans will be determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts. However, in future collective bargaining negotiations, we could agree to make significantly higher future contributions to improve the funded status of one or more of these plans. The funded status of these multiemployer plans is impacted by various factors, including investment performance, healthcare inflation, changes in demographics and changes in participant benefit levels. At this time, we are unable to determine the amount of additional future contributions, if any, or whether any material adverse effect on our financial condition, results of operations or liquidity could result from our participation in these plans.

In addition to our on-going multiemployer pension plan obligations, we may have additional exposure with respect to benefits earned in the Central States Pension Fund (the "CSPF"). UPS was a contributing employer to the CSPF until 2007 when we withdrew from the CSPF and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters (“IBT”), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan (“UPS/IBT Plan”) for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 (“the UPS Transfer Group”) in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF. Under our withdrawal agreement with the CSPF, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law.

In December 2014, Congress passed the Multiemployer Pension Reform Act (“MPRA”). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury (“Treasury”). In May 2016, Treasury rejected the proposed plan submitted by the CSPF. In the first quarter of 2018, Congress established a Joint Select Committee to develop a recommendation to improve the solvency of multiemployer plans and the Pension Benefit Guaranty Corporation (“PBGC”) before a November 30, 2018 deadline. While the Committee’s efforts failed to meet its deadline, the Committee made significant progress towards finding solutions that will address the long term solvency of multiemployer pension plans. UPS will continue to work with all stakeholders, including legislators and regulators, to implement an acceptable solution.

The CSPF has said that it believes a legislative solution to its funded status is necessary or that it will become insolvent in 2025, and we expect that the CSPF will continue to explore options to avoid insolvency. Numerous factors could affect the CSPF’s funded status and UPS’s potential obligation to pay coordinating benefits under the UPS/IBT Plan. Any obligation to pay coordinating benefits will be subject to a number of significant uncertainties, including whether the CSPF submits a revised MPRA filing and the terms thereof, or whether it otherwise seeks federal government assistance, as well as the terms of any applicable legislation, the extent to which benefits are paid by the PBGC and our ability to successfully defend legal positions we may take in the future under the MPRA, including the suspension ordering provisions, our withdrawal agreement and other applicable law.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under Accounting Standards Codification Topic 715- Compensation- Retirement Benefits ("ASC 715"), which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely outcome to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities.

As such, our best estimate of the next most likely outcome at the measurement date is that the CSPF submits and implements another benefit reduction plan under the MPRA during 2019. We believe any MPRA filing would be designed to forestall insolvency by reducing benefits to participants other than the UPS Transfer Group to the maximum extent permitted, and then reducing benefits to the UPS Transfer Group by a lesser amount.

We have evaluated this outcome using a deterministic cash flow projection, reflecting updated estimated CSPF cash flows and investment earnings, the lack of legislative action and the absence of a MPRA filing by the CSPF in 2018. As a result, at the December 31, 2018 measurement date, the best estimate of our projected benefit obligation increased by $1.6 billion for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group.

The future value of this estimate will be influenced by the terms and timing of any MPRA filing, changes in our discount rate, rate of return on assets and other actuarial assumptions, presumed solvency of the PBGC, as well as potential solutions resulting from federal government intervention. Any such event may result in a decrease or an increase in the best estimate of our projected benefit obligation. If the uncertainties are not resolved, it is reasonably possible that our projected benefit obligation could increase by approximately $2.4 billion, resulting in a total obligation for coordinating benefits of approximately $4.0 billion as previously disclosed. If a future change in law occurs, it may be a significant event requiring an interim remeasurement of the UPS/IBT Plan at the date the law is enacted. We will continue to assess the impact of these uncertainties on our projected benefit obligation in accordance with ASC 715.

We may have additional tax liabilities.

We are subject to income taxes in the U.S. and many foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. For example, compliance with the 2017 United States Tax Cuts and Jobs Act (the “Tax Act”) may require the collection of information not regularly produced within our company and the exercise of significant judgment in accounting for its provisions. Many aspects of the Tax Act remain unclear and may not be clarified for some time. In addition, many state jurisdictions continue to issue guidance on the state treatment of certain aspects of the Tax Act. As regulations and guidance evolve with respect to the Tax Act, our results may differ from previous estimates and may materially affect our tax rates and our financial position.

We regularly are under audit by tax authorities in different jurisdictions. Economic and political pressures to increase tax revenue in various jurisdictions may make resolving tax disputes favorably more difficult. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation in the jurisdictions where we are subject to taxation could be materially different from our historical income tax provisions and accruals. In addition, changes in U.S. federal and state or international tax laws applicable to corporate multinationals, other fundamental law changes currently being considered by many countries, including the U.S., and changes in taxing jurisdictions’ administrative interpretations, decisions, policies and positions may materially adversely impact our tax expense and cash flows.

We may be subject to various claims and lawsuits that could result in significant expenditures.

The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, property damage, business practices, environmental liability and other matters. Any material litigation or a catastrophic accident or series of accidents could have a material adverse effect on our business, financial position and results of operations.

We may not realize the anticipated benefits of acquisitions, joint ventures or strategic alliances.

As part of our business strategy, we may acquire businesses and form joint ventures or strategic alliances. Whether we realize the anticipated benefits from these transactions depends, in part, upon the successful integration between the businesses involved, the performance of the underlying operations, capabilities or technologies and the management of the acquired operations. Accordingly, our financial results could be materially adversely affected by our failure to effectively integrate the acquired operations, unanticipated performance issues, transaction-related charges or charges for impairment of long-term assets that we acquire.

Insurance and claims expenses could have a material adverse effect on our business, financial condition and results of operations.

We have a combination of both self-insurance and high-deductible insurance programs for the risks arising out of the services we provide and the nature of our global operations, including claims exposure resulting from cargo loss, personal injury, property damage, aircraft and related liabilities, business interruption and workers' compensation. Workers' compensation, automobile and general liabilities are determined using actuarial estimates of the aggregate liability for claims incurred and an estimate of incurred but not reported claims, on an undiscounted basis. Our accruals for insurance reserves reflect certain actuarial assumptions and management judgments, which are subject to a high degree of variability. If the number or severity of claims for which we are retaining risk increases, our financial condition and results of operations could be adversely affected. If we lose our ability to self-insure these risks, our insurance costs could materially increase and we may find it difficult to obtain adequate levels of insurance coverage.

Item 1B. ***Unresolved Staff Comments***

Not applicable.

Item 2. ***Properties***

Operating Facilities

We own our headquarters, which is located in Atlanta, Georgia and consists of about 745,000 square feet of office space in an office campus, and our UPS Supply Chain Solutions group's headquarters, which is located in Alpharetta, Georgia and consists of about 310,000 square feet of office space.

We own or lease over 1,000 package operating facilities in the U.S., with approximately 73 million square feet of floor space. The smaller of these facilities have vehicles and drivers stationed for the pick-up and delivery of packages, and capacity to sort and transfer packages. The larger of these facilities also service our vehicles and equipment, and employ specialized mechanical installations for the sorting and handling of packages. We own or lease approximately 800 facilities that support our international package operations, with approximately 22 million square feet of floor space.

In addition, we own or lease more than 500 facilities, with approximately 35 million square feet of floor space, that support our freight forwarding and logistics operations. We own and operate a logistics campus consisting of approximately 4 million square feet in Louisville, Kentucky.

We own or lease approximately 200 UPS Freight service centers with approximately 6 million square feet of floor space. The main offices of UPS Freight are located in Richmond, Virginia and consist of about 217,000 square feet of office space.

Our aircraft are operated in a hub and spoke pattern in the U.S., with our principal air hub, known as Worldport, located in Louisville, Kentucky. The Worldport facility consists of over 5 million square feet and includes high-speed conveyor and computer control systems.

We also own or lease regional air hubs globally, with over 4 million square feet of floor space. Our U.S. regional air hubs are located in Dallas, Texas; Ontario, California; Philadelphia, Pennsylvania; and Rockford, Illinois. These hubs house facilities for the sorting, transfer and delivery of packages. Our European air hub is located in Cologne, Germany, and we maintain Asia-Pacific air hubs in Shanghai, China; Shenzhen, China; and Hong Kong. Our regional air hub in Canada is located in Hamilton, Ontario, and our regional air hub for Latin America and the Caribbean is in Miami, Florida.

Our primary information technology operations are consolidated in a 444,000 square foot owned facility, the Ramapo Ridge facility, in Mahwah, New Jersey. Our information technology headquarters is located in Parsippany, New Jersey, consisting of about 200,000 square feet of office space. We also own a 175,000 square foot facility in Alpharetta, Georgia, which serves as a backup to the main information technology operations facility in New Jersey. This facility provides production functions and backup capacity in the event that a power outage or other disaster incapacitates the main data center. It also helps to meet our internal communication needs.

Fleet

Aircraft

The following table shows information about our aircraft fleet as of December 31, 2018:

Description	Owned and Capital Leases	Short-term Leased or Chartered From Others	On Order	Under Option
Boeing 757-200	75	—	—	—
Boeing 767-200	—	2		
Boeing 767-300	59	—	9	—
Boeing 767-300BCF	3	—	—	—
Airbus A300-600	52	—	—	—
Boeing MD-11	37	5	—	—
Boeing 747-400F	11	—	—	—
Boeing 747-400BCF	2	—	—	—
Boeing 747-8F	9	—	19	—
Other	—	309	—	—
Total	248	316	28	—

Vehicles

We operate a global ground fleet of approximately 123,000 package cars, vans, tractors and motorcycles. Our ground support fleet consists of 36,000 pieces of equipment designed specifically to support our aircraft fleet, ranging from non-powered container dollies and racks to powered aircraft main deck loaders and cargo tractors. We also have 47,000 containers used to transport cargo in our aircraft.

Item 3. *Legal Proceedings*

See note 5 to the audited consolidated financial statements for a discussion of pension related matters and note 9 for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of our class A common stock is convertible into one share of our class B common stock. Our class B common stock is listed on the New York Stock Exchange under the symbol "UPS".

As of February 8, 2019, there were 155,651 and 19,151 shareowners of record of class A and class B common stock, respectively.

Our practice has been to pay dividends on a quarterly basis. The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors.

On February 15, 2019, our Board declared a dividend of $0.96 per share, which is payable on March 12, 2019 to shareowners of record on February 26, 2019. This represents a 5.5% increase from the previous $0.91 per share quarterly dividend paid in December 2018.

A summary of repurchases of our class A and class B common stock during the fourth quarter of 2018 is as follows (in millions, except per share amounts):

	Total Number of Shares Purchased[1]	Total Number of Shares Purchased as Part of Publicly Announced Program	Average Price Paid Per Share	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program (as of month-end)
October 1—October 31	0.8	0.8	$ 116.96	$ 3,495
November 1—November 30	0.7	0.7	110.33	3,416
December 1—December 31	0.8	0.8	101.13	3,339
Total October 1—December 31	2.3	2.3	$ 109.41	

(1) Includes shares repurchased through our publicly announced share repurchase program and shares tendered to pay the exercise price and tax withholding on employee stock options.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. The share repurchase authorization has no expiration date. As of December 31, 2018, we had $3.339 billion of this share repurchase authorization remaining.

Share repurchases may take the form of accelerated share repurchases, open market purchases, or other such methods as we deem appropriate. The timing of our share repurchases will depend upon market conditions. We anticipate repurchasing approximately $1.0 billion of shares in 2019.

Shareowner Return Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates such information by reference into such filing.

The following graph shows a five-year comparison of cumulative total shareowners' returns for our class B common stock, the Standard & Poor's 500 Index and the Dow Jones Transportation Average. The comparison of the total cumulative return on investment, which is the change in the stock price plus reinvested dividends for each of the quarterly periods, assumes that $100 was invested on December 31, 2013 in the Standard & Poor's 500 Index, the Dow Jones Transportation Average and our class B common stock.

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	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
United Parcel Service, Inc.	$ 100.00	$ 108.67	$ 101.61	$ 124.68	$ 133.59	$ 112.91
Standard & Poor's 500 Index	$ 100.00	$ 113.68	$ 115.24	$ 129.02	$ 157.17	$ 150.27
Dow Jones Transportation Average	$ 100.00	$ 125.07	$ 104.11	$ 126.87	$ 151.00	$ 132.38

For information regarding our equity compensation plans, see Item 12 of this report.

Item 6. ***Selected Financial Data***

The following table sets forth selected financial data for each of the five years in the period ended December 31, 2018 (in millions, except per share amounts). This financial data should be read together with our consolidated financial statements and related notes, Management's Discussion and Analysis of Financial Condition and Results of Operations, including the *Items Affecting Comparability* section, and other financial data appearing elsewhere in this report.

	Years Ended December 31,				
	2018	2017	2016	2015	2014
Selected Income Statement Data					
Revenue:					
U.S. Domestic Package	$ 43,593	$ 40,761	$ 38,284	$ 36,744	$ 35,851
International Package	14,442	13,342	12,346	12,142	13,032
Supply Chain & Freight	13,826	12,482	10,980	10,300	10,295
Total Revenue	71,861	66,585	61,610	59,186	59,178
Operating Expenses:					
Compensation and benefits	37,235	34,577	32,534	31,448	30,247
Other	27,602	24,479	21,388	20,495	22,161
Total Operating Expenses	64,837	59,056	53,922	51,943	52,408
Operating Profit:					
U.S. Domestic Package	3,643	4,303	4,628	4,427	4,244
International Package	2,529	2,429	2,417	2,123	1,884
Supply Chain and Freight	852	797	643	693	642
Total Operating Profit	7,024	7,529	7,688	7,243	6,770
Other Income and (Expense):					
Investment income (expense) and other	(400)	61	(2,186)	435	(1,776)
Interest expense	(605)	(453)	(381)	(341)	(353)
Income Before Income Taxes	6,019	7,137	5,121	7,337	4,641
Income Tax Expense	1,228	2,232	1,699	2,497	1,607
Net Income	$ 4,791	$ 4,905	$ 3,422	$ 4,840	$ 3,034
Per Share Amounts:					
Basic Earnings Per Share	$ 5.53	$ 5.63	$ 3.88	$ 5.37	$ 3.31
Diluted Earnings Per Share	$ 5.51	$ 5.61	$ 3.86	$ 5.34	$ 3.28
Dividends Declared Per Share	$ 3.64	$ 3.32	$ 3.12	$ 2.92	$ 2.68
Weighted Average Shares Outstanding:					
Basic	866	871	883	901	916
Diluted	870	875	887	906	924

	As of December 31,				
	2018	2017	2016	2015	2014
Selected Balance Sheet Data:					
Cash and marketable securities	$ 5,035	$ 4,069	$ 4,567	$ 4,726	$ 3,283
Total assets	50,016	45,574	40,545	38,497	35,634
Long-term debt	19,931	20,278	12,394	11,316	9,856
Shareowners' equity	3,037	1,024	430	2,501	2,173

This table reflects the impact of the adoption of new accounting standards in 2018. Refer to note 1 to the audited consolidated financial statements.

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

Overview

During 2018, we produced strong revenue growth across all three segments. We realized improvements in revenue per piece as pricing and growth initiatives drove an increase in yields in all of our major products.

We achieved solid operating profit growth in both our International Package and Supply Chain & Freight segments. Operating profit in our U.S. Domestic segment operation was negatively impacted primarily by planned costs related to our transformation strategy, higher pension expenses, one less operating day and the impact of bringing new facility and technology projects on-line. The benefits of our efficiency and growth initiatives in the U.S. will not be fully realized until future periods.

Consolidated revenue increased 7.9% to $71.861 billion, up from $66.585 billion in 2017. Operating profit for 2018 decreased 6.7% to $7.024 billion, which includes the impact of $360 million pre-tax transformation strategy costs.

Consolidated average daily package volume increased 3.2% in 2018. We reported 2018 net income of $4.791 billion and diluted earnings per share of $5.51, compared to 2017 net income of $4.905 billion and diluted earnings per share of $5.61. Adjusting for the after-tax impacts of transformation costs of $273 million and an increase in pension expense due to a mark-to-market loss recognized outside of the 10% corridor of $1.237 billion ($1.627 billion before tax), net income was $6.301 billion.

Our consolidated results are presented in the table below:

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Revenue (in millions)	$ 71,861	$ 66,585	$ 61,610	7.9 %	8.1 %
Operating Expenses (in millions)	64,837	59,056	53,922	9.8 %	9.5 %
Operating Profit (in millions)	$ 7,024	$ 7,529	$ 7,688	(6.7)%	(2.1)%
Operating Margin	9.8 %	11.3 %	12.5 %		
Average Daily Package Volume (in thousands)	20,677	20,030	19,083	3.2 %	5.0 %
Average Revenue Per Piece	$ 10.98	$ 10.53	$ 10.29	4.3 %	2.3 %
Net Income (in millions)	$ 4,791	$ 4,905	$ 3,422	(2.3)%	43.3 %
Basic Earnings Per Share	$ 5.53	$ 5.63	$ 3.88	(1.8)%	45.1 %
Diluted Earnings Per Share	$ 5.51	$ 5.61	$ 3.86	(1.8)%	45.3 %

Items Affecting Comparability

The results and discussions that follow are reflective of how our executive management monitors the performance of our reporting segments. We supplement the reporting of our financial information determined under generally accepted accounting principles ("GAAP") with certain non-GAAP financial measures, including, as applicable, "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, other income (expense), pre-tax income, net income and earnings per share. These adjustments reflect the non-comparable items discussed below. We believe that these adjusted financial measures provide meaningful information to assist investors and analysts in understanding our financial results and assessing our prospects for future performance. We believe these adjusted financial measures are important indicators of our recurring results of operations because they exclude items that may not be indicative of, or are unrelated to, our underlying operating results and provide a useful baseline for analyzing trends in our underlying businesses. Additionally, these adjusted financial measures are used internally by management for the determination of incentive compensation awards, business unit operating performance analysis and business unit resource allocation.

Non-GAAP financial measures should be considered in addition to, and not as an alternative for, our reported results prepared in accordance with GAAP. Our non-GAAP financial information does not represent a comprehensive basis of accounting. Therefore, our non-GAAP financial information may not be comparable to similarly titled measures reported by other companies.

The year-over-year comparisons of our financial results are affected by the following items (in millions):

	Year Ended December 31,		
Non-GAAP Adjustments	**2018**	**2017**	**2016**
Operating Expenses:			
Transformation Strategy Costs	$ 360	$ —	$ —
Total Adjustments to Operating Expenses	360	—	—
Other Income and (Expense):		—	—
Defined Benefit Plans Mark-to-Market Charges	$ 1,627	$ 800	$ 2,651
Total Adjustments to Other Income and (Expense)	1,627	800	2,651
Total Adjustments to Income Before Income Taxes	1,987	800	2,651
Income Tax Benefit from the Mark-to-Market Charges	(390)	(193)	(978)
Income Tax Benefit from Transformation Strategy Costs	(87)	—	—
Income Tax Benefit from the Tax Cuts and Jobs Act and Other Non-U.S. Tax Law Changes	—	(258)	—
Total Adjustments to Income Tax Expense	$ (477)	$ (451)	$ (978)
Total Adjustments to Net Income	$ 1,510	$ 349	$ 1,673

These items have been excluded from comparisons of "adjusted" Compensation and benefits, Operating Expenses, Operating Profit, Operating Margin, Other Income and (Expense), Income Tax Expense and effective tax rate in the discussion that follows. The income tax effects of the transformation strategy costs and the mark-to-market charges are calculated by multiplying the statutory tax rates applicable in each tax jurisdiction, including the U.S. federal jurisdiction and various U.S. state and non-U.S. jurisdictions, by the adjustments. The blended average of the applicable statutory tax rates in 2018, 2017 and 2016 were 24.0%, 24.1% and 36.9%, respectively. We believe this adjusted information provides useful comparison of year-to-year ongoing operating performance without considering the short-term impact of transformation strategy costs. We evaluate the performance of our businesses on an adjusted basis.

Impact of Changes in Foreign Currency Exchange Rates

We supplement the reporting of our revenue, revenue per piece, and operating profit, along with other income and expense, with similar non-GAAP measures that exclude the period-over-period impact of foreign currency exchange rate changes and hedging activities. We believe currency-neutral revenue, revenue per piece and operating profit information allows users of our financial statements to understand growth trends in our products and results. We evaluate the performance of our International Package and Supply Chain & Freight businesses on a currency-neutral basis.
Currency-neutral revenue, revenue per piece and operating profit are calculated by dividing current period reported U.S. dollar revenue, revenue per piece and operating profit by the current period average exchange rates to derive current period local currency revenue, revenue per piece and operating profit. The derived current period local currency revenue, revenue per piece and operating profit are then multiplied by the average foreign exchange rates used to translate the comparable results for each month in the prior year period (including the period over period impact of foreign currency revenue hedging activities). The difference between the current period reported U.S. dollar revenue, revenue per piece and operating profit and the derived current period U.S. dollar revenue, revenue per piece and operating profit is the period over period impact of currency fluctuations.

Transformation Strategy Costs

Transformation strategy costs described in note 16 to the audited consolidated financial statements have been excluded from comparisons of "adjusted" Compensation and benefits, Other Operating Expenses, Operating Profit, Operating Margin, Income Tax Expense and effective tax rate. The pre-tax transformation strategy costs totaled $360 million ($273 million after-tax) in 2018, and reflects costs and other benefits of $262 million included within Compensation and benefits on the statements of consolidated income, and other costs of $98 million recorded to total other expenses. We believe this adjusted information provides useful comparison of year-to-year ongoing operating performance without considering the short-term impact of transformation strategy costs.

Income Tax Benefit from the Tax Cuts and Jobs Act

We supplement the presentation of our income tax expense and effective tax rate with "adjusted" measures that exclude the impact of the income tax benefit from the Tax Cuts and Jobs Act (the "Tax Act") described in the "Income Tax Expense" section of Management's Discussion and Analysis and note 13 to the audited consolidated financial statements. We believe income tax expense and the effective tax rate excluding the tax benefit is useful in evaluating our ongoing operating performance for the current period to that of other periods presented.

Defined Benefit Plans Mark-to-Market Charges

We recognize changes in the fair value of plan assets and net actuarial gains and losses in excess of a 10% corridor for our pension and postretirement defined benefit plans immediately as part of net periodic benefit cost other than service cost. We supplement the presentation of our Other Income and (Expense) with "adjusted" measures that exclude the impact of the portion of net periodic benefit cost other than service cost represented by the gains and losses recognized in excess of the 10% corridor and the related income tax effects.

This adjusted net periodic benefit cost ($615 million in 2018, $843 million in 2017 and $1.074 billion in 2016) utilizes the expected return on plan assets (7.68% in 2018 and 8.65% in 2017 and 2016). The non-adjusted net periodic benefit cost reflects the actual return on plan assets (-2.38% in 2018, 14.25% in 2017 and 6.06% in 2016) and the discount rate used to measure the projected benefit obligation at the December 31 measurement date (4.45% in 2018, 3.81% in 2017 and 4.34% in 2016). We believe excluding these mark-to-market charges from our adjusted results provides important supplemental information that reflects the anticipated long-term cost of our defined benefit plans and provides a benchmark for historical defined benefit cost trends that may provide a useful comparison of year-to-year financial performance without considering the short-term impact of changes in market interest rates, equity prices and similar factors.

We recognized pre-tax mark-to-market losses in "Other Income and (Expense)" of $1.627 billion, $800 million and $2.651 billion on our pension and postretirement defined benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor, for 2018, 2017 and 2016, respectively.

The table below indicates the amounts associated with each component of the pre-tax mark-to-market losses, as well as the weighted-average actuarial assumptions used to determine our net periodic benefit costs, for each year:

	Year Ended December 31,		
Components of mark-to-market gain (loss) (in millions):	2018	2017	2016
Discount rates	$ 845	$ (2,288)	$ (1,953)
Return on assets	(1,057)	1,525	(732)
Demographic and assumption changes	(22)	(37)	34
Coordinating benefits attributable to the Central States Pension Fund	(1,393)	—	—
Total mark-to-market gain (loss)	$ (1,627)	$ (800)	$ (2,651)

	Year Ended December 31,		
Weighted-average actuarial assumptions used to determine net periodic benefit cost:	2018	2017	2016
Expected rate of return on plan assets	7.68 %	8.65 %	8.65 %
Actual rate of return on plan assets	(2.38)%	14.25 %	6.06 %
Discount rate used for net periodic benefit cost	3.81 %	4.34 %	4.81 %
Discount rate at measurement date	4.45 %	3.81 %	4.34 %

The $1.627 billion, $800 million and $2.651 billion pre-tax mark-to-market losses for the years ended December 31, 2018, 2017 and 2016, respectively, were comprised of the following components:

2018 - $1.627 billion pre-tax mark-to-market loss:

- *Return on Assets* ($1.057 billion pre-tax loss): In 2018, the actual (2.38)% rate of return on plan assets was lower than our expected rate of return of 7.68%, primarily due to weak global equity markets.

- *Coordinating benefits attributable to the Central States Pension Fund* ($1.393 billion pre-tax loss): This represents our current best estimate of potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

- *Discount Rates* ($845 million pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 3.81% at December 31, 2017 to 4.45% at December 31, 2018, primarily due to both an increase in U.S. treasury yields and an increase in credit spreads on AA-rated corporate bonds in 2018.

- *Demographic and Assumption Changes* ($22 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

2017 - $800 million pre-tax mark-to-market loss:

- *Discount Rates* ($2.288 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.34% at December 31, 2016 to 3.81% at December 31, 2017, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2017.

- *Return on Assets* ($1.525 billion pre-tax gain): In 2017, the actual 14.25% rate of return on plan assets exceeded our expected rate of return of 8.65%, primarily due to strong global equity and U.S. bond markets.

- *Demographic and Assumption Changes* ($37 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

2016 - $2.651 billion pre-tax mark-to-market loss:

- *Discount Rates* ($1.953 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.81% at December 31, 2015 to 4.34% at December 31 2016, primarily due to a decrease in credit spreads on AA-rated corporate bonds in 2016.

- *Return on Assets* ($732 million pre-tax loss): In 2016, the actual 6.06% rate of return on plan assets fell short of our expected rate of return of 8.65%, primarily due to weak bond markets.

- *Demographic and Assumption Changes* ($34 million pre-tax gain): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

Expense Allocations

Certain operating expenses are allocated between our reporting segments using activity-based costing methods. These activity-based costing methods require us to make estimates that impact the amount of each expense category that is attributed to each segment. Changes in these estimates will directly impact the amount of expense allocated to each segment, and therefore the operating profit of each reporting segment. Our allocation methodologies are refined periodically, as necessary, to reflect changes in our businesses. There were no significant changes in our expense allocation methodologies during 2018, 2017 or 2016.

U.S. Domestic Package Operations

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Average Daily Package Volume (in thousands):					
Next Day Air	1,542	1,460	1,379	5.6 %	5.9 %
Deferred	1,432	1,400	1,350	2.3 %	3.7 %
Ground	14,498	14,060	13,508	3.1 %	4.1 %
Total Avg. Daily Package Volume	17,472	16,920	16,237	3.3 %	4.2 %
Average Revenue Per Piece:					
Next Day Air	$ 19.53	$ 19.11	$ 19.20	2.2 %	(0.5)%
Deferred	13.12	12.44	11.85	5.5 %	5.0 %
Ground	8.51	8.19	7.97	3.9 %	2.8 %
Total Avg. Revenue Per Piece	$ 9.86	$ 9.48	$ 9.25	4.0 %	2.5 %
Operating Days in Period	253	254	255		
Revenue (in millions):					
Next Day Air	$ 7,618	$ 7,088	$ 6,752	7.5 %	5.0 %
Deferred	4,752	4,422	4,080	7.5 %	8.4 %
Ground	31,223	29,251	27,452	6.7 %	6.6 %
Total Revenue	$ 43,593	$ 40,761	$ 38,284	6.9 %	6.5 %
Operating Expenses (in millions):					
Operating Expenses	$ 39,950	$ 36,458	$ 33,656	9.6 %	8.3 %
Transformation Strategy Costs	(235)	—	—		
Adjusted Operating Expenses	$ 39,715	$ 36,458	$ 33,656	8.9 %	8.3 %
Operating Profit (in millions) and Operating Margin:					
Operating Profit	$ 3,643	$ 4,303	$ 4,628	(15.3)%	(7.0)%
Adjusted Operating Profit	$ 3,878	$ 4,303	$ 4,628	(9.9)%	(7.0)%
Operating Margin	8.4%	10.6%	12.1%		
Adjusted Operating Margin	8.9%	10.6%	12.1%		

Revenue

The change in overall revenue was impacted by the following factors for the years ended December 31, 2018 and 2017, compared with the corresponding prior year periods:

	Volume	Rates / Product Mix	Fuel Surcharge	Total Revenue Change
Revenue Change Drivers:				
2018/ 2017	2.9%	2.5%	1.5%	6.9%
2017/ 2016	3.8%	1.8%	0.9%	6.5%

Volume

2018 compared to 2017

Our overall volume increased across all products in 2018 despite one less operating day, largely due to continued growth in overall retail sales, of which e-commerce continues to represent a larger percentage of the total growth. Growth was focused within the retail, healthcare and manufacturing industries.

Business-to-consumer shipments, which represented more than 50% of total U.S. Domestic Package volume, grew 6.2% for the year and drove overall increases in both air and ground shipments. While business-to-business shipments were relatively flat in 2018 compared to 2017, volume grew 3% in the fourth quarter of 2018 compared to 2017.

Among our air products, volume increased in 2018 for our Next Day Air and Deferred services. Solid air volume growth continued for those products most aligned with business-to-consumer shipping, including our residential Next Day Air, Next Day Air Saver and Second Day package products, as consumers continue to demand faster and more economical delivery options. This growth was slightly offset by declines in residential Next Day Air letter, Next Day Air Saver letter and Second Day letter volume.

The increase in ground volume in 2018 was driven by growth in residential ground and SurePost volume, which benefited from continued e-commerce demand. Business-to-business ground shipments were relatively flat in 2018 compared to 2017, however they grew approximately 3% in the fourth quarter of 2018 compared to 2017.

2017 compared to 2016

Our overall volume increased across all products in 2017, largely due to continued growth in overall retail sales, of which e-commerce continues to represent a larger percentage of the total growth. Business-to-consumer shipments, which represented just over 50% of total U.S. Domestic Package volume, grew 9.4% for the year, which drove increases in both air and ground shipments. Business-to-business shipments decreased slightly in 2017 compared to 2016 largely due to declines in volume in professional services as a result of increased digitization, and high tech industries.

Among our air products, volume increased in 2017 for our Next Day Air and Deferred services. Solid air volume growth continued for those products most aligned with business-to-consumer shipping, including our residential Next Day Air, Next Day Air Saver and Three Day Select package products, as consumers continue to demand faster options. This growth was slightly offset by a decline in Next Day Air letter volume, largely due to declines in the professional services industry as a result of continued growth in digitization.

The increase in ground volume in 2017 was driven by growth in residential ground and SurePost volume, which benefited from continued e-commerce demand. Business-to-business shipments decreased slightly due to adverse weather conditions in third quarter 2017, however this decrease was partially offset by an increase in our return shipping services.

Rates and Product Mix

2018 compared to 2017

Overall revenue per piece increased 4.0% in 2018, and was impacted by changes in base rates, the implementation of new surcharges for oversized packages and other fees, customer and product mix and fuel surcharge rates.

Revenue per piece for ground and air products was positively impacted by a base rate increase on December 24, 2017. UPS Ground rates and UPS Air services rates increased an average net 4.9%. Effective June 4, 2018, we increased the surcharge for Over Maximum Limits, Oversize Pallet Handling, and added a shipping correction audit fee. Effective July 8, 2018, we implemented a U.S. Residential Large Package surcharge and an additional handling surcharge for packages exceeding 70 pounds. Additionally peak surcharges were in effect from October 1, 2018 through December 22, 2018 for U.S. Residential, Large Packages and packages Over Maximum Limits. The charge was designed to enable UPS to continue to offset some of the additional expenses incurred during significant volume surges. Additionally on December 5, 2018, we announced an average 4.9% base rate increase effective December 26, 2018 for UPS Ground and UPS Air services.

In the first quarter of 2017, we began our expanded Saturday ground operations to several metropolitan areas in the United States. As of December 31, 2018, Saturday service is available in approximately 6,100 cities and towns in the U.S. covering approximately 60% of the population.

Revenue per piece for all products was positively impacted by higher fuel surcharge rates in 2018 due to escalating fuel prices and increases in rates.

Revenue per piece for our Next Day Air services increased in 2018 compared with 2017. The increase in Next Day Air revenue per piece was primarily due to an increase in base rates driven by pricing initiatives and an increase in average billable weight per piece which more than offset an unfavorable shift in product mix.

Revenue per piece for our Deferred air services increased in 2018 compared with 2017 due to an increase in base rate pricing driven by pricing initiatives and average billable weight per piece offset slightly by an unfavorable shift in product mix.

Ground revenue per piece increased in 2018 compared with 2017, primarily due to base rate increases driven by our pricing initiatives. These factors were partially offset by changes in product mix, as we experienced faster volume growth in our SurePost product.

2017 compared to 2016

Overall revenue per piece increased 2.5% in 2017, and was impacted by changes in base rates, customer and product mix and fuel surcharge rates.

Revenue per piece for ground and air products was positively impacted by a base rate increase on December 26, 2016. UPS Ground rates and UPS Air services rates increased an average net 4.9%. Effective January 8, 2017, we changed the dimensional weight calculation for packages subject to UPS daily rates. On June 19, 2017, we announced a new peak charge applicable during selected weeks in November and December 2017 for U.S. Residential, Large Packages and packages Over Maximum Limits. The new charge is designed to enable UPS to continue to offset some of the additional expenses incurred during significant volume surges. Additionally on October 25, 2017, we announced an average 4.9% base rate increase effective December 24, 2017 for UPS Ground and UPS Air services.

In the first quarter of 2017, we began our expanded Saturday ground operations to several metropolitan areas in the United States. As of December 2017, Saturday service was available in approximately 4,700 cities and towns in the U.S. covering approximately 50% of the population. A Saturday pickup stop charge went into effect on May 1, 2017 and varies depending on the pickup service selected.

Revenue per piece for all products was positively impacted by higher fuel surcharge rates for 2017.

Revenue per piece for our Next Day Air services decreased in 2017 compared with 2016. The decrease in Next Day Air revenue per piece was primarily driven by a shift in product mix, as our lower yielding products experienced much larger volume growth than our higher yielding products. This shift was offset slightly by an increase in the average billable weight per piece.

Revenue per piece of our Deferred air services increased in 2017 compared with 2016. Deferred revenue per piece increased primarily due to an increase in average billable weight per piece, but was partially offset by an unfavorable shift in product mix.

Ground revenue per piece increased in 2017, primarily due to base rate increases, higher fuel surcharge rates and an increase in average billable weight per piece. These factors were partially offset by changes in product mix, as we experienced faster volume growth in our SurePost product.

Fuel Surcharges

UPS applies a fuel surcharge on our domestic air and ground services. The air fuel surcharge is based on the U.S. Department of Energy's ("DOE") Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the ground fuel surcharge is based on the DOE's On-Highway Diesel Fuel Price. Based on published rates, the average fuel surcharge rates for domestic air and ground products were as follows:

	Year Ended December 31,	% Point Change

	2018	2017	2016	2018/ 2017	2017/ 2016
Next Day Air / Deferred	7.7%	5.1%	3.6%	2.6%	1.5%
Ground	7.0%	5.6%	4.9%	1.4%	0.7%

Effective February 6, 2017, the U.S. fuel surcharge rates are reset weekly instead of monthly. In addition, the price indices have moved from a two month to a two week lag in order to more closely align fuel surcharge revenues with fuel expenses. In June and October 2018, ground fuel surcharge rates were raised by 0.50% and 0.25%, respectively, for all thresholds. In October 2018, Domestic air fuel surcharge rates were increased by 0.25% for all thresholds.

While fluctuations in fuel surcharge percentages can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of services sold, the base price and extra service charges we obtain for these services and the level of pricing discounts offered.

Total domestic fuel surcharge revenue increased by $632 million in 2018 as a result of higher fuel surcharge rates caused by an increase in jet and diesel fuel prices, as well as an overall increase in package volume which drove increased delivery miles driven and aircraft block hours.

Operating Expenses

2018 compared to 2017

Operating expenses for the segment increased $3.492 billion in 2018 compared with 2017, which included $235 million of transformation strategy costs. Excluding the impact of transformation strategy costs, operating expenses for the segment increased $3.257 billion in 2018, primarily due to pickup and delivery costs (up $1.305 billion), the costs of operating our domestic integrated air and ground network (up $1.649 billion) and the costs of package sorting (up $639 million), offset by a reduction in indirect operating costs (down $336 million) for the year. These expenses were primarily due to higher volume, increased employee compensation costs, higher pension expense, higher fuel prices, a 6.2% increase in average daily block hours and expansion of our technology-enabled network.

The growth in pickup and delivery and network costs was impacted by several factors:

- We incurred higher employee compensation and benefit costs largely resulting from volume growth, which impacted an increase in average daily union labor hours (up 5.2%), scheduled union pay rate and benefit increases and growth in the overall size of the workforce due to facility expansions. Labor hour increases were also related to the continued expansion in Saturday operations. In addition, pension expense increased due to lower year-end discount rates used to measure the pension benefit obligation, driving higher service costs.

- We incurred higher fuel expense in 2018 primarily due to higher fuel prices and increased volume which resulted in higher fuel usage (increase in aircraft block hours of 6.2% and package delivery miles driven of 4.4%), partially offset by alternative fuel tax credits. The manner in which we purchase fuel also influences the net impact of fuel on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term.

- We incurred higher costs associated with outside contract carriers, primarily due to volume growth (including SurePost), higher fuel surcharges passed to us by carriers and general rate increases.

- In order to contain costs, we continually adjust our air and ground networks to better match higher volume levels. In addition, we continue to deploy and utilize technology to increase package sorting and delivery productivity.

Total cost per piece increased 6.6% in 2018 compared with 2017, which includes transformation strategy costs of $235 million. The cost per piece increase was primarily impacted by the cost increases described previously. The increased expenses in 2018 were also driven by costs related to the improvement of our smart global logistics network, including additional aircraft leases to improve our air service reliability; costs related to the implementation of Saturday operations in additional markets, depreciation costs due to new facilities placed in service and higher pension expense. Costs were also negatively impacted by rising fuel prices offset by net changes in depreciation, primarily driven by changes in the useful lives of vehicles, plant equipment and building improvements.

2017 compared to 2016

Operating expenses for the period increased $2.802 billion in 2017, primarily due to pickup and delivery costs (up $1.312 billion), the cost of operating our domestic integrated air and ground network (up $810 million), the costs of package sorting (up $746 million), offset by a reduction in indirect operating costs (down $66 million). These increases were driven primarily by overall volume growth in 2017. Adjusted operating expenses were impacted by several factors:

- We incurred higher employee compensation, largely resulting from volume growth, an increase in average daily union labor hours (up 6.5%), growth in the overall size of the workforce and an increase in wage rates.

- Employee benefit costs increased, largely due to increased employee healthcare, partially offset by a decrease in pension expense and workers' compensation expense.

- We incurred higher fuel expense in 2017 primarily due to higher fuel prices and increased volume, which resulted in higher fuel usage (increase in aircraft block hours of 7.0% and package delivery miles driven of 4.1%).

- We incurred higher costs associated with outside contract carriers, primarily due to volume growth (including SurePost), higher fuel surcharges passed to us by carriers and general rate increases.

Total cost per piece increased 4.3% in 2017 compared to 2016 and was primarily impacted by the cost increases described previously. The increased expenses in 2017 were also driven by capacity constraints due to volume surges in the fourth quarter of 2017, start-up costs of several investments underway to further expand and modernize our air and ground networks, and the costs of implementing Saturday operations. Costs were further impacted by rising fuel prices.

Operating Profit and Margin

2018 compared to 2017

Operating profit was negatively impacted primarily by planned costs related to our transformation strategy, higher pension expenses, one less operating day and the impact of bringing new facility and technology projects on-line. Operating profit decreased $660 million in 2018 compared with 2017 with operating margins decreasing 220 basis points to 8.4%. Excluding the impact of transformation strategy costs, operating profit decreased $425 million in 2018 compared to 2017 with operating margins decreasing 170 basis points. While benefits from fuel (fuel surcharge revenue increased at a faster pace than expense) and lower net depreciation expense had a positive impact on operating profit, higher purchased transportation costs due to volume growth, one less operating day and an increase in pension costs driven by lower discount rates weighed on profits. Additionally, operating profit was negatively impacted by costs related to continued investments in our smart global logistics network, including implementation of Saturday operations in additional markets. The benefits of these projects will not be fully realized until future periods.

2017 compared to 2016

Operating profit decreased $325 million in 2017 compared with 2016. Operating margin decreased 150 basis points to 10.6%. Operating profit was negatively impacted by an increase in continued investments in new buildings and new strategic investments, including deployment of Saturday operations. There was an adverse impact from higher purchased transportation costs due to volume surges in the fourth quarter of 2017 and from fuel as expense increased at a faster pace than fuel surcharge revenue.

International Package Operations

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Average Daily Package Volume (in thousands):					
Domestic	1,723	1,715	1,635	0.5 %	4.9 %
Export	1,482	1,395	1,211	6.2 %	15.2 %
Total Avg. Daily Package Volume	3,205	3,110	2,846	3.1 %	9.3 %
Average Revenue Per Piece:					
Domestic	$ 6.59	$ 6.07	$ 5.85	8.6 %	3.8 %
Export	29.27	28.70	30.34	2.0 %	(5.4)%
Total Avg. Revenue Per Piece	$ 17.08	$ 16.22	$ 16.27	5.3 %	(0.3)%
Operating Days in Period	253	254	255		
Revenue (in millions):					
Domestic	$ 2,874	$ 2,646	$ 2,441	8.6 %	8.4 %
Export	10,973	10,170	9,369	7.9 %	8.5 %
Cargo & Other	595	526	536	13.1 %	(1.9)%
Total Revenue	$ 14,442	$ 13,342	$ 12,346	8.2 %	8.1 %
Operating Expenses (in millions):					
Operating Expenses	$ 11,913	$ 10,913	$ 9,929	9.2 %	9.9 %
Transformation Strategy Costs	(76)	—	—		
Adjusted Operating Expenses	$ 11,837	$ 10,913	$ 9,929	8.5 %	9.9 %
Operating Profit (in millions) and Operating Margin:					
Operating Profit	$ 2,529	$ 2,429	$ 2,417	4.1 %	0.5 %
Adjusted Operating Profit	$ 2,605	$ 2,429	$ 2,417	7.2 %	0.5 %
Operating Margin	17.5 %	18.2 %	19.6 %		
Adjusted Operating Margin	18.0 %	18.2 %	19.6 %		
Currency Translation Benefit / (Cost)—(in millions)*:					
Revenue				$ 147	$ (325)
Operating Expenses				(157)	(50)
Operating Profit				$ (10)	$ (375)

* Net of currency hedging; amount represents the change compared to the prior year.

Revenue

The change in overall revenue was impacted by the following factors for the years ended December 31, 2018 and 2017, compared with the corresponding prior year periods:

	Volume	Rates / Product Mix	Fuel Surcharge	Currency	Total Revenue Change
Revenue Change Drivers:					
2018/ 2017	2.6 %	1.8 %	2.7 %	1.1 %	8.2 %
2017/ 2016	8.8 %	(0.7	2.6 %	(2.6	8.1 %

	) %	) %

Volume

2018 compared to 2017

Our overall average daily volume increased in 2018 largely due to strong demand from several sectors including retail, industrial manufacturing, high-tech and healthcare. Business-to-consumer shipments remained relatively flat for the year.

We continued to experience export volume growth in 2018. The growth was mainly driven by our European, U.S. and Asian operations, which experienced increases in volume on almost all major trade lanes. European export volume showed growth in the Europe-to-U.S. and intra-Europe trade lanes. Export volume into the U.S. grew in most major trade lanes, led by Europe and the Americas. Asia export volume growth was the most significant in the Asia-to- Americas and intra-Asia trade lanes. Export volume growth was strong across most major products, with a continued shift towards our premium express products, such as Worldwide Express and Transborder Express services.

Domestic volume increased slightly, primarily due to growth in Mexico, Canada and Netherlands, while domestic products in the Euro zone declined slightly.

2017 compared to 2016

Our overall average daily volume increased in 2017, largely due to continued strength in business-to-consumer volume, as well as strong demand from several sectors including retail, industrial manufacturing, high-tech and healthcare.

We continued to experience export volume growth in 2017. The growth was mainly driven by our European, Asian and U.S. operations, which experienced increases in volume to major trade lanes of the world. European export volume increased in 2017, with growth in all trade lanes. Asia export volume also increased in 2017, with particular strength in Asia-to-U.S., Asia-to-Americas and intra-Asia trade lanes. Export volume into the U.S. grew in all trade lanes, led by Europe and the Americas. Export volume growth was strong across all major products, with a continued shift towards our premium express products, such as Worldwide Express and Transborder Express services.

The increase in domestic volume in 2017 was primarily due to growth in Turkey, Germany, France, Italy and U.K.

Rates and Product Mix

2018 compared to 2017

Total average revenue per piece increased 5.3% in 2018, impacted by a 110 basis point increase from currency. Additionally, total revenue per piece was impacted by an increase in fuel surcharge revenue, as well as a shift in product mix, as the growth in higher yielding premium products continued to exceed overall growth.

On December 24, 2017, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market. On October 15, 2018, we implemented a 0.50% increase in International Air-Import fuel surcharge. Additionally, on December 5, 2018, we announced an average 4.9% net increase in base and accessorial rates for international shipping originating in the United States, which became effective on December 26, 2018.

Export revenue per piece increased 2.0% in 2018, impacted by a 60 basis point increase from currency, shift in product mix and higher fuel surcharge revenue.

Domestic revenue per piece increased 8.6% in 2018, impacted by a 320 basis point increase from currency and higher fuel surcharges.

2017 compared to 2016

Total average revenue per piece decreased 0.3% in 2017, impacted by a 250 basis point reduction from currency and a shift in product mix. These factors were partially offset by an increase in fuel surcharge rates as well as an increase in base rates.

On December 26, 2016, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic markets. Effective September 17, 2017, a peak surcharge was applied to any shipment originating from China or Hong Kong to the United States for certain service levels during the peak period. The surcharge was applied as a rate per pound based upon the billable weight of the shipment. Additionally, on October 25, 2017, we announced an average 4.9% net increase in base and accessorial rates for international shipping originating in the United States; changes became effective on December 24, 2017.

Export revenue per piece decreased 5.4% in 2017, impacted by a 320 basis point reduction from currency and product mix. This was partially offset by an increase in fuel surcharges, an increase in base rates and strong volume growth in premium products.

Domestic revenue per piece increased 3.8% in 2017, impacted by a 50 basis point increase from currency, increases in base rates and higher fuel surcharges.

Fuel Surcharges

We maintain fuel surcharges on our international air and ground services. The fuel surcharges for international air products originating inside or outside the United States are largely indexed to the DOE's Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the fuel surcharges for ground products originating outside the United States are indexed to fuel prices in the international region or country where the shipment takes place.

While fluctuations in fuel surcharge percentages can be significant from period to period, fuel surcharges represent one of the many individual components of our pricing structure that impact our overall revenue and yield. Additional components include the mix of services sold, the base price and extra service charges we obtain for these services and the level of pricing discounts offered.

Total international fuel surcharge revenue increased by $382 million in 2018, primarily due to volume increases and higher fuel prices. Total international fuel surcharge revenue increased by $325 million in 2017, primarily due to volume increase, higher fuel prices and pricing changes made to base freight rates and to the fuel surcharge indices from a two month lag to a two week lag.

Operating Expenses

2018 compared to 2017

Overall operating expenses increased by $1.0 billion, which included a $76 million increase from transformation strategy costs. Excluding the impact of the transformation strategy costs, adjusted operating expenses for the segment increased $924 million in 2018 primarily due to increased volumes, currency fluctuations and higher fuel costs driven by increased usage and higher prices.

In addition to variability in usage and fuel prices, the manner in which we purchase fuel also influences the net impact of fuel on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can affect our earnings either positively or negatively in the short-term.

Operating expenses were impacted by changes in the cost of operating our international integrated air and ground network, which increased $546 million, as well as pickup and delivery costs, which increased $287 million. The increase in network costs was largely driven by volume growth in the majority of our products and higher fuel costs due to increased prices and usage. Additionally, the increase in pickup and delivery costs is due to increased volume. Operating expenses were also impacted by a $91 million increase in indirect overhead and package sorting costs and other costs.

2017 compared to 2016

Overall operating expenses increased by $984 million, primarily due to increased volumes, higher fuel usage and currency fluctuations.

Operating expenses were impacted by changes in the cost of operating our international integrated air and ground network, which increased $424 million, as well as pickup and delivery costs, which increased $287 million. The increase in network costs was largely driven by volume growth in our Express products, which drove a 3.0% increase in aircraft block hours and higher fuel usage. Additionally, the increase in pickup and delivery costs is due to increased volume. Operating expenses were also impacted in 2017 by a $273 million increase in indirect overhead and package sorting costs and other costs.

Operating Profit and Margin

2018 compared to 2017

Operating profit increased $100 million (4.1%) in 2018 compared with 2017, including $76 million in transformation strategy costs. Operating margin decreased 70 basis points to 17.5%. Adjusted operating profit without transformation strategy costs increased by $176 million (7.2%) in 2018, while the adjusted operating margin decreased 20 basis points to 18.0%. Included in adjusted operating profit is a $10 million decrease due to currency. Currency adjusted margin was 18.3% up from 18.2% in the prior year.

2017 compared to 2016

Operating profit increased $12 million in 2017 compared with 2016. Operating margin increased 140 basis points to 18.2%. Operating margin was affected by negative currency exchange movements due to volatility of both hedged and unhedged currencies. Included in adjusted operating profit is a $375 million decrease due to currency.

Supply Chain & Freight Operations

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Freight LTL Statistics:					
Revenue (in millions)	$ 2,706	$ 2,598	$ 2,385	4.2 %	8.9 %
Revenue Per Hundredweight	$ 25.52	$ 24.08	$ 23.44	6.0 %	2.7 %
Shipments (in thousands)	9,720	10,210	9,961	(4.8)%	2.5 %
Shipments Per Day (in thousands)	38.4	40.5	39.4	(5.2)%	2.8 %
Gross Weight Hauled (in millions of lbs)	10,605	10,788	10,174	(1.7)%	6.0 %
Weight Per Shipment (in lbs)	1,091	1,057	1,021	3.2 %	3.5 %
Operating Days in Period	253	252	253		
Revenue (in millions):					
Forwarding	6,580	5,674	4,873	16.0 %	16.4 %
Logistics	3,234	3,017	2,644	7.2 %	14.1 %
Freight	3,218	3,000	2,737	7.3 %	9.6 %
Other	794	791	726	0.4 %	9.0 %
Total Revenue	$ 13,826	$ 12,482	$ 10,980	10.8 %	13.7 %
Operating Expenses (in millions):					
Operating Expenses	$ 12,974	$ 11,685	$ 10,337	11.0 %	13.0 %
Transformation Strategy Costs	(49)	—	—		
Adjusted Operating Expenses	$ 12,925	$ 11,685	$ 10,337	10.6 %	13.0 %
Operating Profit (in millions) and Operating Margins:					
Operating Profit	$ 852	$ 797	$ 643	6.9 %	24.0 %
Adjusted Operating Profit	$ 901	$ 797	$ 643	13.0 %	24.0 %
Operating Margin	6.2 %	6.4 %	5.9 %		
Adjusted Operating Margin	6.5 %	6.4 %	5.9 %		
Currency Translation Benefit / (Cost)—(in millions)*:					
Revenue				$ 39	$ 10
Operating Expenses				(44)	(12)
Operating Profit				$ (5)	$ (2)

* Amount represents the change compared to the prior year.

In December 2016, we acquired Marken, a global provider of supply chain solutions to the life sciences industry and leader in clinical trials, material storage and distribution. Marken's financial results are included in the above table within the Logistics unit from the date of the acquisition and have impacted the year-over-year comparability of revenue, operating expenses and operating profit for the years ended December 31, 2017 and 2016.

Revenue

2018 compared to 2017

Total revenue for the Supply Chain & Freight segment increased $1.344 billion in 2018 compared to 2017.

Forwarding revenue increased $906 million in 2018 compared with 2017, primarily due to increased truckload brokerage volume as well as tonnage increases in our international air freight and ocean freight forwarding businesses. Sell price improvements in our international air freight forwarding business also contributed to the increase in revenue. Revenue in our truckload brokerage business was driven by robust demand and tight capacity.

Logistics revenue increased by $217 million in 2018 compared with 2017, as we experienced growth in the healthcare, aerospace, retail and manufacturing sectors.

UPS Freight revenue increased $218 million in 2018 compared with 2017, despite fourth-quarter volume declines as a result of the contract ratification process wherein we took actions to clear our LTL network. Revenue was driven by increases in average weight per shipment from improved customer mix due to middle market growth. LTL revenue per hundredweight increased 6.0% as LTL base rate increases for certain shipments in the U.S., Canada and Mexico, averaging 5.9%, took effect March 26, 2018. Fuel surcharge revenue also increased $75 million due to changes in diesel fuel prices.

2017 compared to 2016

Total revenue for the Supply Chain & Freight segment increased $1.502 billion in 2017 compared to 2016.

Forwarding revenue increased $801 million in 2017 compared with 2016, primarily due to increased truckload brokerage volume movement and tonnage increases in our international air freight and North American air freight forwarding businesses. The volume and tonnage increases were driven by improving overall market demand.

Logistics revenue increased $373 million in 2017 due to growth in mail services, healthcare, retail and aerospace solutions, offset by declines among our high tech customers. Additionally, the Marken acquisition on December 21, 2016 contributed to the increase in revenue. Revenue was positively impacted by currency exchange rate movements.

UPS Freight revenue increased $263 million in 2017 compared to 2016, driven by increases in shipments and weight per shipment. These increases were impacted by an overall improvement in market demand and customer mix. LTL revenue per hundredweight increased slightly as LTL base rate increases, averaging 4.9%, took effect September 19, 2016. Additionally, effective June 26, 2017, LTL base rates increased by an additional 4.9% for certain shipments in the U.S., Canada and Mexico. Fuel surcharge revenue also increased $70 million due to changes in overall LTL shipment volume and diesel fuel prices.

Revenue for the other businesses within Supply Chain & Freight increased $65 million in 2017 due to revenue growth at UPS Capital and UPS Customer Solutions, as well as service contracts with the U.S. Postal Service.

Operating Expenses

2018 compared to 2017

Total operating expenses for the Supply Chain & Freight segment increased $1.289 billion in 2018 compared to 2017, which includes $49 million of costs related to our transformation strategy.

Forwarding operating expenses increased $845 million in 2018 compared with 2017, largely due to increased purchased transportation expenses, transformation strategy costs, and a $20 million favorable legal settlement in 2017. Excluding $16 million in costs related to our transformation strategy, Forwarding operating expenses increased $829 million. Purchased transportation expense increased $720 million compared to 2017 primarily due to increased truckload brokerage volume and higher tonnage in our international air freight forwarding business as well as the resulting costs passed to us from outside contract carriers.

Logistics operating expenses increased $205 million in 2018 compared with 2017. Excluding $22 million in costs related to our transformation strategy, Logistics operating expenses increased $183 million. The increases were driven by costs associated with retail facility expansions, increased rates for mail services and strategic information technology investments.

UPS Freight operating expenses increased $258 million in 2018 compared with 2017. Excluding $6 million in costs related to our transformation strategy, UPS Freight operating expenses increased $252 million. Total cost per LTL shipment increased 11.4% in 2018 compared to 2017. The operating expenses increased largely due to costs associated with operating our linehaul network ($85 million) and increases in pickup and delivery costs ($60 million). The linehaul network and pickup and delivery costs were driven by higher fuel prices and expense for outside transportation carriers, including fuel surcharges passed on to us by these outside carriers.

2017 compared to 2016

Total operating expenses for the Supply Chain & Freight segment increased $1.348 billion in 2017 compared to 2016.

Forwarding operating expenses increased $752 million, largely due to increased purchased transportation expenses. This was offset by operating efficiencies and the receipt of a $20 million favorable legal settlement in the second quarter of 2017. Purchased transportation expense increased by $770 million compared to 2016 due to increased truckload brokerage movements and the resulting increased fuel surcharges passed to us from outside transportation providers. Increased tonnage and third-party air carrier procurement rates in our North American and international air freight forwarding businesses, also contributed to increased purchased transportation expenses.

Logistics operating expenses increased $308 million in 2017, primarily due to the acquisition of Marken in 2016 and increased purchased transportation costs driven by increased volume and rates for mail services.

UPS Freight operating expenses increased $256 million in 2017 compared with 2016. The increase in operating expense was largely due to costs associated with operating our linehaul network ($126 million) and increases in pickup and delivery costs ($99 million). The network costs and pickup and delivery expenses were driven by higher fuel cost and higher expense for outside transportation carriers, largely due to LTL volume growth and fuel surcharges passed to us by outside carriers. Total cost per LTL shipment increased 5.7% in 2017 compared to 2016. Operating expenses related to our casualty self-insurance reserves also increased in 2017 compared with 2016.

Other expenses for the other businesses within Supply Chain & Freight increased $32 million in 2017 compared with 2016 primarily due to UPS Capital, UPS Customer Solutions and service contracts with the U.S. Postal Service, slightly offset by decreases in The UPS Store.

Operating Profit and Margin

2018 compared to 2017

Total operating profit for the Supply Chain & Freight segment increased $55 million in 2018 compared to 2017, which includes a $49 million impact related to transformation strategy costs. Excluding transformation strategy costs, operating profit increased $104 million. Operating margin decreased 20 basis points to 6.2%, while the adjusted operating margin increased 10 basis points to 6.5%.

Operating profit for the Forwarding unit increased $61 million in 2018 compared with 2017. Excluding the $16 million impact related to transformation strategy costs, operating profit increased $77 million. Operating profit and margins increased mainly due to tonnage increases in our international air freight and ocean freight forwarding business as well as pricing improvements. Additionally, our truckload brokerage business grew due to robust demand and tight capacity.

Operating profit for the Logistics unit increased $12 million in 2018 compared with 2017. Excluding the $22 million impact related to transformation strategy costs, operating profit increased $34 million. Operating profit and margins increased due to higher demand in the healthcare, aerospace, retail and manufacturing sectors.

UPS Freight operating profit decreased $40 million in 2018 compared with 2017. Excluding the $6 million impact related to transformation strategy costs, operating profit decreased $34 million. Operating profit and margins decreased as volume declined due to labor uncertainties around the Teamsters contract ratification, partially offsetting the increased LTL revenue per hundredweight realized during the year. Actions to clear our LTL network as a result of the contract ratification process reduced operating profit by approximately $60 million.

The combined operating profit for all of our other businesses within Supply Chain & Freight increased $22 million in 2018, primarily due to higher operating profit at UPS Capital, UPS Customer Solutions and The UPS Store, as well as service contracts with the U.S. Postal Service. Excluding the $5 million impact related to transformation strategy costs, operating profit increased $27 million.

2017 compared to 2016

Total operating profit for the Supply Chain & Freight segment increased $154 million in 2017 compared with 2016.

Operating profit for the Forwarding unit increased $49 million in 2017 compared with 2016. Operating profit and margins for the North American air freight business increased in 2017 due to an increase in volume, slightly offset by higher transportation expenses. Operating profit and margins in our international air freight forwarding business increased due to volume increases and higher revenue per kilo, slightly offset by higher rates at which we procure capacity from third-party air carriers.

Operating profit for the Logistics unit increased $65 million in 2017 compared to 2016 due to strong performance in the U.S. as well as within our mail services. Additionally, the Marken acquisition in 2016 contributed to the increase in operating profit.

UPS Freight operating profit increased $7 million in 2017 compared with 2016, as increased volume and prices were partially offset by increased purchased transportation costs.

The combined operating profit for all of our other businesses in this segment increased $33 million in 2017, primarily due to higher operating profit at UPS Capital, UPS Customer Solutions and The UPS Store, as well as service contracts with the U.S. Postal Service.

Consolidated Operating Expenses

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Operating Expenses (in millions):					
Compensation and Benefits:	$ 37,235	$ 34,577	$ 32,534	7.7 %	6.3 %
Transformation Strategy Costs	(262)	—	—		
Adjusted Compensation and Benefits	36,973	34,577	32,534	6.9 %	6.3 %
Repairs and Maintenance	1,732	1,601	1,542	8.2 %	3.8 %
Depreciation and Amortization	2,207	2,282	2,224	(3.3 %)	2.6 %
Purchased Transportation	13,409	11,696	9,848	14.6 %	18.8 %
Fuel	3,427	2,690	2,118	27.4 %	27.0 %
Other Occupancy	1,362	1,155	1,037	17.9 %	11.4 %
Other Expenses	5,465	5,055	4,619	8.1 %	9.4 %
Total Other Expenses	27,602	24,479	21,388	12.8 %	14.5 %
Other Transformation Strategy Costs	(98)	—	—		
Adjusted Total Other Expenses	$ 27,504	$ 24,479	$ 21,388	12.4 %	14.5 %
Total Operating Expenses	$ 64,837	$ 59,056	$ 53,922	9.8 %	9.5 %
Adjusted Total Operating Expenses	$ 64,477	$ 59,056	$ 53,922	9.2 %	9.5 %
Currency Translation Cost / (Benefit)*				$ 201	$ 62

* Amount represents the change compared to the prior year.

Compensation and Benefits

2018 compared to 2017

Total compensation and benefits increased $2.658 billion in 2018 compared to 2017. Excluding the impact of transformation strategy costs of $262 million discussed in note 16 to the audited consolidated financial statements, adjusted compensation and benefits expense increased $2.396 billion in 2018.

Employee payroll costs increased $1.459 billion in 2018 compared with 2017, largely due to higher U.S. domestic hourly and management compensation costs. Total compensation costs increased 6.9%, while consolidated average daily volume growth was 3.2%. U.S. domestic compensation costs for hourly employees increased largely due to higher volume growth, contractual union wage increases, headcount increases, wage rate adjustments for part time workers and a 5.2% increase in average daily union labor hours. Compensation costs for management employees increased primarily due to merit salary increases and growth in the overall size of the workforce.

Benefits expense increased $1.199 billion in 2018 compared to 2017. Excluding the impact of transformation strategy costs of $262 million, benefits costs increased $937 million in 2018 compared to 2017, primarily due to the following factors:

- Health and welfare costs increased $341 million in 2018 compared to 2017, largely due to increased contributions to multiemployer plans resulting from contractual contribution rate increases and an overall increase in the size of the workforce.

- Pension and retirement benefits expense increased $312 million in 2018 compared to 2017 primarily due to increased expense in UPS sponsored pension plans due to lower discount rates and additional expenses related to multiemployer plan contributions, which were impacted by contractual contribution rate increases and an overall increase in the size of the workforce. These increases were partially offset by lower Pension Benefit Guaranty Corporation premiums due to prior voluntary pension contributions, as well as the amendment of the UPS Retirement Plan in the prior year.

- Vacation, holiday, excused absence, payroll tax and other expenses increased $244 million in 2018 due to salary increases and growth in the overall size of the workforce.

- Workers' compensation expense increased $40 million in 2018 compared to 2017 as we experienced less favorable actuarial adjustments.

2017 compared to 2016

Total compensation and benefits increased $2.043 billion in 2017 compared to 2016.

Employee payroll costs increased $1.273 billion in 2017 compared with 2016, largely due to higher U.S. domestic hourly and management compensation costs. Total compensation costs increased 6.4%, while consolidated average daily volume growth was 5.0%. U.S. domestic compensation costs for hourly employees increased largely due to fourth quarter 2017 seasonal staffing increases resulting from 5.4% volume growth, contractual union wage increases, headcount increases, wage rate adjustments for part time workers and a 6.5% increase in average daily union labor hours. Compensation costs for management employees increased primarily due to merit salary increases and growth in the overall size of the workforce.

Benefits expense increased $770 million in 2017 compared to 2016, primarily due to the following factors:

- Pension costs increased $342 million in 2017 compared to 2016, primarily due to increased expense in UPS sponsored pension plans due to lower discount rates and additional expenses related to multiemployer plan contributions, which were impacted by contractual contribution rate increases and an overall increase in the size of the workforce.

- Health and welfare costs increased $240 million in 2017, largely due to increased contributions to multiemployer plans resulting from contractual contribution rate increases and an overall increase in the size of the workforce.

- Vacation, holiday, excused absence, payroll tax and other expenses increased $251 million in 2017 due to salary increases and growth in the overall size of the workforce.

- Workers' compensation expense decreased $63 million in 2017 as we experienced more favorable actuarial adjustments. This decrease was partially offset by increases in work hours, medical trends and wage increases. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported workers' compensation claims, as well as estimates of claims that have been incurred but not reported, and take into account a number of factors, including our history of claim losses, payroll growth and the impact of safety improvement initiatives.

Repairs and Maintenance

2018 compared to 2017

The $131 million increase in repairs and maintenance expense in 2018 was primarily due to maintenance of our transportation equipment and aircraft and routine repairs to buildings and facilities. Building expansions and additions throughout 2018 also contributed to increases in expense.

2017 compared to 2016

The $59 million increase in repairs and maintenance expense in 2017 was primarily due to repairs and maintenance of our transportation equipment resulting from growth in the size of our vehicle fleet and routine repairs to buildings and facilities.

Depreciation and Amortization

2018 compared to 2017

We evaluate the useful lives of all our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. Refer to note 1 in our consolidated financial statements for further description of our policy.

Total depreciation and amortization expense decreased $75 million in 2018 compared with 2017. The principal components of this change included:

- An increase in expense of $257 million arising from capital investments in several large facilities and other new projects coming into service. This had the effect of decreasing net income by $205 million or $0.24 per share on a basic and diluted basis in 2018; and

- A decrease in expense of $286 million resulting from prospective revisions to our estimates of useful lives for building improvements, vehicles and plant equipment as part of our ongoing investment in transformation. This had the effect of increasing net income by $228 million or $0.26 per share on a basic and diluted basis.

Combining the impact of the revisions to the estimated useful lives with the impact of the increased capital investments noted above resulted in a net decrease of $29 million to depreciation expense and an increase to net income of $23 million or $0.03 per share on both a basic and diluted basis in 2018.

The changes to the estimated useful lives described above are expected to decrease 2019 depreciation and amortization expense by approximately $335 million as compared to 2018. However, this will be largely offset by approximately $330 million of additional depreciation expense related to the addition of numerous facility automation and capacity expansion projects, which are part of our multi-year transformation strategy.

2017 compared to 2016

Depreciation and amortization expense increased $58 million in 2017 compared with 2016, primarily due to the following factors: (1) depreciation expense on vehicles increased due to an overall increase in the size of our vehicle fleet in our U.S. Domestic Package and UPS Freight operations, (2) depreciation expense for buildings and facilities increased due to the opening of new facilities and facility automation and capacity expansion projects and (3) amortization expense of intangible assets increased in conjunction with the Marken acquisition. These factors were largely offset by a decrease in amortization expense related to longer lived internally developed capitalized software.

Purchased Transportation

2018 compared to 2017

The $1.713 billion increase in purchased transportation expense charged to us by third-party air, rail, ocean and truck carriers in 2018 compared with 2017 was primarily driven by the following factors:

- Expense for our Forwarding and Logistics business increased $824 million in 2018, primarily due to increased truckload brokerage freight loads per day; increased tonnage in our international air freight forwarding business, and increased volume and rates for mail services. Additionally, expenses increased due to additional fuel surcharges passed onto us from outside contract carriers.

- U.S. Domestic Package expense increased $326 million in 2018, primarily due to increased volume, general rate increases and higher fuel surcharges passed to us from outside contract carriers.

- International Package expense increased $180 million in 2018, primarily due to the increased usage of third-party carriers to handle higher transborder volume and an unfavorable impact from currency exchange rate movements.

- UPS Freight expense increased $153 million in 2018, due to an increase in our ground freight pricing product, LTL tonnage and higher fuel surcharges passed to us from outside transportation providers, partially offset by declines in our LTL shipments due to fourth quarter labor uncertainties around the Teamsters contract ratification.

- We incurred additional purchased transportation expense of $230 million in 2018 compared to 2017, which was primarily due to leasing additional aircraft to handle increases in air volume and higher jet fuel surcharges associated with aircraft charters.

2017 compared to 2016

The $1.848 billion increase in purchased transportation expense charged to us by third-party air, rail, ocean and truck carriers in 2017 compared with 2016 was primarily driven by the following factors:

- Expense for our Forwarding and Logistics business increased $937 million in 2017, primarily due to increased truckload brokerage freight loads per day and the resulting increased fuel surcharges passed to us from outside transportation providers; increased volume and rates for mail services; and increased tonnage in our North American and international air freight forwarding businesses. Additionally, purchased transportation expense increased due to the acquisition of Marken in December 2016.

- U.S. Domestic Package expense increased $421 million in 2017, primarily due to increased volume (including SurePost), higher rates and higher fuel surcharges passed to us from outside contract carriers.

- International Package expense increased $270 million in 2017, primarily due to the increased usage of third-party carriers (due to higher volume); higher fuel surcharges passed to us from outside transportation providers and an unfavorable impact of currency exchange rate movements.

- UPS Freight expense increased $163 million in 2017, due to an increase in LTL shipments and higher fuel surcharges passed to us from outside transportation providers.

Fuel

2018 compared to 2017

Fuel expense increased $737 million in 2018 as compared to 2017. The increase in fuel expense in 2018 was primarily due to higher jet fuel, diesel and unleaded gasoline prices and higher consumption due to higher total aircraft block hours and increased Domestic Package delivery miles driven as a result of overall higher volume. These increases were partially offset by the benefit of alternative fuel costs.

The manner in which we purchase fuel also influences the net impact of fuel on our results. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term.

2017 compared to 2016

The $572 million increase in fuel expense in 2017 as compared to 2016 was primarily due to higher jet fuel, diesel and unleaded gasoline prices, which increased fuel expense by $419 million. Additionally, increased alternative fuel costs and fuel consumption increased expense by $170 million primarily due to volume increases, which resulted in higher total aircraft block hours and Domestic Package delivery miles driven. These increases were partially offset by increased fuel efficiency.

Other Occupancy

2018 compared to 2017

The $207 million increase in other occupancy expense in 2018 compared to 2017 was largely due to higher facility rent expense, property tax expense and utility expenses. These increases were primarily driven by an increase in the number of operating facilities compared to 2017.

2017 compared to 2016

The $118 million increase in other occupancy expense in 2017 compared to 2016 was largely due to higher facility rent expense driven by new facilities, as well as higher utilities and property taxes at our operating facilities.

Other Expenses

2018 compared to 2017

The $410 million increase in other expenses in 2018 compared to 2017 was primarily attributable to increases in transportation equipment rental, outside professional service costs, security protection, non-income based state and local taxes, and data processing costs. Additionally, costs of $86 million related to our transformation strategy contributed to the increase in 2018 when compared to 2017.

2017 compared to 2016

The $436 million increase in other expenses in 2017 compared to 2016 was caused by (1) an auto liability insurance expense increase of $75 million due to miles driven, medical trend rates and severity experience trends and (2) transportation equipment rental increase of $60 million driven by growth in package volume.

The remaining $280 million increase is comprised of increases in several other expense categories, including outside professional services, security protection, computer and plant supplies and air cargo handling, partially offset by a decrease in advertising expense.

Other Income and (Expense)

The following table sets forth investment income (expense) and other and interest expense for the years ended December 31, 2018, 2017 and 2016 (in millions):

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Investment Income (Expense) and Other	$ (400)	61	(2,186)	NA	(102.8)%
Defined Benefit Plans Mark-to-Market Charges	1,627	800	2,651	103.4%	(69.8)%
Adjusted Investment Income (Expense) and Other	1,227	861	465	42.5%	85.2 %
Interest Expense	(605)	(453)	(381)	33.6%	18.9 %
Total Other Income and (Expense)	$ (1,005)	$ (392)	$ (2,567)	156.4%	(84.7)%
Adjusted Other Income and (Expense)	$ 622	$ 408	$ 84	52.5%	NA

Investment Income (Expense) and Other

2018 compared to 2017

Investment income (expense) and other for the period decreased $461 million, which included a $827 million increase in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted investment income (expense) and other for the period increased $366 million, which was comprised of expected investment returns on pension assets, net of interest cost on projected benefit obligations and prior service cost. Expected returns on plan assets increased as a result of both higher discretionary contributions and higher actual returns on plan assets in 2017. Interest cost on projected benefit obligations decreased as a result of lower discount rates. Investment income increased as a result of higher yields on invested assets, partially offset by foreign currency exchange rate movements.

2017 compared to 2016

Investment income (expense) and other for the period increased $2.247 billion, which included a $1.851 billion decrease in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted investment income (expense) and other for the period increased $396 million, which was comprised of expected investment returns on pension assets, net of interest cost on projected benefit obligations and prior service cost. Expected returns on plan assets increased as a result of higher discretionary contributions in 2017 and 2016. Investment income also increased as a result of higher invested assets and the ongoing reduction in losses from fair value adjustments on real estate partnerships, partially offset by foreign currency exchange rate movements.

Interest Expense

2018 compared to 2017

Interest expense increased in 2018 as compared to 2017, primarily due to higher average outstanding debt balances and higher effective interest rates, partially offset by higher capitalized interest related to several large construction projects.

2017 compared to 2016

Interest expense increased in 2017 as compared to 2016, primarily due to the issuance of long-term Canadian Dollar Senior Notes, Euro Senior Notes and U.S. Dollar Senior Notes and higher effective interest rates on senior notes.

Income Tax Expense

The following table sets forth income tax expense and our effective tax rate for the years ended December 31, 2018, 2017 and 2016 (in millions):

	Year Ended December 31,			% Change	
	2018	2017	2016	2018/ 2017	2017/ 2016
Income Tax Expense:	$ 1,228	$ 2,232	$ 1,699	(45.0)%	31.4%
Income Tax Impact of:					
Defined Benefit Plans Mark-to-Market Charge	390	193	978		
Transformation Strategy Costs	87	—	—		
Income Tax Benefit from the Tax Cuts and Jobs Act and Other Non-U.S. Tax Law Changes	—	258	—		
Adjusted Income Tax Expense	$ 1,705	$ 2,683	$ 2,677	(36.5)%	0.2%
Effective Tax Rate	20.4%	31.3%	33.2%		
Adjusted Effective Tax Rate	21.3%	33.8%	34.4%		

Our effective tax rate is affected by recurring factors such as statutory tax rates in the jurisdictions in which we operate and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year but may not be consistent from year to year.

Our effective tax rate decreased to 20.4% in 2018, compared with 31.3% in 2017 and 33.2% in 2016, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items.

Tax Cuts and Jobs Act

On December 22, 2017, the United States enacted into law the Tax Act. The Tax Act made broad and complex changes to the U.S. tax code, including a permanent corporate rate reduction to 21% and a transition to a territorial international system effective in 2018. The Tax Act includes provisions that affected 2017, including: (1) requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries (“Transition Tax”) that is payable over eight years; (2) requiring a remeasurement of all U.S. deferred tax assets and liabilities to the newly enacted corporate tax rate of 21% and (3) providing for additional first-year depreciation that allows full expensing of qualified property placed into service after September 27, 2017.

In late December 2017, the SEC staff issued Staff Accounting Bulletin ("SAB") 118, which provided guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under U.S. GAAP. We recorded a $272 million provisional benefit inclusive of our Transition Tax liability, the change in our indefinite reinvestment assertion for certain foreign subsidiaries and the remeasurement of our U.S. net deferred tax liabilities for the year ended December 31, 2017. During the fourth quarter of 2018, we completed our accounting for the Tax Act based on the current regulatory guidance available at the end of the SAB 118 measurement period and recorded no net adjustment to our provisional estimate.

The Tax Act also enacted provisions that took effect in 2018 including but not limited to: (1) a provision that imposes U.S. tax on certain foreign subsidiary income known as Global Intangible Low-Taxed Income ("GILTI"); (2) a new deduction for Foreign-Derived Intangible Income ("FDII"); (3) additional limitations on tax deductions for expenses such as interest and executive compensation, and (4) a new minimum tax based on certain payments from a U.S. company to foreign related parties known as the Base Erosion and Anti-Abuse Tax ("BEAT").

We included the impact of each of the newly effective Tax Act provisions in our computation of the 2018 income tax expense. Throughout 2018, the U.S. Department of the Treasury and Internal Revenue Service issued preliminary regulatory guidance clarifying certain provisions of the Tax Act. We anticipate additional regulatory guidance and technical clarifications that could change our future income tax expense. When additional guidance is issued, we will recognize the related tax impact in the quarter of enactment.

2018 Discrete Items

The decrease in our effective tax rate was primarily due to the impact of the Tax Act which reduced the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018.

In the fourth quarter of 2018, we recognized an income tax benefit of $390 million related to pre-tax mark-to-market losses of $1.627 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $360 million during the year ended December 31, 2018. As a result, we recorded an additional income tax benefit of $87 million. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $38 million and reduced our effective tax rate by 0.6% during the year ended December 31, 2018.

Other factors that impacted our 2018 effective tax rate include favorable resolutions of uncertain tax positions, favorable U.S. state and local tax law changes, favorable tax provisions enacted in the Bipartisan Budget Act of 2018 and discrete tax credits associated with the filing of our 2017 U.S. federal income tax return.

2017 Discrete Items

In addition to the impact of the Tax Act described above, the following discrete items were recorded during the year ended December 31, 2017.

In the fourth quarter of 2017, we recognized an income tax benefit of $193 million related to pre-tax mark-to-market losses of $800 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average tax rate than the 2017 U.S. federal statutory tax rate due to future tax rate changes enacted by the Tax Act and differences between U.S. and foreign statutory rates, which was partially offset by the effect of U.S. state and local taxes.

In the fourth quarter of 2017, tax law changes were enacted in certain non-U.S. jurisdictions in which we operate. As a result, we recorded a decrease to our foreign net deferred tax assets of $14 million with a corresponding net increase to deferred tax expense of $14 million for the year ended December 31, 2017.

In the first quarter of 2017, we adopted a new accounting standard that requires the recognition of excess tax benefits related to share-based compensation in income tax expense, which resulted in tax benefits for the year ended December 31, 2017 of $71 million and reduced our effective tax rate by 1.0%.

2016 Discrete Items

In the fourth quarter of 2016, we recognized an income tax benefit of $978 million related to pre-tax mark-to-market losses of $2.651 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the U.S. federal statutory tax rate because it included the effect of U.S. state and local taxes.

As described in the Items Affecting Comparability section, certain items have been excluded from comparisons of "adjusted" income taxes in the discussion that follows.

Our adjusted effective tax rate decreased to 21.3% in 2018 from 33.8% in 2017 primarily due to the impact of the Tax Act which reduced the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018.

Our adjusted effective tax rate decreased to 33.8% in 2017 from 34.4% in 2016 primarily due to favorable discrete tax adjustments related to recognition of excess tax benefits related to share-based compensation in income tax expense.

Liquidity and Capital Resources

As of December 31, 2018, we had $5.035 billion in cash, cash equivalents and marketable securities. We believe that our current cash position, access to the commercial paper programs and long-term debt capital markets and cash flow generated from operations should be adequate not only for operating requirements but also to enable us to complete our capital expenditure programs, transformation strategy and to fund dividend payments, share repurchases and long-term debt payments through the next several years. We regularly evaluate opportunities to optimize our capital structure, including through issuances of debt to refinance existing debt and to fund ongoing cash needs.

Cash Flows From Operating Activities

The following is a summary of the significant sources (uses) of cash from operating activities (amounts in millions):

	2018	2017	2016
Net Income	$ 4,791	$ 4,905	$ 3,422
Non-cash operating activities(1)	6,048	5,770	6,438
Pension and postretirement plan contributions (UPS sponsored plans)	(186)	(7,794)	(2,668)
Hedge margin receivables and payables	482	(732)	(142)
Income tax receivables and payables	469	(550)	(505)
Changes in working capital and other non-current assets and liabilities	1,091	(168)	(47)
Other operating activities	16	48	(25)
Net cash from operating activities	$ 12,711	$ 1,479	$ 6,473

(1) Represents depreciation and amortization, gains and losses on derivative transactions and foreign exchange, deferred income taxes, provisions for uncollectible accounts, pension and postretirement benefit expense, stock compensation expense and other non-cash items.

Cash from operating activities remained strong throughout 2016 to 2018. Most of the variability in operating cash flows during the 2016 to 2018 time period relates to the funding of our company-sponsored pension and postretirement benefit plans (and related cash tax deductions). Except for discretionary or accelerated fundings of our plans, contributions to our company-sponsored pension plans have largely varied based on whether any minimum funding requirements are present for individual pension plans. We made no discretionary contributions to our three primary company-sponsored U.S. pension plans in 2018, however we made contributions of $7.291 and $2.461 billion in 2017 and 2016, respectively. The remaining contributions from 2016 to 2018 were due to contributions to our international pension plans and U.S. postretirement medical benefit plans.

Apart from the transactions described above, operating cash flow was impacted by changes in our hedge margin receivables and payables, timing of income tax receipts and payments and improvements in our working capital position. The net hedge margin collateral received (paid) from our derivative counterparties was $482, $(732) and $(142) million during 2018, 2017 and 2016, respectively, due to settlements and changes in the fair value of the derivative contracts used in our currency and interest rate hedging programs. Cash payments for income taxes were $2 million, $1.559 billion and $2.064 billion for 2018, 2017 and 2016, respectively, primarily impacted by the timing of a $5.0 billion pension contribution made in December 2017 which resulted in a tax refund in 2018, and the timing of current tax deductions.

As of December 31, 2018, the total of our worldwide holdings of cash, cash equivalents and marketable securities were $5.035 billion, of which approximately $2.853 billion was held by foreign subsidiaries. The amount of cash, cash equivalents and marketable securities held by our U.S. and foreign subsidiaries fluctuates throughout the year due to a variety of factors, including the timing of cash receipts and disbursements in the normal course of business. Cash provided by operating activities in the U.S. continues to be our primary source of funds to finance domestic operating needs, capital expenditures, share repurchases and dividend payments to shareowners. All cash, cash equivalents and marketable securities held by foreign subsidiaries are generally available for distribution to the U.S. without any U.S. federal income taxes. Any such distributions may be subject to foreign withholding and U.S.

state taxes. When amounts earned by foreign subsidiaries are expected to be indefinitely reinvested, no accrual for taxes is provided.

Cash Flows From Investing Activities

Our primary sources (uses) of cash for investing activities were as follows (amounts in millions):

	2018	2017	2016
Net cash used in investing activities	$ (6,330)	$ (4,971)	$ (2,563)
Capital Expenditures:			
Buildings, facilities and plant equipment	$ (3,147)	$ (2,954)	$ (1,316)
Aircraft and parts	(1,496)	(789)	(350)
Vehicles	(931)	(924)	(864)
Information technology	(709)	(560)	(435)
Total Capital Expenditures :[1]	$ (6,283)	$ (5,227)	$ (2,965)
Capital Expenditures as a % of Revenue	8.7%	7.9%	4.9%
Other Investing Activities:			
Proceeds from disposals of property, plant and equipment	$ 37	$ 24	$ 88
Net decrease in finance receivables	$ 4	$ 5	$ 9
Net (purchases), sales of marketable securities	$ (87)	$ 360	$ 911
Cash paid for business acquisitions	$ (2)	$ (134)	$ (547)
Other investing activities	$ 1	$ 1	$ (59)

[1] In addition to capital expenditures of $6.283 billion in 2018, there were capital expenditures relating to the principal repayments of capital lease obligations of $340 million. These are included in cash flows from financing activities.

We have commitments for the purchase of aircraft, vehicles, equipment and real estate to provide for the replacement of existing capacity and anticipated future growth. We generally fund our capital expenditures with our cash from operations. Future capital spending for anticipated growth and replacement assets will depend on a variety of factors, including economic and industry conditions. In 2017 we began a multi-year investment program in our smart logistics network which impacts all asset categories, with the largest investments in buildings, facilities and plant equipment. This investment program will continue in 2019, whereby we anticipate that our capital expenditures will be approximately $7.0 billion.

As such, capital expenditures on buildings, facilities and plant equipment increased in 2018 compared to prior periods in our U.S. and international package businesses, largely due to several facility automation and capacity expansion projects. Capital spending on aircraft also increased in 2018 compared to prior periods due to increased contract deposits on open aircraft orders and final payments associated with the delivery of aircraft. Capital spending on information technology increased in 2018 compared to the prior periods due to further development of technology enabled enhancements and capitalized software projects.

The proceeds from the disposal of property, plant and equipment were largely due to the disposal of equipment in 2018, vehicle retirements in 2017 and insurance recoveries in 2016. The purchases and sales of marketable securities are largely determined by liquidity needs and the periodic rebalancing of investment types and will fluctuate from period to period.

Cash paid for business acquisitions was related to our acquisition of area franchise rights for The UPS Store in 2018, Freightex, Nightline and STTAS in 2017 and Marken in 2016.

Other investing activities are impacted by changes in our non-current investments, capital contributions into certain investment partnerships and various other items.

Cash Flows From Financing Activities

Our primary sources (uses) of cash for financing activities were as follows (amounts in millions, except per share data):

	2018	2017	2016
Net cash used in financing activities	$ (5,692)	$ 3,287	$ (3,140)
Share Repurchases:			
Cash expended for shares repurchased	$ (1,011)	$ (1,813)	$ (2,678)
Number of shares repurchased	(8.9)	(16.1)	(25.4)
Shares outstanding at year-end	858	859	868
Percent reduction in shares outstanding	(0.1)%	(1.0)%	(2.0)%
Dividends:			
Dividends declared per share	$ 3.64	$ 3.32	$ 3.12
Cash expended for dividend payments	$ (3,011)	$ (2,771)	$ (2,643)
Borrowings:			
Net borrowings (repayments) of debt principal	$ (1,622)	$ 7,827	$ 2,034
Other Financing Activities:			
Cash received for common stock issuances	$ 240	$ 247	$ 245
Other financing activities	$ (288)	$ (203)	$ (98)
Capitalization:			
Total debt outstanding at year-end	$ 22,736	$ 24,289	$ 16,075
Total shareowners' equity at year-end	3,037	1,024	430
Total capitalization	$ 25,773	$ 25,313	$ 16,505

For the years ended December 31, 2018, 2017 and 2016, we repurchased a total of 8.9, 16.1 and 25.2 million shares of class A and class B common stock for $1.000, $1.816 and $2.680 billion, respectively ($1.011, $1.813 and $2.678 billion in repurchases for 2018, 2017 and 2016, respectively, are reported on the cash flow statement due to the timing of settlements).

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. The share repurchase authorization has no expiration date. As of December 31, 2018, we had $3.339 billion of this share repurchase authorization remaining.

Share repurchases may take the form of accelerated share repurchases, open market purchases, or other such methods as we deem appropriate. The timing of our share repurchases will depend upon market conditions. We anticipate repurchasing approximately $1.0 billion of shares in 2019.

The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors. We expect to continue the practice of paying regular cash dividends. In February 2019, we increased our quarterly dividend payment from $0.91 to $0.96 per share, a 5.5% increase.

Issuances of debt in 2018 consisted primarily of commercial paper. In 2017 and 2016 we completed senior rate note offerings of $8.355 and $1.775 billion, respectively. The following is a summary of debt issuances in 2017 and 2016 (in millions):

	Principal Amount in USD
2017	
Fixed-rate senior notes:	
2.050% senior notes	$ 700
2.350% senior notes	600
2.500% senior notes	1,000
2.800% senior notes	500
3.050% senior notes	1,000
3.750% senior notes	1,150
Floating-rate senior notes (multiple issuances)	1,461
Euro senior notes:	
0.375% senior notes (€700)	815
1.500% senior notes (€500)	582
Canadian senior notes:	
2.125% senior notes (C$750)	547
Total	$ 8,355

	Principal Amount in USD
2016	
Fixed-rate senior notes:	
2.400% senior notes	$ 500
3.400% senior notes	500
Floating-rate senior notes (multiple issuances)	226
Euro senior notes:	
1.000% senior notes (€500)	549
	$ 1,775

The remaining debt issuances for 2017 and 2016 consisted primarily of commercial paper.

Repayment of debt in 2018 and 2017 consisted primarily of the maturity of our $750 million 5.50% fixed-rate senior notes that matured in January 2018 and $375 million 1.125% fixed-rate senior notes that matured in October 2017. In 2016, there were no repayments of fixed-rate senior notes or floating-rate senior notes. The remaining repayments of debt during the 2016 through 2018 time period included paydowns of commercial paper and scheduled principal payments on our capitalized lease obligations. We consider the overall fixed and floating interest rate mix of our portfolio and the related overall cost of borrowing when planning for future issuances and non-scheduled repayments of debt.

The amount of commercial paper outstanding fluctuates throughout the year based on daily liquidity needs. The following is a summary of our commercial paper program (amount in millions):

2018	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 1,968	$ 1,968	$ 2,137	$ 2,137	1.81 %
EUR	€ 606	$ 694	€ 360	$ 425	(0.38)%
Total		$ 2,662			

2017	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 2,458	$ 2,458	$ 2,163	$ 2,163	0.88 %
EUR	€ 622	$ 745	€ 941	$ 1,062	(0.39)%
Total		$ 3,203			

2016	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 2,406	$ 2,406	$ 1,838	$ 1,838	0.44 %
EUR	€ 801	$ 844	€ 776	$ 817	(0.28)%
GBP	£ —	$ —	£ 94	$ 116	0.50 %
Total		$ 3,250			

The variation in cash received from common stock issuances was primarily due to the level of stock option exercises by employees in the 2016 through 2018 period.

The cash outflows in other financing activities were impacted by several factors, primarily the repurchase of shares to satisfy tax withholding obligations on vested employee stock awards of $259, $247 and $167 million for 2018, 2017 and 2016, respectively. Net cash inflows from premium received on capped call options for the purchase of UPS class B shares were $34 million in 2018, and $54 million in both 2017 and 2016.

Sources of Credit

See note 8 to the audited consolidated financial statements for a discussion of our available credit and debt covenants.

Guarantees and Other Off-Balance Sheet Arrangements

We do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, which we believe could have a material impact on financial condition or liquidity.

Contractual Commitments

We have contractual obligations and commitments in the form of capital leases, operating leases, debt obligations, purchase commitments and certain other liabilities. We intend to satisfy these obligations through the use of cash flow from operations. The following table summarizes the expected cash outflow to satisfy our contractual obligations and commitments as of December 31, 2018 (in millions):

Commitment Type	2019	2020	2021	2022	2023	After 2023	Total
Capital Leases	$ 158	$ 95	$ 42	$ 39	$ 36	$ 293	$ 663
Operating Leases	578	477	399	325	262	926	2,967
Debt Principal	3,667	998	2,551	2,000	2,303	10,830	22,349
Debt Interest	624	582	525	461	389	5,626	8,207
Purchase Commitments (1)	3,686	1,732	1,150	383	22	8	6,981
Tax Act Repatriation Liability	—	—	—	—	—	96	96
Pension Funding	2,192	—	—	—	—	—	2,192
Total	$ 10,905	$ 3,884	$ 4,667	$ 3,208	$ 3,012	$ 17,779	$ 43,455

(1) Purchase commitments include aircraft leases that we entered into in 2019.

Our capital lease obligations relate primarily to leases on aircraft and real estate. Capital leases, operating leases and purchase commitments, as well as our debt principal obligations, are discussed further in note 8 to our consolidated financial statements. The amount of interest on our debt was calculated as the contractual interest payments due on our fixed-rate debt, in addition to interest on variable rate debt that was calculated based on interest rates as of December 31, 2018. The calculations of debt interest take into account the effect of interest rate swap agreements. For debt denominated in a foreign currency, the U.S. Dollar equivalent principal amount of the debt at the end of the year was used as the basis to calculate future interest payments.

Purchase commitments represent contractual agreements to purchase assets, goods or services that are legally binding, including contracts for aircraft, construction of new or expanded facilities and orders for technology equipment and vehicles. As of December 31, 2018, we had firm commitments to purchase 19 new Boeing 747-8F cargo aircraft to be delivered between 2019 and 2022 and nine Boeing 767 aircraft to be delivered between 2019 and 2020.

On December 22, 2017, the United States enacted into law the Tax Act requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. Companies may elect to pay the tax over eight years based on an installment schedule outlined in the Tax Act but are required under current IRS guidance to offset certain overpayments of tax against the liability. We intend to make this election and have reflected our remaining transition tax due by year as a contractual obligation.

There are no anticipated required minimum cash contributions to our qualified U.S. pension plans in 2019 (these plans are discussed further in note 5 to the audited consolidated financial statements). The amount of any minimum funding requirement, as applicable, for these plans could change significantly in future periods, depending on many factors, including future plan asset returns, discount rates and changes to pension plan funding regulations. A decline in discount rates or a sustained significant decline in the world equity or bond markets could result in our domestic pension plans being subject to significantly higher minimum funding requirements. Actual contributions made in future years could materially differ and consequently required minimum contributions beyond 2019 cannot be reasonably estimated.

As discussed in note 6 to the audited consolidated financial statements, we are not currently subject to any minimum contributions or surcharges with respect to the multiemployer pension and health and welfare plans in which we participate. Contribution rates to these multiemployer pension and health and welfare plans are established through the collective bargaining process. As we are not subject to any minimum contribution levels, we have not included any amounts in the contractual commitments table with respect to these multiemployer plans.

The table above does not include approximately $216 million of liabilities for uncertain tax positions because we are uncertain if or when such amounts will ultimately be settled in cash. Uncertain tax positions are further discussed in note 13 to the consolidated financial statements.

As of December 31, 2018, we had outstanding letters of credit totaling approximately $1.256 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2018, we had $1.031 million of surety bonds written. As of December 31, 2018, we had unfunded loan commitments totaling $164 million associated with UPS Capital.

We believe that funds from operations and borrowing programs will provide adequate sources of liquidity and capital resources to meet our expected long-term needs for the operation of our business, including anticipated capital expenditures, for the foreseeable future.

Contingencies

See note 5 to the audited consolidated financial statements for a discussion of pension related matters and note 9 for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Collective Bargaining Agreements

Status of Collective Bargaining Agreements

As of December 31, 2018, we had approximately 283,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements expired on July 31, 2018. On October 5, 2018, the Teamsters declared that the tentative national master agreement for the U.S. Domestic Package business unit was considered ratified, and will be implemented as soon as five remaining local and supplemental agreements are negotiated and ratified. We remain in the process of negotiating and ratifying four of these local and supplemental agreements which, when ratified, will be retroactive to August 1, 2018. The UPS Freight business unit national master agreement was ratified on November 11, 2018.

We have approximately 2,800 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which becomes amendable on September 1, 2021.

Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727. On February 8, 2019, the airline mechanics who are covered by this agreement voted to ratify a new contract which will become amendable November 1, 2023. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers (“IAM”) that will expire on July 31, 2019.

Multiemployer Benefit Plans

We contribute to a number of multiemployer defined benefit and health and welfare plans under terms of collective bargaining agreements that cover our union represented employees. Our current collective bargaining agreements set forth the annual contribution increases allotted to the plans that we participate in, and we are in compliance with these contribution rates. These limitations will remain in effect throughout the terms of the existing collective bargaining agreements.

New Accounting Pronouncements

Recently Adopted Accounting Standards

See note 1 to the audited consolidated financial statements for a discussion of recently adopted accounting standards.

Accounting Standards Issued But Not Yet Effective

See note 1 to the audited consolidated financial statements for a discussion of accounting standards issued, but not yet effective.

Rate Adjustments

Effective February 18, 2019, general UPS Freight rates will increase by 5.9%. This rate adjustment applies to non-contractual less-than-truckload (LTL) shipments. The impact of this general rate increase may vary by specific lane or shipment characteristics such as weight or class.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which are prepared in accordance with accounting principles generally accepted in the United States of America. As indicated in note 1 to our consolidated financial statements, the amounts of assets, liabilities, revenue and expenses reported in our financial statements are affected by estimates and judgments that are necessary to comply with generally accepted accounting principles. We base our estimates on prior experience and other assumptions that we consider reasonable to our circumstances. Actual results could differ from our estimates, which would affect the related amounts reported in our consolidated financial statements. While estimates and judgments are applied in arriving at many reported amounts, we believe that the following matters may involve a higher degree of judgment and complexity.

Contingencies

As discussed in note 9 to the audited consolidated financial statements, we are involved in various legal proceedings and contingencies. The events that may impact our contingent liabilities are often unique and generally are not predictable. At the time a contingency is identified, we consider all relevant facts as part of our evaluation. We record a liability for a loss when the loss is probable of occurring and reasonably estimable. Events may arise that were not anticipated and the outcome of a contingency may result in a loss to us that differs from our previously estimated liability. These factors could result in a material difference between estimated and actual operating results. Contingent losses that are probable and estimable, excluding those related to income taxes and self-insurance which are discussed further below, were not material to our financial position or results of operations as of, and for the year ended, December 31, 2018. In addition, we have certain contingent liabilities that have not been recognized as of December 31, 2018, because a loss is not reasonably estimable.

Goodwill and Intangible Impairment

We perform impairment testing of goodwill for each of our reporting units on an annual basis. In our U.S. Domestic Package and International Package reporting segments, we have the following reporting units: Europe, Asia, Americas and ISMEA (Indian Subcontinent, Middle East and Africa). In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote Logistics. Our annual goodwill impairment testing date is July 1st for each reporting unit owned at the testing date. In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit's goodwill with the carrying value of that goodwill.

We primarily determine the fair value of our reporting units using a discounted cash flow model ("DCF model") and supplement this with observable valuation multiples for comparable companies, as appropriate. The completion of the DCF model requires that we make a number of significant assumptions to produce an estimate of future cash flows. These assumptions include projections of future revenue, costs, capital expenditures and working capital changes. In addition, we make assumptions about the estimated cost of capital and other relevant variables, as required, in estimating the fair value of our reporting units. The projections that we use in our DCF model are updated annually and will change over time based on the historical performance and changing business conditions for each of our reporting units. The determination of whether goodwill is impaired involves a significant level of judgment in these assumptions, and changes in our business strategy, government regulations, or economic or market conditions could significantly impact these judgments. We routinely monitor market conditions and other factors to determine if interim impairment tests are necessary. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations.

None of the reporting units incurred any goodwill impairment charges in 2018, 2017 or 2016. Changes in our forecasts could cause carrying values of our reporting units to exceed their fair values in future periods, potentially resulting in a goodwill impairment charge. During the year, management monitored the actual performance of the business relative to the fair value assumptions used during our annual goodwill impairment test. For the periods presented, no triggering events were identified that required an interim impairment test. Based on most recent tests, the fair value of all our reporting units substantially exceed their carrying value.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2018 are considered to be indefinite-lived intangibles, and therefore are not amortized. Impairment tests for indefinite-lived intangibles are performed on an annual basis. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method for the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value. This valuation approach requires that we make a number of assumptions to estimate fair value. These assumptions include projections of future revenues, market royalty rates, tax rates, discount rates and other relevant variables. The projections we use in the model are updated annually and will change over time based on the historical performance and changing business conditions.

All of our remaining recorded intangible assets are deemed to be finite-lived intangibles, and are amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable based on the undiscounted future cash flows of the intangible. If the carrying amount of the intangible is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on a DCF model. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations. There was a $12 and $7 impairment of finite-lived intangible assets in 2018 and 2017, respectively and no impairment of finite-lived intangible assets in 2016. There was no impairment of indefinite-lived intangible assets in 2018, 2017 or 2016.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. Recorded balances are based on reserve levels, which incorporate historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of such reserves. We believe our estimated reserves for such claims are adequate, but actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve the claims. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs and the results of related litigation. Furthermore, claims may emerge in future years for events that occurred in a prior year at a rate that differs from previous actuarial projections. Changes in state legislation with respect to workers' compensation can affect the adequacy of our self-insurance accruals. All of these factors can result in revisions to prior actuarial projections and produce a material difference between estimated and actual operating results. Prior to 2017, outside actuarial studies were performed semi-annually and we used the studies to estimate the liability in intervening quarters. Beginning in 2017, outside actuarial studies are now performed quarterly as we believe this provides us with better quarterly estimates of our outstanding workers' compensation liability.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation. Actual experience may differ from these estimates and, therefore, produce a material difference between estimated and actual operating results.

Pension and Postretirement Medical Benefits

Our pension and other postretirement benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, healthcare cost trend rates, inflation, compensation increase rates, expected returns on plan assets, mortality rates and other factors. The assumptions utilized in recording the obligations under our plans represent our best estimates, and we believe that they are reasonable, based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Differences in actual experience or changes in assumptions may affect our pension and other postretirement obligations and future expense. The primary factors contributing to actuarial gains and losses each year are (1) changes in the discount rate used to value pension and postretirement benefit obligations as of the measurement date, (2) differences between the expected and the actual return on plan assets, (3) changes in demographic assumptions including mortality, (4) participant experience different from demographic assumptions and (5) changes in coordinating benefits with plans not sponsored by UPS.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense (herein referred to as "ongoing net periodic benefit cost"), primarily service and interest costs and the expected return on plan assets, are reported on a quarterly basis.

The following sensitivity analysis shows the impact of a 25 basis point change in the assumed discount rate and return on assets for our pension and postretirement benefit plans, and the resulting increase/(decrease) on our obligations and expense as of, and for the year ended, December 31, 2018 (in millions).

Pension Plans	**25 Basis Point Increase**	**25 Basis Point Decrease**
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ (48)	$ 50
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(360)	1,065
Effect on projected benefit obligation	(1,717)	1,823
Return on Assets:		
Effect on ongoing net periodic benefit cost[1]	(106)	106
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor[2]	(24)	24
Postretirement Medical Plans		
Discount Rate:		
Effect on ongoing net periodic benefit cost	3	(3)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(10)	11
Effect on accumulated postretirement benefit obligation	(53)	62
Healthcare Cost Trend Rate:		
Effect on ongoing net periodic benefit cost	1	(1)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	9	(9)
Effect on accumulated postretirement benefit obligation	15	(16)

(1) Amount calculated based on 25 basis point increase / decrease in the expected return on assets.

(2) Amount calculated based on 25 basis point increase / decrease in the actual return on assets.

Pension Backstop

UPS was a contributing employer to the Central States Pension Fund (“CSPF”) until 2007 when we withdrew from the CSPF and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters (“IBT”), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan (“UPS/IBT Plan”) for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 (“the UPS Transfer

Group") in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF. Under our withdrawal agreement with the CSPF, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law.

In December 2014, Congress passed the Multiemployer Pension Reform Act (“MPRA”). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury (“Treasury”). In May 2016, Treasury rejected the proposed plan submitted by the CSPF. In the first quarter of 2018, Congress established a Joint Select Committee to develop a recommendation to improve the solvency of multiemployer plans and the Pension Benefit Guaranty Corporation (“PBGC”) before a November 30, 2018 deadline. While the Committee’s efforts failed to meet its deadline, the Committee made significant progress towards finding solutions that will address the long term solvency of multiemployer pension plans. UPS will continue to work with all stakeholders, including legislators and regulators, to implement an acceptable solution.

The CSPF has said that it believes a legislative solution to its funded status is necessary or that it will become insolvent in 2025, and we expect that the CSPF will continue to explore options to avoid insolvency. Numerous factors could affect the CSPF’s funded status and UPS’s potential obligation to pay coordinating benefits under the UPS/IBT Plan. Any obligation to pay coordinating benefits will be subject to a number of significant uncertainties, including whether the CSPF submits a revised MPRA filing and the terms thereof, or whether it otherwise seeks federal government assistance, as well as the terms of any applicable legislation, the extent to which benefits are paid by the PBGC and our ability to successfully defend legal positions we may take in the future under the MPRA, including the suspension ordering provisions, our withdrawal agreement and other applicable law.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under Accounting Standards Codification Topic 715- *Compensation- Retirement Benefits* (“ASC 715”), which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely outcome to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities.

As such, our best estimate of the next most likely outcome at the measurement date is that the CSPF submits and implements another benefit reduction plan under the MPRA during 2019. We believe any MPRA filing would be designed to forestall insolvency by reducing benefits to participants other than the UPS Transfer Group to the maximum extent permitted, and then reducing benefits to the UPS Transfer Group by a lesser amount.

We have evaluated this outcome using a deterministic cash flow projection, reflecting updated estimated CSPF cash flows and investment earnings, the lack of legislative action and the absence of a MPRA filing by the CSPF in 2018. As a result, at the December 31, 2018 measurement date, the best estimate of our projected benefit obligation increased by $1.6 billion for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group.

The future value of this estimate will be influenced by the terms and timing of any MPRA filing, changes in our discount rate, rate of return on assets and other actuarial assumptions, presumed solvency of the PBGC, as well as potential solutions resulting from federal government intervention. Any such event may result in a decrease or an increase in the best estimate of our projected benefit obligation. If the uncertainties are not resolved, it is reasonably possible that our projected benefit obligation could increase by approximately $2.4 billion, resulting in a total obligation for coordinating benefits of approximately $4.0 billion as previously disclosed. If a future change in law occurs, it may be a significant event requiring an interim remeasurement of the UPS/IBT Plan at the date the law is enacted. We will continue to assess the impact of these uncertainties on our projected benefit obligation in accordance with ASC 715.

Depreciation, Residual Value and Impairment of Fixed Assets

As of December 31, 2018, we had $26.576 billion of net fixed assets, the most significant category of which is aircraft. In accounting for fixed assets, we make estimates about the expected useful lives and the expected residual values of the assets, and the potential for impairment based on the fair values of the assets and the cash flows generated by these assets.

We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. As part of our ongoing investment in transformation in 2018, we revised our estimates of useful lives for building improvements, vehicles and plant equipment based on our current assessment of these factors. In general, these changes in estimate had the effect of lengthening the useful lives of vehicles, building improvements and plant equipment. The change in estimates for building improvements, vehicles and plant equipment was applied prospectively beginning in 2018 through depreciation expense. See "Consolidated Operating Expense" of Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" for the discussion of the impacts to "Depreciation and amortization." See note 1 to the audited consolidated financial statements for a discussion of our accounting policies. See note 4 to the audited consolidated financial statements for a discussion of the change in estimated useful lives.

In estimating the lives and expected residual values of aircraft, we have relied upon actual experience with the same or similar aircraft types. Subsequent revisions to these estimates could be caused by changes to our maintenance program, changes in the utilization of the aircraft, governmental regulations on aging aircraft and changing market prices of new and used aircraft of the same or similar types. We periodically evaluate these estimates and assumptions, and adjust the estimates and assumptions as necessary. Adjustments to the expected lives and residual values are accounted for on a prospective basis through depreciation expense. In estimating cash flows, we project future volume levels for our different air express products in all geographic regions in which we do business. Adverse changes in these volume forecasts, or a shortfall of our actual volume compared with our projections, could result in our current aircraft capacity exceeding current or projected demand. This situation could lead to an excess of a particular aircraft, resulting in an aircraft impairment charge or a reduction of the expected life of an aircraft (thus resulting in increased depreciation expense).

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on the undiscounted future cash flows of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified. The circumstances that would indicate potential impairment may include, but are not limited to, a significant change in the extent to which an asset is utilized and operating or cash flow losses associated with the use of the asset.

There were no impairment charges on our property, plant and equipment during 2018, 2017 and 2016.

Fair Value Measurements

In the normal course of business, we hold and issue financial instruments that contain elements of market risk, including derivatives, marketable securities, finance receivables, pension assets, other investments and debt. Certain of these financial instruments are required to be recorded at fair value, principally derivatives, marketable securities, pension assets and certain other investments. Fair values are based on listed market prices, when such prices are available. To the extent that listed market prices are not available, fair value is determined based on other relevant factors, including dealer price quotations. If listed market prices and other relevant facts are not available, inputs are developed from unobservable data reflecting our own assumptions and include situations where there is little or no market activity for the asset or liability. Certain financial instruments, including over-the-counter derivative instruments, are valued using pricing models that consider, among other factors, contractual and market prices, correlations, time value, credit spreads and yield curve volatility factors. Changes in the fixed income, foreign exchange and commodity markets will impact our estimates of fair value in the future, potentially affecting our results of operations. A quantitative sensitivity analysis of our exposure to changes in commodity prices, foreign currency exchange rates and interest rates is presented in the "Quantitative and Qualitative Disclosures about Market Risk" section of this report.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment.

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, technology and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Income Taxes

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of income by legal entity and jurisdiction, tax credits, benefits, and deductions, and in the calculation of deferred tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes, as well as tax, interest and penalties related to uncertain tax positions. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover a substantial majority of the deferred tax assets recorded on our consolidated balance sheets. However, should there be a change in our ability to recover our deferred tax assets, our tax provision would increase in the period in which we determined that the recovery was not likely.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit, and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

See note 13 to the audited consolidated financial statements for a discussion of impacts of the Tax Act.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk*

We are exposed to market risk from changes in certain commodity prices, foreign currency exchange rates and interest rates. All of these market risks arise in the normal course of business, as we do not engage in speculative trading activities. In order to manage the risk arising from these exposures, we utilize a variety of commodity, foreign exchange and interest rate forward contracts, options and swaps. A discussion of our accounting policies for derivative instruments and further disclosures are provided in note 15 to the consolidated financial statements.

Commodity Price Risk

We are exposed to changes in the prices of refined fuels, principally jet-A, diesel and unleaded gasoline, as well as changes in the price of natural gas and other alternative fuels. Currently, the fuel surcharges that we apply to our domestic and international package and LTL services are the primary means of reducing the risk of adverse fuel price changes. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. The majority of our contracts for fuel purchases utilize index-based pricing formulas plus or minus a fixed locational/supplier differential. While many of the indices are aligned, each index may fluctuate at a different pace, driving variability in the prices paid for fuel. Because of this, our operating results may be affected should the market price of fuel suddenly change by a significant amount or change by amounts that do not result in an adjustment in our fuel surcharges, which can significantly affect our earnings either positively or negatively in the short-term. Additionally, we periodically use a combination of option, forward and futures contracts to provide partial protection from changing fuel and energy prices. As of December 31, 2018 and 2017, however, we had no commodity contracts outstanding.

Foreign Currency Exchange Risk

We have foreign currency risks related to our revenue, operating expenses and financing transactions in currencies other than the local currencies in which we operate. We are exposed to currency risk from the potential changes in functional currency values of our foreign currency-denominated assets, liabilities and cash flows. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We use forwards as well as a combination of purchased and written options to hedge forecasted cash flow currency exposures. These derivative instruments generally cover forecasted foreign currency exposures for periods of 12 to 48 months. We also utilize forward contracts to hedge portions of our anticipated cash settlements of intercompany transactions subject to foreign currency remeasurement.

Interest Rate Risk

We have issued debt instruments, including debt associated with capital leases, that accrue expense at fixed and floating rates of interest. We use a combination of interest rate swaps as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment and maturity dates of the swaps match the terms of the associated debt. We also utilize forward starting swaps and similar instruments to lock in all or a portion of the borrowing cost of anticipated debt issuances. Our floating-rate debt and interest rate swaps subject us to risk resulting from changes in short-term (primarily LIBOR) interest rates.

We also are subject to interest rate risk with respect to our pension and postretirement benefit obligations, as changes in interest rates will effectively increase or decrease our liabilities associated with these benefit plans, which also results in changes to the amount of pension and postretirement benefit expense recognized in future periods.

We have investments in debt securities, as well as cash-equivalent instruments, some of which accrue income at variable rates of interest. Additionally, we hold a portfolio of finance receivables that accrue income at fixed and floating rates of interest.

Sensitivity Analysis

The following analysis provides quantitative information regarding our exposure to foreign currency exchange risk, interest rate risk and equity price risk embedded in our existing financial instruments. We utilize valuation models to evaluate the sensitivity of the fair value of financial instruments with exposure to market risk that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves and commodity and equity prices. For options and instruments with non-linear returns, models appropriate to the instrument are utilized to determine the impact of market shifts.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that exchange rates change in a parallel fashion and that interest rates change instantaneously. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is our best estimate of the impact of the specified interest rate scenarios, these estimates should not be viewed as forecasts. We adjust the fixed and floating interest rate mix of our interest rate sensitive assets and liabilities in response to changes in market conditions. Additionally, changes in the fair value of foreign currency derivatives and commodity derivatives are offset by changes in the cash flows of the underlying hedged foreign currency and commodity transactions.

	Shock-Test Result As of December 31,	
(in millions)	**2018**	**2017**
Change in Fair Value:		
Currency Derivatives[1]	$ (426)	$ (447)
Change in Annual Interest Expense:		
Variable Rate Debt[2]	$ 58	$ 51
Interest Rate Derivatives[2]	$ 47	$ 55
Change in Annual Interest Income:		
Marketable Securities[3]	$ 1	$ 2

(1) The potential change in fair value from a hypothetical 10% weakening of the U.S. Dollar against local currency exchange rates across all maturities.

(2) The potential change in annual interest expense resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate debt and swap instruments (excluding hedges of anticipated debt issuances).

(3) The potential change in interest income resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate investment holdings.

The sensitivity of our pension and postretirement benefit obligations to changes in interest rates is quantified in “Critical Accounting Policies and Estimates”. The sensitivity in the fair value and interest income of our finance receivables due to changes in interest rates was not material as of December 31, 2018 and 2017.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principles

As discussed in Note 1 to the financial statements, the Company has changed its method of accounting for revenue from contracts with customers and the presentation of net periodic benefit costs due to the adoption of new accounting standards. These changes have been applied retrospectively to all periods presented.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2019

We have served as the Company's auditor since 1969.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In millions)

	December 31, 2018	December 31, 2017
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 4,225	$ 3,320
Marketable securities	810	749
Accounts receivable, net	8,958	8,773
Current income taxes receivable	940	1,573
Other current assets	1,277	1,303
Total Current Assets	16,210	15,718
Property, Plant and Equipment, Net	26,576	22,118
Goodwill	3,811	3,872
Intangible Assets, Net	2,075	1,964
Investments and Restricted Cash	170	483
Deferred Income Tax Assets	141	266
Other Non-Current Assets	1,033	1,153
Total Assets	$ 50,016	$ 45,574
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Current maturities of long-term debt and commercial paper	$ 2,805	$ 4,011
Accounts payable	5,188	3,934
Accrued wages and withholdings	3,047	2,608
Self-insurance reserves	810	705
Accrued group welfare and retirement plan contributions	715	677
Other current liabilities	1,522	951
Total Current Liabilities	14,087	12,886
Long-Term Debt	19,931	20,278
Pension and Postretirement Benefit Obligations	8,347	7,061
Deferred Income Tax Liabilities	1,619	756
Self-Insurance Reserves	1,571	1,765
Other Non-Current Liabilities	1,424	1,804
Shareowners' Equity:		
Class A common stock (163 and 173 shares issued in 2018 and 2017)	2	2
Class B common stock (696 and 687 shares issued in 2018 and 2017)	7	7
Additional paid-in capital	—	—
Retained earnings	8,006	5,852
Accumulated other comprehensive loss	(4,994)	(4,867)
Deferred compensation obligations	32	37
Less: Treasury stock (1 share in 2018 and 2017)	(32)	(37)
Total Equity for Controlling Interests	3,021	994
Noncontrolling Interests	16	30
Total Shareowners' Equity	3,037	1,024

Total Liabilities and Shareowners' Equity	$ 50,016	$ 45,574

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

STATEMENTS OF CONSOLIDATED INCOME

(In millions, except per share amounts)

	Years Ended December 31,		
	2018	**2017**	**2016**
Revenue	$ 71,861	$ 66,585	$ 61,610
Operating Expenses:			
Compensation and benefits	37,235	34,577	32,534
Repairs and maintenance	1,732	1,601	1,542
Depreciation and amortization	2,207	2,282	2,224
Purchased transportation	13,409	11,696	9,848
Fuel	3,427	2,690	2,118
Other occupancy	1,362	1,155	1,037
Other expenses	5,465	5,055	4,619
Total Operating Expenses	64,837	59,056	53,922
Operating Profit	7,024	7,529	7,688
Other Income and (Expense):			
Investment income (expense) and other	(400)	61	(2,186)
Interest expense	(605)	(453)	(381)
Total Other Income and (Expense)	(1,005)	(392)	(2,567)
Income Before Income Taxes	6,019	7,137	5,121
Income Tax Expense	1,228	2,232	1,699
Net Income	$ 4,791	$ 4,905	$ 3,422
Basic Earnings Per Share	$ 5.53	$ 5.63	$ 3.88
Diluted Earnings Per Share	$ 5.51	$ 5.61	$ 3.86

STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)

(In millions)

	Years Ended December 31,		
	2018	**2017**	**2016**
Net Income	$ 4,791	$ 4,905	$ 3,422
Change in foreign currency translation adjustment, net of tax	(149)	86	(119)
Change in unrealized gain (loss) on marketable securities, net of tax	—	(1)	—
Change in unrealized gain (loss) on cash flow hedges, net of tax	485	(321)	(112)
Change in unrecognized pension and postretirement benefit costs, net of tax	272	(148)	(712)
Comprehensive Income (Loss)	$ 5,399	$ 4,521	$ 2,479

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED CASH FLOWS
(In millions)

	Years Ended December 31,		
	2018	2017	2016
Cash Flows From Operating Activities:			
Net income	$ 4,791	$ 4,905	$ 3,422
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	2,207	2,282	2,224
Pension and postretirement benefit expense	2,242	1,643	3,725
Pension and postretirement benefit contributions	(186)	(7,794)	(2,668)
Self-insurance reserves	(86)	—	(21)
Deferred tax (benefit) expense	758	1,224	117
Stock compensation expense	634	584	591
Other (gains) losses	293	37	(198)
Changes in assets and liabilities, net of effects of business acquisitions:			
Accounts receivable	(421)	(1,022)	(704)
Other assets	754	(984)	5
Accounts payable	1,034	599	460
Accrued wages and withholdings	505	200	91
Other liabilities	170	(243)	(546)
Other operating activities	16	48	(25)
Net cash from operating activities	12,711	1,479	6,473
Cash Flows From Investing Activities:			
Capital expenditures	(6,283)	(5,227)	(2,965)
Proceeds from disposals of property, plant and equipment	37	24	88
Purchases of marketable securities	(973)	(1,630)	(4,813)
Sales and maturities of marketable securities	886	1,990	5,724
Net (increase) decrease in finance receivables	4	5	9
Cash paid for business acquisitions, net of cash and cash equivalents acquired	(2)	(134)	(547)
Other investing activities	1	1	(59)
Net cash used in investing activities	(6,330)	(4,971)	(2,563)
Cash Flows From Financing Activities:			
Net change in short-term debt	63	(250)	(88)
Proceeds from long-term borrowings	1,202	12,016	5,927
Repayments of long-term borrowings	(2,887)	(3,939)	(3,805)
Purchases of common stock	(1,011)	(1,813)	(2,678)
Issuances of common stock	240	247	245
Dividends	(3,011)	(2,771)	(2,643)
Other financing activities	(288)	(203)	(98)
Net cash used in financing activities	(5,692)	3,287	(3,140)
Effect Of Exchange Rate Changes On Cash, Cash Equivalents and Restricted Cash	(91)	53	(21)

Net Increase (Decrease) In Cash, Cash Equivalents and Restricted Cash	598	(152)	749
Cash, Cash Equivalents and Restricted Cash:			
Beginning of period	3,769	3,921	3,172
End of period	$ 4,367	$ 3,769	$ 3,921
Cash Paid During The Period For:			
Interest (net of amount capitalized)	$ 595	$ 428	$ 373
Income taxes (net of refunds and overpayments)	$ 2	$ 1,559	$ 2,064

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF ACCOUNTING POLICIES

Basis of Financial Statements and Business Activities

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"), and include the accounts of United Parcel Service, Inc., and all of its consolidated subsidiaries (collectively "UPS" or the "Company"). All intercompany balances and transactions have been eliminated.

UPS concentrates its operations in the field of transportation services, primarily domestic and international letter and package delivery. Through our Supply Chain & Freight subsidiaries, we are also a global provider of specialized transportation, logistics and financial services.

Use of Estimates

The preparation of our consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingencies. Estimates have been prepared on the basis of the most current and best information, and actual results could differ materially from those estimates.

Revenue Recognition

U.S. Domestic and International Package Operations—Revenue is recognized over time as we perform the services in the contract.

Forwarding —Freight forwarding revenue and the expense related to the transportation of freight are recognized over time as we perform the services. Truckload brokerage revenue and related transportation costs are recognized over time as we perform the services. Customs brokerage revenue is recognized upon completing documents necessary for customs entry purposes.

Logistics —In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

UPS Freight—Revenue is recognized over time as we perform the services in the contract.

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. U.S. GAAP requires us to evaluate whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent) using a control model. Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. Revenue and the associated purchased transportation costs are reported on a gross basis within our statements of consolidated income.

Financial Services—Income on loans and direct finance leases is recognized on the effective interest method. Accrual of interest income is suspended at the earlier of the time at which collection of an account becomes doubtful or the account becomes 90 days delinquent. Income on operating leases is recognized on the straight-line method over the terms of the underlying leases.

Refer to note 2 of our audited consolidated financial statements for further discussion of our revenue recognition policies.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments that are readily convertible into cash. We consider securities with maturities of three months or less, when purchased, to be cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

Investments

Marketable securities are either classified as trading or available-for-sale securities and are carried at fair value. Unrealized gains and losses on trading securities are reported as investment income (expense) and other on the statements of consolidated income. Unrealized gains and losses on available-for-sale securities are reported as accumulated other comprehensive income ("AOCI"), a separate component of shareowners' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in investment income (expense) and other, along with interest and dividends. The cost of securities sold is based on the specific identification method; realized gains and losses resulting from such sales are included in investment income (expense) and other.

We periodically review our available-for-sale investments for indications of other-than-temporary impairment considering many factors, including the extent and duration to which a security's fair value has been less than its cost, overall economic and market conditions and the financial condition and specific prospects for the issuer. Impairment of available-for-sale securities results in a charge to income when a market decline below cost is other-than-temporary.

Accounts Receivable

Accounts receivable, net, include amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. Losses on accounts receivable are recognized when they are incurred, which requires us to make our best estimate of the probable losses inherent in our customer receivables at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, trends in customer payment frequency and judgments about the probable effects of relevant observable data, including present economic conditions and the financial health of specific customers and market sectors. Our risk management process includes standards and policies for reviewing major account exposures and concentrations of risk.

Our total allowance for doubtful accounts as of December 31, 2018 and 2017 was $94 and $104 million, respectively. Our total provision for doubtful accounts charged to expense before recoveries during the years ended December 31, 2018, 2017 and 2016 was $118, $133 and $116 million, respectively.

Inventories

Fuel and other materials and supplies inventories are recognized as inventory when purchased, and then charged to expense when used in our operations. Jet fuel, diesel and unleaded gasoline inventories are valued at the lower of average cost or market. Total inventories were $421 and $404 million as of December 31, 2018 and 2017, respectively, and are included in "other current assets" on the consolidated balance sheets.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. We evaluate the useful lives of our property, plant and equipment based on our usage, maintenance and replacement policies, and taking into account physical and economic factors that may affect the useful lives of the assets. As part of our ongoing investment in transformation in 2018, we revised our estimates of useful lives for building improvements, vehicles and plant equipment based on our current assessment of these factors. In general, the change in estimate had the effect of lengthening the useful lives of building improvements, vehicles and plant equipment.

Depreciation and amortization are provided by the straight-line method over the estimated useful lives of the assets, which are as follows: Vehicles—6 to 15 years; Aircraft—12 to 30 years; Buildings—20 to 40 years; Leasehold Improvements—lesser of asset useful life or lease term; Plant Equipment—3 to 20 years; Technology Equipment—3 to 5 years. For substantially all of our aircraft, the costs of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred.

Interest incurred during the construction period of certain property, plant and equipment is capitalized until the underlying assets are placed in service, at which time amortization of the capitalized interest begins, straight-line, over the estimated useful lives of the related assets. Capitalized interest was $97, $49 and $14 million for 2018, 2017, and 2016, respectively.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on the undiscounted future cash flows of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows, or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified.

Goodwill and Intangible Assets

Costs of purchased businesses in excess of net identifiable assets acquired (goodwill), and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. We are required to test goodwill on a “reporting unit” basis. A reporting unit is the operating segment unless, for businesses within that operating segment, discrete financial information is prepared and regularly reviewed by management, in which case such a component business is the reporting unit.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We consider several factors, including macroeconomic conditions, industry and market conditions, overall financial performance of the reporting unit, changes in management, strategy or customers and relevant reporting unit-specific events such as a change in the carrying amount of net assets, a more likely than not expectation of selling or disposing all, or a portion, of a reporting unit, and the testing for recoverability of a significant asset group within a reporting unit. If this qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed for that reporting unit.

If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds its calculated fair value, then the second step is performed, and an impairment charge is recognized for the amount, if any, by which the carrying amount of goodwill exceeds its implied fair value. We primarily determine the fair value of our reporting units using a discounted cash flow model and supplement this with observable valuation multiples for comparable companies, as appropriate.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2018 are considered to be indefinite-lived intangibles, and therefore are not amortized. Indefinite-lived intangible assets are reviewed for impairment at least annually. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method to estimate the fair value of the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value.

Finite-lived intangible assets, including trademarks, licenses, patents, customer lists, non-compete agreements and franchise rights are amortized on a straight-line basis over the estimated useful lives of the assets, which range from 2 to 22 years. Capitalized software is generally amortized over 7 years.

Self-Insurance Accruals

We self-insure costs associated with workers’ compensation claims, automobile liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. Recorded balances are based on reserve levels, which incorporate historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of such reserves.

Workers’ compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve the claims. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs and the results of related litigation. Furthermore, claims may emerge in future years for events that occurred in a prior year at a rate that differs from previous actuarial projections. Changes in state legislation with respect to workers' compensation can affect the adequacy of our self-insurance accruals. All of these factors can result in revisions to prior actuarial projections and produce a material difference between estimated and actual operating results. Prior to 2017, outside actuarial studies were performed semi-annually and we used the studies to estimate the liability in intervening quarters. Beginning in 2017, outside actuarial studies are now performed quarterly as we believe this provides us with better quarterly estimates of our outstanding workers' compensation liability.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation.

Pension and Postretirement Benefits

We incur certain employment-related expenses associated with pension and postretirement medical benefits. These pension and postretirement medical benefit costs for company-sponsored benefit plans are calculated using various actuarial assumptions and methodologies, including discount rates, expected returns on plan assets, healthcare cost trend rates, inflation, compensation increase rates, mortality rates and coordination of benefits with plans not sponsored by UPS. Actuarial assumptions are reviewed on an annual basis, unless circumstances require an interim remeasurement for any of our plans.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense, primarily service and interest costs and the expected return on plan assets, are recorded on a quarterly basis.

Effective July 1, 2016, the UPS Retirement Plan was closed to new non-union participants. For eligible employees hired after July 1, 2016, UPS contributes annually to a defined contribution plan. We recognize expense for the required contribution quarterly, and we recognize a liability for any contributions due and unpaid (included in “other current liabilities”).

During June 2017, we amended the UPS Retirement Plan and Excess Coordinating Plan to cease accrual of additional benefits for future service for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations for the affected pension plans as of June 30, 2017 to recognize the impact of this change.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. Our contributions to these plans are determined in accordance with the respective collective bargaining agreements. We recognize expense for the contractually required contribution for each period, and we recognize a liability for any contributions due and unpaid (included in “other current liabilities”).

Income Taxes

Income taxes are accounted for on an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than proposed changes in the tax law or rates. Valuation allowances are provided if it is more likely than not that a deferred tax asset will not be realized.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

In January 2018, the Financial Accounting Standards Board ("FASB") released guidance on the accounting for tax on the Global Intangible Low-Taxed Income ("GILTI") provisions of the Tax Cuts and Jobs Act (the "Tax Act"). The GILTI provisions impose U.S. tax on certain foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period costs are both acceptable methods subject to an accounting policy election. We elect to treat any potential GILTI inclusions as period costs.

Foreign Currency Translation and Remeasurement

We translate the results of operations of our foreign subsidiaries using average exchange rates during each period, whereas balance sheet accounts are translated using exchange rates at the end of each period. Balance sheet currency translation adjustments are recorded in AOCI. Pre-tax foreign currency transaction gains (losses) from remeasurement, net of hedging, included in investment income (expense) and other were $(19), $3 and $5 million in 2018, 2017 and 2016, respectively.

Stock-Based Compensation

All share-based awards to employees are measured based on their fair values and expensed over the period during which an employee is required to provide service in exchange for the award (the vesting period), less estimated forfeitures. We issue employee share-based awards under the UPS Incentive Compensation Plan that are subject to specific vesting conditions; including service conditions, where the awards cliff vest or vest ratably over a three or five year period (the "nominal vesting period") or at the date the employee retires (as defined by the plan), if earlier. Compensation cost is generally recognized immediately for awards granted to retirement-eligible employees, or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. We estimate forfeiture rates based on historical rates of forfeitures for awards with similar characteristics, historical rates of employee turnover and the nature and terms of the vesting conditions of the awards. We reevaluate our forfeiture rates on an annual basis.

Fair Value Measurements

Our financial assets and liabilities measured at fair value on a recurring basis have been categorized based upon a fair value hierarchy. Level 1 inputs utilize quoted prices in active markets for identical assets or liabilities. Level 2 inputs are based on other observable market data, such as quoted prices for similar assets and liabilities, and inputs other than quoted prices that are observable, such as interest rates and yield curves. Level 3 inputs are developed from unobservable data reflecting our own assumptions, and include situations where there is little or no market activity for the asset or liability.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment. A general description of the valuation methodologies used for assets and liabilities measured at fair value, including the general classification of such assets and liabilities pursuant to the valuation hierarchy, is included in each footnote with fair value measurements present.

For acquisitions, we allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, acquired technology and trade names from a market participant perspective, useful lives and discount rates. Management’s estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Derivative Instruments

All financial derivative instruments are recorded on our consolidated balance sheets at fair value. Derivatives not designated as hedges must be adjusted to fair value through income. If a derivative is designated as a hedge, changes in its fair value that are considered to be effective, as defined, either (depending on the nature of the hedge) offset the change in fair value of the hedged assets, liabilities or firm commitments through income, or are recorded in AOCI until the hedged item is recorded in income. Any portion of a change in a hedge's fair value that is considered to be ineffective, or is excluded from the measurement of effectiveness, is recorded immediately in income.

Adoption of New Accounting Standards

In May 2014, the FASB issued an accounting standards update ("ASU") that changes the revenue recognition for companies that enter into contracts with customers to transfer goods or services (*"Revenue from Contracts with Customers")*. The standard is a comprehensive new revenue recognition model that requires revenue to be recognized in a manner depicting the transfer of goods or services to a customer at an amount that reflects the consideration expected to be received in exchange for those goods or services. The FASB has also issued a number of updates to this standard. Effective January 1, 2018, we adopted the requirements of this ASU using the full retrospective method. See note 2 for required disclosures pertaining to the new ASU.

In January 2016, the FASB issued an ASU which addresses certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. We adopted this standard on January 1, 2018. This accounting standards update does not have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2016, the FASB issued an ASU that simplifies the income tax accounting and cash flow presentation related to share-based compensation by requiring the recognition of all excess tax benefits and deficiencies directly on the income statement and classification as cash flows from operating activities on the statement of cash flows. This new guidance became effective for us in the first quarter of 2017 and we adopted the statements of consolidated cash flows and statements of consolidated income presentation on a prospective basis. The impact to income tax expense in the statements of consolidated income was a benefit of $38 and $71 million in 2018 and 2017, respectively. Additionally, we have elected to continue estimating forfeitures expected to occur to determine the amount of compensation cost to be recognized each period.

In August 2016, the FASB issued an ASU that addresses the classification and presentation of specific cash flow issues that resulted in diverse practices. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. The guidance was applied retrospectively. We adopted this standard on January 1, 2018. This standard did not have a material impact on our statements of consolidated cash flows.

In November 2016, the FASB issued an ASU that is intended to reduce diversity in practice by adding or clarifying guidance on classification and presentation of changes in restricted cash on the statement of cash flows (*"Restricted Cash")*. Effective January 1, 2018, we adopted the requirements of this ASU retrospectively. As a result of this update, restricted cash is included within cash and cash equivalents on our statements of consolidated cash flows.

In March 2017, the FASB issued an ASU to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost (*"Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost")*. The update requires employers to report the current service cost component in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of net benefit cost are required to be presented separately from service cost and outside of income from operations. Effective January 1, 2018, we adopted the requirements of this ASU retrospectively, as required. As a result of this update, the net amount of interest cost, prior service cost and expected return on plan assets is now presented as other income.

In May 2017, the FASB issued an ASU to provide clarity and reduce complexity on when to apply modification accounting to existing share-based payment awards. The guidance will be applied prospectively. We adopted this standard on January 1, 2018. This accounting standards update did not have a material impact on our consolidated financial position, results of operations or cash flows.

In February 2018, the FASB issued an ASU that allows a reclassification from accumulated other comprehensive income ("AOCI") to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Act (the "Tax Act"). Effective January 1, 2018, we early adopted this ASU and elected to reclassify the income tax effects of the Tax Act from AOCI to retained earnings. This resulted in a $735 million increase to retained earnings and a $735 million decrease to AOCI. Our current accounting policy for releasing income tax effects from other comprehensive income is based on a portfolio approach.

In August 2018, the FASB issued an ASU that modifies the disclosure requirements for employers that sponsor defined benefit pension and postretirement plans. The update eliminates the disclosures for amounts in AOCI expected to be recognized as components of net periodic cost over the next fiscal year and the effects of a one-percentage-point change in the assumed healthcare cost trend rate. The update adds disclosure requirements to include the weighted-average interest crediting rates for cash balance plans and a narrative description of the significant gains and losses related to changes in the benefit obligation for the period. We have early adopted this standard for the year ended 2018 with retrospective application. This accounting standards update did not have a material impact on our consolidated financial position, results of operations or cash flows.

We have recast our consolidated financial statements from amounts previously reported due to the adoption of new revenue recognition, pension and restricted cash standards. Impacted consolidated balance sheet line items, which reflect the adoption of the new ASUs, are as follows (in millions):

	December 31, 2017				
	As previously reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Assets:					
Other current assets	$ 1,133	$ 170	$ —	$ —	$ 1,303
Total current assets	15,548	170	—	—	15,718
Deferred income tax assets	265	1	—	—	266
Total Assets	$ 45,403	$ 171	$ —	$ —	$ 45,574
Liabilities:					
Accounts payable	$ 3,872	$ 62	$ —	$ —	$ 3,934
Accrued wages and withholdings	2,521	87	—	—	2,608
Other current liabilities[1]	905	29	—	—	934
Total current liabilities	12,708	178	—	—	12,886
Deferred income tax liabilities	757	(1)	—	—	756
Shareowners' Equity:					
Retained earnings	5,858	(6)	—	—	5,852
Total Shareowners' Equity	1,030	(6)	—	—	1,024
Total Liabilities and Shareowners' Equity	$ 45,403	$ 171	$ —	$ —	$ 45,574

(1) The caption "Other current liabilities" was presented separately from "Hedge margin liabilities" of $17 million in the Form 10-K at December 31, 2017. These captions have been collapsed in the consolidated balance sheets as of December 31, 2018 and December 31, 2017 included within this Form 10-K.

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

The unaudited consolidated statements of operations, which reflects the adoption of the new ASUs, are as follows (in millions):

	Twelve months ended December 31, 2016				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Revenue	$ 60,906	$ 704	$ —	$ —	$ 61,610
Operating Expenses:					
Compensation and benefits	34,770	—	(2,236)	—	32,534
Repairs and maintenance	1,538	4	—	—	1,542
Depreciation and amortization	2,224	—	—	—	2,224
Purchased transportation	9,129	719	—	—	9,848
Fuel	2,118	—	—	—	2,118
Other occupancy	1,037	—	—	—	1,037
Other expenses	4,623	(4)	—	—	4,619
Total Operating Expenses	55,439	719	(2,236)	—	53,922
Operating Profit	5,467	(15)	2,236	—	7,688
Other Income and (Expense):					
Investment income (expense) and other	50	—	(2,236)	—	(2,186)
Interest expense	(381)	—	—	—	(381)
Total Other Income and (Expense)	(331)	—	(2,236)	—	(2,567)
Income Before Income Taxes	5,136	(15)	—	—	5,121
Income Tax Expense (Benefit)	1,705	(6)	—	—	1,699
Net Income	$ 3,431	$ (9)	$ —	$ —	$ 3,422
Basic Earnings Per Share	$ 3.89	$ (0.01)	$ —	$ —	$ 3.88
Diluted Earnings Per Share	$ 3.87	$ (0.01)	$ —	$ —	$ 3.86

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

	Twelve months ended December 31, 2017				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Revenue	$ 65,872	$ 713	$ —	$ —	$ 66,585
Operating Expenses:					
Compensation and benefits	34,588	—	(11)	—	34,577
Repairs and maintenance	1,600	1	—	—	1,601
Depreciation and amortization	2,282	—	—	—	2,282
Purchased transportation	10,989	707	—	—	11,696
Fuel	2,690	—	—	—	2,690
Other occupancy	1,155	—	—	—	1,155
Other expenses	5,039	16	—	—	5,055
Total Operating Expenses	58,343	724	(11)	—	59,056
Operating Profit	7,529	(11)	11	—	7,529
Other Income and (Expense):					
Investment income (expense) and other	72	—	(11)	—	61
Interest expense	(453)	—	—	—	(453)
Total Other Income and (Expense)	(381)	—	(11)	—	(392)
Income Before Income Taxes	7,148	(11)	—	—	7,137
Income Tax Expense (Benefit)	2,238	(6)	—	—	2,232
Net Income	$ 4,910	$ (5)	$ —	$ —	$ 4,905
Basic Earnings Per Share	$ 5.64	$ (0.01)	$ —	$ —	$ 5.63
Diluted Earnings Per Share	$ 5.61	$ —	$ —	$ —	$ 5.61

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

The unaudited impacted consolidated statement of cash flows line items, which reflect the adoption of the new ASUs, are as follows (in millions):

	Twelve Months Ended December 31, 2016				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Net Income	$ 3,431	$ (9)	$ —	$ —	$ 3,422
Adjustments to reconcile net income to net cash from operating activities:					
Deferred tax (benefit) expense	123	(6)	—	—	117
Other assets	(14)	19	—	—	5
Accounts payable	461	(1)	—	—	460
Accrued wages and withholdings	109	(18)	—	—	91
Other liabilities	(561)	15	—	—	(546)
Cash flows from operating activities	6,473	—	—	—	6,473
Purchase of marketable securities	(4,816)	—	—	3	(4,813)
Net cash used in investing activities	(2,566)	—	—	3	(2,563)
Net decrease in cash, cash equivalents and restricted cash	746	—	—	3	749
Cash, cash equivalents and restricted cash at the beginning of period	2,730	—	—	442	3,172
Cash, cash equivalents and restricted cash at the end of period	$ 3,476	$ —	$ —	$ 445	$ 3,921

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

	Twelve Months Ended December 31, 2017				
	As Previously Reported	Adjustments (a)	Adjustments (b)	Adjustments (c)	As Recast
Net Income	$ 4,910	$ (5)	$ —	$ —	$ 4,905
Adjustments to reconcile net income to net cash from operating activities:					
Deferred tax (benefit) expense	1,230	(6)	—	—	1,224
Other assets	(982)	(2)	—	—	(984)
Accounts payable	592	7	—	—	599
Accrued wages and withholdings	193	7	—	—	200
Other liabilities	(241)	(2)	—	—	(243)
Other operating activities	47	1			48
Cash flows from operating activities	1,479	—	—	—	1,479
Purchase of marketable securities	(1,634)	—	—	4	(1,630)
Net cash used in investing activities	(4,975)	—	—	4	(4,971)
Net decrease in cash, cash equivalents and restricted cash	(156)	—	—	4	(152)
Cash, cash equivalents and restricted cash at the beginning of period	3,476	—	—	445	3,921
Cash, cash equivalents and restricted cash at the end of period	$ 3,320	$ —	$ —	$ 449	$ 3,769

(a) Recast to reflect the adoption of *Revenue from Contracts with Customers.*

(b) Recast to reflect the adoption of *Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.*

(c) Recast to reflect the adoption of *Restricted Cash.*

Accounting Standards Issued But Not Yet Effective

In August 2017, the FASB issued an accounting standards update to enhance recognition of the economic results of hedging activities in the financial statements. In addition, this update makes certain targeted improvements to simplify the application of the hedge accounting guidance and increase transparency regarding the scope and results of hedging activities. The guidance will generally be applied prospectively and becomes effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2017, the FASB issued an accounting standards update to require the premium on callable debt securities to be amortized to the earliest call date. The amortization period for callable debt securities purchased at a discount would not be impacted by the proposed update. Under current GAAP, premiums on callable debt securities are generally amortized over the contractual life of the security. Only in cases when an entity has a large number of similar securities is it allowed to consider estimates of principal prepayments. Amortization of the premium over the contractual life of the instrument can result in losses being recorded for the unamortized premium if the issuer exercises the call feature prior to maturity. The standard will be effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In January 2017, the FASB issued an accounting standards update to simplify the accounting for goodwill impairment. The update removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The standard will be effective for us in the first quarter of 2020, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which requires lessees to recognize a right-of-use asset and lease liability on their balance sheet for all leases with terms beyond twelve months. The new standard also requires enhanced disclosures that will provided more transparency and information to financial statement users about our lease portfolio. Although the distinction between operating and finance leases will continue to exist under the new standard, the recognition and measurement of expenses and cash flows will not change significantly from current treatment. For finance leases, lessees will continue to recognize interest expense on the lease liability using the effective yield method, while the right-of-use asset will be amortized on a straight-line basis. For operating leases, expense will be recognized on a straight-line basis, consistent with the previous standard.

We will adopt this ASU on January 1, 2019 using the modified retrospective approach and will not restate comparative periods. We are substantially complete with our implementation plan. We plan to elect the transition package of three practical expedients permitted within the standard. In accordance with the package of practical expedients, we will not reassess initial direct costs, lease classification, or whether our contracts contain or are leases. We also made an accounting policy election to not recognize right-of-use assets and liabilities for leases with a term of 12 months or less, unless the leases include options to renew or purchase the underlying asset that are reasonably certain to be exercised.

Based on our lease portfolio as of December 31, 2018, we plan to recognize an operating lease liability and related right-of-use asset on our balance sheet of approximately $2.6 billion, which represents the present value of our future minimum lease payments related to operating leases, primarily related to leases of real estate and aircraft. We do not anticipate material changes to our income statement or our statement of cash flows.

NOTE 2. REVENUE RECOGNITION

Revenue Recognition

Substantially all of our revenues are from contracts associated with the pick-up, transportation and delivery of packages and freight (referred to hereafter as "transportation services"), whether carried out by or arranged by UPS, both domestically and internationally, which generally occurs over a short period of time. Additionally, we provide value-added logistics services to customers through our global network of company-owned and leased distribution centers and field stocking locations, both domestically and internationally.

Disaggregation of Revenue

	Year Ended December 31,		
	2018	2017	2016
Revenue:			
Next Day Air	$ 7,618	$ 7,088	$ 6,752
Deferred	4,752	4,422	4,080
Ground	31,223	29,251	27,452
U.S. Domestic Package	$ 43,593	$ 40,761	$ 38,284
Domestic	$ 2,874	$ 2,646	$ 2,441
Export	10,973	10,170	9,369
Cargo & Other	595	526	536
International Package	$ 14,442	$ 13,342	$ 12,346
Forwarding	$ 6,580	$ 5,674	$ 4,873
Logistics	3,234	3,017	2,644
Freight	3,218	3,000	2,737
Other	794	791	726
Supply Chain & Freight	$ 13,826	$ 12,482	$ 10,980
Consolidated revenue	$ 71,861	$ 66,585	$ 61,610

We account for a contract when both parties have approved the contract and are committed to perform their obligations, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable. See note 1 for the adoption of new accounting standards.

Performance Obligations

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the basis of revenue recognition in accordance with U.S. GAAP. To determine the proper revenue recognition method for contracts, we evaluate whether two or more contracts should be combined and accounted for as one single contract and whether the combined or single contract should be accounted for as more than one performance obligation. This evaluation requires judgment, and the decision to combine a group of contracts or separate the combined or single contract into multiple performance obligations could change the amount of revenue and profit recorded in a given period. For most of our contracts, the customer contracts with us to provide distinct services within a contract, such as transportation services. The vast majority of our contracts with customers for transportation services include only one performance obligation, the transportation services themselves. However, if a contract is separated into more than one performance obligation, we allocate the total transaction price to each performance obligation in an amount based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. We frequently sell standard transportation services with observable standalone sales prices. In these instances, the observable standalone sales are used to determine the standalone selling price.

In certain business units, such as Logistics, we sell customized, customer-specific solutions in which we provide a significant service of integrating a complex set of tasks and components into a single capability (even if that single capability results in the delivery of multiple units). Hence, the entire contract is accounted for as one performance obligation. In these cases we typically use the expected cost plus a margin approach to estimate the standalone selling price of each performance obligation.

Satisfaction of Performance Obligations

We generally recognize revenue over time as we perform the services in the contract because of the continuous transfer of control to the customer. Our customers receive the benefit of our services as the goods are transported from one location to another. Further, if we were unable to complete delivery to the final location, another entity would not need to reperform the transportation service already performed.

As control transfers over time, revenue is recognized based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. We use the cost-to-cost measure of progress for our package delivery contracts because it best depicts the transfer of control to the customer which occurs as we incur costs on our contracts. Under the cost-to-cost measure of progress, the extent of progress towards completion is measured based on the ratio of costs incurred to date to the total estimated costs at completion of the performance obligation. Revenues, including ancillary or accessorial fees and reductions for estimated customer incentives, are recorded proportionally as costs are incurred. Costs to fulfill include labor and other direct costs and an allocation of indirect costs. For our freight and freight forwarding contracts, an output method of progress based on time-in-transit is utilized as the timing of costs incurred does not best depict the transfer of control to the customer. In our Logistics business we have a right to consideration from customers in an amount that corresponds directly with the value to the customers of our performance completed to date, and as such we recognize revenue in the amount to which we have a right to invoice the customer.

Variable Consideration

It is common for our contracts to contain customer incentives, guaranteed service refunds or other provisions that can either increase or decrease the transaction price. These variable amounts are generally awarded upon achievement of certain incentive tiers or performance metrics. We estimate variable consideration at the most likely amount to which we expect to be entitled. We include estimated amounts of revenue, which may be reduced by incentives or other contract provisions, in the transaction price to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. Our estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based on an assessment of anticipated customer spending and all information (historical, current and forecasted) that is reasonably available to us.

Contract Modifications

Contracts are often modified to account for changes in the rates we charge our customers or to add additional distinct services. We consider contract modifications to exist when the modification either creates new or changes the existing enforceable rights and obligations. Contract modifications that add additional distinct goods or services are treated as separate contracts. Contract modifications that do not add distinct goods or services typically change the price of existing services. These contract modifications will be accounted for prospectively as the remaining performance obligations are distinct.

Payment Terms

Under the typical payment terms of our customer contracts, the customer pays at periodic intervals (i.e., every 14 days, 30 days, 45 days, etc.) for shipments included on invoices received. Invoices are generated each week on the week-ending day, which is Saturday for the majority of our U.S. Domestic Package business, but could be another day depending on the business unit or the specific agreement with the customer. It is not customary business practice to extend payment terms past 90 days, and as such, we do not have a practice of including a significant financing component within our revenue contracts with customers.

Principal vs. Agent Considerations

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. U.S. GAAP requires us to evaluate whether our businesses themselves promise to transfer services to the customer (as the principal) or to arrange for services to be provided by another party (as the agent) using a control model. Based on our evaluation of the control model, we determined that all of our major businesses act as the principal rather than the agent within their revenue arrangements. This required a change in reporting for certain of our Supply Chain & Freight businesses where previously revenue was reported net of associated purchased transportation costs. Revenue and the associated purchased transportation costs are now both reported on a gross basis within our statements of consolidated income.

Contract Assets and Liabilities

Contract assets include billed and unbilled amounts resulting from in-transit packages, as we have an unconditional right to payment only once all performance obligations have been completed (i.e., packages have been delivered), and our right to payment is not solely based on the passage of time. Amounts may not exceed their net realizable value. Contract assets are generally classified as current and the full balance is converted each quarter based on the short-term nature of the transactions.

Contract liabilities consist of advance payments and billings in excess of revenue as well as deferred revenue. Advance payments and billings in excess of revenue represent payments received from our customers that will be earned over the contract term. Deferred revenue represents the amount of consideration due from customers related to in-transit shipments that has not yet been recognized as revenue based on our selected measure of progress. We classify advance payments and billings in excess of revenue as either current or long-term, depending on the period over which the advance payment will be earned. We classify deferred revenue as current based on the timing of when we expect to recognize revenue, which typically occurs within a short window after period-end. The full balance of deferred revenue is converted each quarter based on the short-term nature of the transactions. Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. In order to determine revenue recognized in the period from contract liabilities, we first allocate revenue to the individual contract liability balance outstanding at the beginning of the period until the revenue exceeds that deferred revenue balance.

Contract assets related to in-transit packages were $234 and $170 million at December 31, 2018 and 2017, respectively, net of deferred revenue related to in-transit packages of $236 and $174 million at December 31, 2018 and 2017, respectively. Contract assets are included within "Other current assets" in the consolidated balance sheets. Short-term contract liabilities related to advanced payments from customers were $5 and $31 million at December 31, 2018 and 2017, respectively. Short-term contract liabilities are included within "Other current liabilities" in the consolidated balance sheets. Long-term contract liabilities related to advanced payments from customers were $26 million at December 31, 2018 and $0 at December 31, 2017, respectively. Long-term contract liabilities are included within "Other Non-Current liabilities" in the consolidated balance sheets.

NOTE 3. INVESTMENTS AND RESTRICTED CASH

The following is a summary of marketable securities classified as trading and available-for-sale at December 31, 2018 and 2017 (in millions):

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2018				
Current trading marketable securities:				
Corporate debt securities	$ 137	$ —	$ —	$ 137
Equity securities	2	—	—	2
Total trading marketable securities	139	—	—	139
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	297	1	(1)	297
Mortgage and asset-backed debt securities	82	—	(1)	81
Corporate debt securities	275	—	(2)	273
Non-U.S. government debt securities	20	—	—	20
Total available-for-sale marketable securities	674	1	(4)	671
Total current marketable securities	$ 813	$ 1	$ (4)	$ 810

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2017				
Current trading marketable securities:				
Corporate debt securities	$ 75	$ —	$ —	$ 75
Carbon credit investments[1]	77	16	—	93
Total trading marketable securities	152	16	—	168
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	286	—	(3)	283
Mortgage and asset-backed debt securities	86	—	—	86
Corporate debt securities	201	1	(1)	201
Equity securities	2	—	—	2
Non-U.S. government debt securities	9	—	—	9
Total available-for-sale marketable securities	584	1	(4)	581
Total current marketable securities	$ 736	$ 17	$ (4)	$ 749

[1] These investments are hedged with forward contracts that are not designated in hedging relationships. See note 15 for offsetting statement of consolidated income impact.

Total current marketable securities that were pledged as collateral for our self-insurance requirements had an estimated fair value of $587 and $579 million at December 31, 2018 and 2017, respectively.

There were no gross realized gains on sales of available-for-sale securities in 2018 or 2017. Gross realized gains on sales of available-for-sale securities totaled $1 million in 2016. The gross realized losses on sales of available-for-sale securities totaled $4, $2 and $1 million in 2018, 2017, and 2016, respectively.

There were no material impairment losses recognized on marketable securities during 2018, 2017 or 2016.

Investment Other-Than-Temporary Impairments

We have concluded that no material other-than-temporary impairment losses existed as of December 31, 2018. In making this determination, we considered the financial condition and prospects of the issuer, the magnitude of the losses compared with the investments' cost, the probability that we will be unable to collect all amounts due according to the contractual terms of the security, the credit rating of the security and our ability and intent to hold these investments until the anticipated recovery in market value occurs.

Unrealized Losses

The following table presents the age of gross unrealized losses and fair value by investment category for all securities in a loss position as of December 31, 2018 (in millions):

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. government and agency debt securities	$ 54	$ —	$ 111	$ (2)	$ 165	$ (2)
Mortgage and asset-backed debt securities	24	—	36	(1)	60	(1)
Corporate debt securities	99	—	81	(2)	180	(2)
Non-U.S. government debt securities	—	—	5	—	5	—
Total marketable securities	$ 177	$ —	$ 233	$ (5)	$ 410	$ (5)

The unrealized losses for the corporate debt securities, mortgage and asset-backed debt securities and U.S. government and agency debt securities are primarily due to changes in market interest rates. We have both the intent and ability to hold the securities contained in the previous table for a time necessary to recover the cost basis.

Maturity Information

The amortized cost and estimated fair value of marketable securities at December 31, 2018, by contractual maturity, are shown below (in millions). Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations without prepayment penalties.

	Cost	Estimated Fair Value
Due in one year or less	$ 268	$ 267
Due after one year through three years	448	447
Due after three years through five years	22	22
Due after five years	73	72
	811	808
Equity securities	2	2
	$ 813	$ 810

Non-Current Investments and Restricted Cash

Investments and Restricted Cash are primarily associated with our self-insurance requirements. We entered into an escrow agreement with an insurance carrier to guarantee our self-insurance obligations. This agreement requires us to provide collateral to the insurance carrier, which is invested in money market funds and corporate and municipal bonds. Collateral provided is reflected in "Cash, Cash Equivalents and Restricted Cash" in the statements of consolidated cash flows. At December 31, 2018 and 2017, we had $142 and $449 million in self-insurance investments and restricted cash, respectively.

We held a $19 million investment in a variable life insurance policy to fund benefits for the UPS Excess Coordinating Benefit Plan at December 31, 2018 and 2017, respectively. The quarterly change in investment fair value is recognized in "Investment income (expense) and other" on the statements of consolidated income. Additionally, we held escrowed cash related to the acquisition and disposition of certain assets, primarily real estate, of $9 and $15 million at December 31, 2018 and 2017, respectively.

The amounts described above are classified as “Non-current Investments and Restricted Cash” in the consolidated balance sheets.

A reconciliation of cash and cash equivalents and restricted cash from the consolidated balance sheets to the statements of consolidated cash flows in shown below (in millions):

	December 31, 2018	December 31, 2017	December 31, 2016
Cash and cash equivalents	$ 4,225	$ 3,320	$ 3,476
Restricted cash	$ 142	$ 449	$ 445
Total cash, cash equivalents and restricted cash	$ 4,367	$ 3,769	$ 3,921

Fair Value Measurements

Marketable securities utilizing Level 1 inputs include active exchange-traded equity securities and equity index funds, and most U.S. Government debt securities, as these securities all have quoted prices in active markets. Marketable securities utilizing Level 2 inputs include asset-backed securities, corporate bonds and municipal bonds. These securities are valued using market corroborated pricing, matrix pricing or other models that utilize observable inputs such as yield curves.

We maintain holdings in certain investment partnerships that are measured at fair value utilizing Level 3 inputs (classified as “other non-current investments” in the tables below, and as “other non-current assets” in the consolidated balance sheets). These partnership holdings do not have quoted prices, nor can they be valued using inputs based on observable market data. These investments are valued internally using a discounted cash flow model with two significant inputs: (1) the after-tax cash flow projections for each partnership, and (2) a risk-adjusted discount rate consistent with the duration of the expected cash flows for each partnership. The weighted-average discount rates used to value these investments were 8.16% and 7.56% as of December 31, 2018 and 2017, respectively. These inputs and the resulting fair values are updated on a quarterly basis.

The following table presents information about our investments measured at fair value on a recurring basis as of December 31, 2018 and 2017, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2018				
Marketable securities:				
U.S. government and agency debt securities	$ 297	$ —	$ —	$ 297
Mortgage and asset-backed debt securities	—	81	—	81
Corporate debt securities	—	410	—	410
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	20	—	20
Total marketable securities	297	513	—	810
Other non-current investments	19	—	2	21
Total	$ 316	$ 513	$ 2	$ 831

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2017				
Marketable securities:				
U.S. government and agency debt securities	$ 283	$ —	$ —	$ 283
Mortgage and asset-backed debt securities	—	86	—	86
Corporate debt securities	—	276	—	276
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	9	—	9
Carbon credit investments	93	—	—	93
Total marketable securities	376	373	—	749
Other non-current investments	19	—	6	25
Total	$ 395	$ 373	$ 6	$ 774

There were no transfers of investments between Level 1 and Level 2 during the years ended December 31, 2018 and 2017.

NOTE 4. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including both owned assets as well as assets subject to capital leases, consists of the following as of December 31, 2018 and 2017 (in millions):

	2018	2017
Vehicles	$ 9,820	$ 9,365
Aircraft	17,499	16,248
Land	2,000	1,582
Buildings	4,808	4,035
Building and leasehold improvements	4,323	3,934
Plant equipment	11,833	9,387
Technology equipment	2,093	1,907
Equipment under operating leases	—	29
Construction-in-progress	2,112	2,239
	54,488	48,726
Less: Accumulated depreciation and amortization	(27,912)	(26,608)
	$ 26,576	$ 22,118

As part of our ongoing investment in transformation, in 2018 we made prospective revisions to our estimates of useful lives for building improvements, vehicles and plant equipment which in general had the effect of lengthening the useful lives of these categories. This resulted in a decrease in depreciation expense and an increase in operating income of $286 million and an increase to net income of $228 million or $0.26 per share on a basic and diluted basis. Separately, capital investments in additional property, plant and equipment, net of disposals and fully-depreciated assets, resulted in an increase in depreciation expense of $257 million and a decrease to net income of $205 million or $0.24 per share on a basic and diluted basis in 2018. Combining both impacts resulted in a net decrease of $29 million to depreciation expense, and an increase to net income of $23 million or $0.03 per share on both a basic and diluted basis in 2018.

We continually monitor our aircraft fleet utilization in light of current and projected volume levels, aircraft fuel prices and other factors. Additionally, we monitor our other property, plant and equipment categories for any indicators that the carrying value of the assets may not be recoverable. No impairment charges on property, plant and equipment were recorded in 2018, 2017 or 2016.

NOTE 5. COMPANY - SPONSORED EMPLOYEE BENEFIT PLANS

We sponsor various retirement and pension plans, including defined benefit and defined contribution plans which cover our employees worldwide.

U.S. Pension Benefits

In the U.S. we maintain the following single-employer defined benefit pension plans: the UPS Retirement Plan, the UPS Pension Plan, the UPS/IBT Full-Time Employee Pension Plan and the UPS Excess Coordinating Benefit Plan, a non-qualified plan.

The UPS Retirement Plan is noncontributory and includes substantially all eligible employees of participating domestic subsidiaries who are not members of a collective bargaining unit, as well as certain employees covered by a collective bargaining agreement. This plan generally provides for retirement benefits based on average compensation levels earned by employees prior to retirement. Benefits payable under this plan are subject to maximum compensation limits and the annual benefit limits for a tax-qualified defined benefit plan as prescribed by the Internal Revenue Service ("IRS").

The UPS Pension Plan is noncontributory and includes certain eligible employees of participating domestic subsidiaries and members of collective bargaining units that elect to participate in the plan. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS/IBT Full-Time Employee Pension Plan is noncontributory and includes employees that were previously members of the Central States Pension Fund, a multiemployer pension plan, in addition to other eligible employees who are covered under certain collective bargaining agreements. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS Excess Coordinating Benefit Plan is a non-qualified plan that provides benefits to certain participants in the UPS Retirement Plan for amounts that exceed the benefit limits described above.

In the year ended December 31, 2017, we amended the UPS Retirement Plan and the UPS Excess Coordinating Benefit Plan to cease accruals of additional benefits for future service and compensation for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations for the affected pension plans as of June 30, 2017, resulting in a net actuarial gain of $569 million. This reflected a curtailment gain of $1.525 billion resulting from the benefit plan changes that was partially offset by net actuarial losses of $956 million, driven by a reduction of approximately 32 basis points in the discount rate compared to December 31, 2016, offset by actual asset returns approximately 275 basis points above our expected return as of the remeasurement date. The net curtailment gain reduced the actuarial loss recorded in "Accumulated other comprehensive loss" in the equity section of the consolidated balance sheet. As actuarial losses were within the corridor (defined as 10% of the greater of the fair value of plan assets and the plan's projected benefit obligation), there was no impact to the statement of consolidated income as a result of this remeasurement.

The UPS Retirement Plan was closed to new non-union participants effective July 1, 2016. The Company amended the UPS 401(k) Savings Plan so that employees who previously would have been eligible for participation in the UPS Retirement Plan receive, in addition to current benefits under the UPS 401(k) Savings Plan, a UPS Retirement Contribution. For employees eligible to receive the Retirement Contribution, UPS will contribute 3% to 8% of eligible pay to the UPS 401(k) Savings Plan based on years of vesting service and business unit. Contributions will be made annually in cash to the accounts of participants.

During the fourth quarter of 2016, certain former U.S. employees were offered the option to receive a one-time payment of their vested pension benefit. Approximately 22,000 participants accepted this option, accelerating $685 million in benefit payments during 2016 while reducing the number of participants who are due future payments from U.S. pension plans. As the cost of these settlements did not exceed the plans' service cost and interest cost for the year, the impact of the settlement was not recognized in earnings.

International Pension Benefits

We also sponsor various defined benefit plans covering certain of our international employees. The majority of our international obligations are for defined benefit plans in Canada and the United Kingdom. In addition, many of our international employees are covered by government-sponsored retirement and pension plans. We are not directly responsible for providing benefits to participants of government-sponsored plans.

U.S. Postretirement Medical Benefits

We also sponsor postretirement medical plans in the U.S. that provide healthcare benefits to our retirees who meet certain eligibility requirements and who are not otherwise covered by multiemployer plans. Generally, this includes employees with at least 10 years of service who have reached age 55 and employees who are eligible for postretirement medical benefits from a Company-sponsored plan pursuant to collective bargaining agreements. We have the right to modify or terminate certain of these plans. These benefits have been provided to certain retirees on a noncontributory basis; however, in many cases, retirees are required to contribute all or a portion of the total cost of the coverage.

Defined Contribution Plans

We also sponsor several defined contribution plans for all employees not covered under collective bargaining agreements, and for certain employees covered under collective bargaining agreements. The Company matches, in shares of UPS common stock or cash, a portion of the participating employees’ contributions. Matching contributions charged to expense were $127, $119 and $111 million for 2018, 2017 and 2016, respectively.

Effective June 23, 2017, the Company amended the UPS 401(k) Savings Plan so that non-union employees who currently participate in the UPS Retirement Plan will, in addition to current benefits under the UPS 401(k) Savings Plan, earn a UPS Retirement Contribution beginning January 1, 2023. UPS will contribute 5% to 8% of eligible compensation to the UPS 401(k) Savings Plan based on years of vesting service. The amendment also provides for transition contributions for certain participants. There was no impact to the statement of consolidated income for 2018 and 2017 as a result of this change.

As noted above, effective July 1, 2016, the UPS 401(k) Savings Plan was amended so that newly hired employees who previously would have been eligible for participation in the UPS Retirement Plan began receiving a UPS Retirement Contribution. Contributions associated with this amendment charged to expense were $28, $23 and $4 million for 2018, 2017 and 2016 respectively.

Contributions are also made to defined contribution money purchase plans under certain collective bargaining agreements. Amounts charged to expense were $92, $91 and $82 million for 2018, 2017 and 2016, respectively.

Net Periodic Benefit Cost

Information about net periodic benefit cost for the company-sponsored pension and postretirement defined benefit plans is as follows (in millions):

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Net Periodic Benefit Cost:									
Service cost	$ 1,661	$ 1,543	$ 1,412	$ 29	$ 29	$ 28	$ 62	$ 60	$ 49
Interest cost	1,799	1,813	1,828	104	112	124	45	40	41
Expected return on assets	(3,201)	(2,883)	(2,516)	(8)	(7)	(6)	(77)	(66)	(58)
Amortization of prior service cost	193	192	166	7	7	5	1	1	1
Actuarial (gain) loss	1,603	729	2,520	—	53	17	24	18	114
Curtailment and settlement loss	—	—	—	—	—	—	—	2	—
Net periodic benefit cost	$ 2,055	$ 1,394	$ 3,410	$ 132	$ 194	$ 168	$ 55	$ 55	$ 147

Actuarial Assumptions

The table below provides the weighted-average actuarial assumptions used to determine the net periodic benefit cost.

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Discount rate	3.84 %	4.41 %	4.86 %	3.82 %	4.23 %	4.79 %	2.78 %	2.75 %	3.51 %
Rate of compensation increase	4.25 %	4.27 %	4.29 %	N/A	N/A	N/A	3.22 %	3.17 %	3.04 %
Expected return on assets	7.75 %	8.75 %	8.75 %	7.20 %	8.75 %	8.75 %	5.76 %	5.65 %	5.73 %
Cash balance interest credit rate	2.50 %	2.91 %	3.36 %	N/A	N/A	N/A	3.07 %	2.65 %	3.00 %

The table below provides the weighted-average actuarial assumptions used to determine the benefit obligations of our plans.

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2018	2017	2018	2017	2018	2017
Discount rate	4.50 %	3.84 %	4.51 %	3.82 %	2.94 %	2.78 %
Rate of compensation increase	4.25 %	4.25 %	N/A	N/A	3.24 %	3.23 %
Cash balance interest credit rate	2.98 %	2.50 %	N/A	N/A	3.17 %	3.07 %

A discount rate is used to determine the present value of our future benefit obligations. To determine the discount rate for our U.S. pension and postretirement benefit plans, we use a bond matching approach to select specific bonds that would satisfy our projected benefit payments. We believe the bond matching approach reflects the process we would employ to settle our pension and postretirement benefit obligations. For our international plans, the discount rate is determined by matching the expected cash flows of a sample plan of similar duration to a yield curve based on long-term, high quality fixed income debt instruments available as of the measurement date. These assumptions are updated each measurement date, which is typically annually.

As of December 31, 2018, the impact of each basis point change in the discount rate on the projected benefit obligation of the pension and postretirement medical benefit plans is as follows (in millions):

	Increase (Decrease) in the Projected Benefit Obligation	
	Pension Benefits	**Postretirement Medical Benefits**
One basis point increase in discount rate	$ (69)	$ (2)
One basis point decrease in discount rate	73	2

The Society of Actuaries ("SOA") published mortality tables and improvement scales are used in developing the best estimate of mortality for U.S. plans. In October 2018, the SOA published an updated improvement scale which reduced expected mortality improvements from previously published scales. Based on our perspective of future longevity, we updated the mortality assumptions to incorporate this updated scale for purposes of measuring pension and other postretirement benefit obligations.

Assumptions for the expected return on plan assets are used to determine a component of net periodic benefit cost for the year. The assumption for our U.S. plans is developed using a long-term projection of returns for each asset class. Our asset allocation targets are reviewed and, if necessary, updated taking into consideration plan changes, funded status and actual performance. The expected return for each asset class is a function of passive, long-term capital market assumptions and excess returns generated from active management. The capital market assumptions used are provided by independent investment advisors, while excess return assumptions are supported by historical performance, fund mandates and investment expectations.

For plans outside the U.S., consideration is given to local market expectations of long-term returns. Strategic asset allocations are determined by plan based on the nature of liabilities and considering the demographic composition of the plan participants.

Actuarial Assumptions - Central States Pension Fund

UPS was a contributing employer to the Central States Pension Fund (“CSPF”) until 2007 when we withdrew from the CSPF and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters (“IBT”), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan (“UPS/IBT Plan”) for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 (“the UPS Transfer Group”) in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF. Under our withdrawal agreement with the CSPF, benefits to the UPS Transfer Group cannot be reduced without our consent and can only be reduced in accordance with applicable law.

In December 2014, Congress passed the Multiemployer Pension Reform Act (“MPRA”). This change in law for the first time permitted multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury (“Treasury”). In May 2016, Treasury rejected the proposed plan submitted by the CSPF. In the first quarter of 2018, Congress established a Joint Select Committee to develop a recommendation to improve the solvency of multiemployer plans and the Pension Benefit Guaranty Corporation (“PBGC”) before a November 30, 2018 deadline. While the Committee’s efforts failed to meet its deadline, the Committee made significant progress towards finding solutions that will address the long term solvency of multiemployer pension plans. UPS will continue to work with all stakeholders, including legislators and regulators, to implement an acceptable solution.

The CSPF has said that it believes a legislative solution to its funded status is necessary or that it will become insolvent in 2025, and we expect that the CSPF will continue to explore options to avoid insolvency. Numerous factors could affect the CSPF’s funded status and UPS’s potential obligation to pay coordinating benefits under the UPS/IBT Plan. Any obligation to pay coordinating benefits will be subject to a number of significant uncertainties, including whether the CSPF submits a revised MPRA filing and the terms thereof, or whether it otherwise seeks federal government assistance, as well as the terms of any applicable legislation, the extent to which benefits are paid by the PBGC and our ability to successfully defend legal positions we may take in the future under the MPRA, including the suspension ordering provisions, our withdrawal agreement and other applicable law.

We account for the potential obligation to pay coordinating benefits to the UPS Transfer Group under Accounting Standards Codification Topic 715- Compensation- Retirement Benefits ("ASC 715"), which requires us to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely outcome to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities.

As such, our best estimate of the next most likely outcome at the measurement date is that the CSPF submits and implements another benefit reduction plan under the MPRA during 2019. We believe any MPRA filing would be designed to forestall insolvency by reducing benefits to participants other than the UPS Transfer Group to the maximum extent permitted, and then reducing benefits to the UPS Transfer Group by a lesser amount.

We have evaluated this outcome using a deterministic cash flow projection, reflecting updated estimated CSPF cash flows and investment earnings, the lack of legislative action and the absence of a MPRA filing by the CSPF in 2018. As a result, at the December 31, 2018 measurement date, the best estimate of our projected benefit obligation increased by $1.6 billion for coordinating benefits that may be required to be directly provided by the UPS/IBT Plan to the UPS Transfer Group.

The future value of this estimate will be influenced by the terms and timing of any MPRA filing, changes in our discount rate, rate of return on assets and other actuarial assumptions, presumed solvency of the PBGC, as well as potential solutions resulting from federal government intervention. Any such event may result in a decrease or an increase in the best estimate of our projected benefit obligation. If the uncertainties are not resolved, it is reasonably possible that our projected benefit obligation could increase by approximately $2.4 billion, resulting in a total obligation for coordinating benefits of approximately $4.0 billion as previously disclosed. If a future change in law occurs, it may be a significant event requiring an interim remeasurement of the UPS/IBT Plan at the date the law is enacted. We will continue to assess the impact of these uncertainties on our projected benefit obligation in accordance with ASC 715.

Other Actuarial Assumptions

Healthcare cost trends are used to project future postretirement medical benefits payable from our plans. For year-end 2018 U.S. plan obligations, future postretirement medical benefit costs were forecasted assuming an initial annual rate of increase of 6.0%, decreasing to 4.5% by the year 2022 and with consistent annual increases at that ultimate level thereafter.

Funded Status

The following table discloses the funded status of our plans and the amounts recognized in our consolidated balance sheets as of December 31st (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2018	2017	2018	2017	2018	2017
Funded Status:						
Fair value of plan assets	$ 39,554	$ 41,932	$ 26	$ 183	$ 1,284	$ 1,333
Benefit obligation	(45,333)	(45,847)	(2,510)	(2,792)	(1,552)	(1,651)
Funded status recognized at December 31	$ (5,779)	$ (3,915)	$ (2,484)	$ (2,609)	$ (268)	$ (318)
Funded Status Recognized in our Balance Sheet:						
Other non-current assets	$ —	$ 284	$ —	$ —	$ 35	$ 35
Other current liabilities	(20)	(18)	(195)	(77)	(4)	(5)
Pension and postretirement benefit obligations	(5,759)	(4,181)	(2,289)	(2,532)	(299)	(348)
Net liability at December 31	$ (5,779)	$ (3,915)	$ (2,484)	$ (2,609)	$ (268)	$ (318)

Amounts Recognized in AOCI:						
Unrecognized net prior service cost	$ (1,018)	$ (880)	$ (21)	$ (29)	$ (14)	$ (2)
Unrecognized net actuarial gain (loss)	(3,967)	(4,277)	(32)	(195)	(100)	(126)
Gross unrecognized cost at December 31	(4,985)	(5,157)	(53)	(224)	(114)	(128)
Deferred tax assets (liabilities) at December 31	1,205	1,840	13	69	28	31
Net unrecognized cost at December 31	$ (3,780)	$ (3,317)	$ (40)	$ (155)	$ (86)	$ (97)

The accumulated benefit obligation for our pension plans as of the measurement dates in 2018 and 2017 was $45.704 and $45.776 billion, respectively.

Benefit payments under the pension plans include $23 and $22 million paid from employer assets in 2018 and in 2017, respectively. Benefit payments (net of participant contributions) under the postretirement medical benefit plans include $87 and $93 million paid from employer assets in 2018 and 2017, respectively. Such benefit payments from employer assets are also categorized as employer contributions.

At December 31, 2018 and 2017, the projected benefit obligation, the accumulated benefit obligation and the fair value of plan assets for pension plans with benefit obligations in excess of plan assets were as follows (in millions):

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	
	2018	2017	2018	2017
U.S. Pension Benefits:				
Projected benefit obligation	$ 45,333	$ 37,113	$ 45,333	$ 37,113
Accumulated benefit obligation	44,284	35,538	44,284	35,538
Fair value of plan assets	39,554	32,914	39,554	32,914
International Pension Benefits:				
Projected benefit obligation	$ 630	$ 1,138	$ 630	$ 647
Accumulated benefit obligation	539	992	539	549
Fair value of plan assets	339	798	339	342

The accumulated postretirement benefit obligation presented in the funded status table exceeds plan assets for all U.S. postretirement medical benefit plans.

Benefit Obligations and Fair Value of Plan Assets

The following table provides a reconciliation of the changes in the plans' benefit obligations and fair value of plan assets as of the respective measurement dates in each year (in millions).

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2018	2017	2018	2017	2018	2017
Benefit Obligations:						
Projected benefit obligation at beginning of year	$ 45,847	$ 41,069	$ 2,792	$ 2,730	$ 1,651	$ 1,425
Service cost	1,661	1,543	29	29	62	60
Interest cost	1,799	1,813	104	112	45	40
Gross benefits paid	(1,390)	(1,309)	(263)	(264)	(33)	(32)
Plan participants' contributions	—	—	26	26	3	3
Plan amendments[1]	331	—	—	—	13	—
Actuarial (gain)/loss	(2,915)	4,256	(178)	159	(81)	26
Foreign currency exchange rate changes	—	—	—	—	(110)	129
Curtailments and settlements	—	(1,525)	—	—	(1)	(3)
Other	—	—	—	—	3	3
Projected benefit obligation at end of year	$ 45,333	$ 45,847	$ 2,510	$ 2,792	$ 1,552	$ 1,651

[1] Resulting from a new Teamster national master agreement.

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2018	2017	2018	2017	2018	2017
Fair Value of Plan Assets:						
Fair value of plan assets at beginning of year	$ 41,932	$ 31,215	$ 183	$ 15	$ 1,333	$ 1,092
Actual return on plan assets	(1,007)	4,717	(7)	(2)	(6)	96
Employer contributions	19	7,309	87	408	80	77
Plan participants' contributions	—	—	26	26	3	3
Gross benefits paid	(1,390)	(1,309)	(263)	(264)	(33)	(32)
Foreign currency exchange rate changes	—	—	—	—	(92)	100
Curtailments and settlements	—	—	—	—	(1)	(3)
Fair value of plan assets at end of year	$ 39,554	$ 41,932	$ 26	$ 183	$ 1,284	$ 1,333

<u>2018 - $3.174 billion pre-tax actuarial gain related to benefit obligation:</u>

- *Discount Rates* ($4.829 billion pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 3.81% at December 31, 2017 to 4.45% at December 31, 2018, primarily due to both an increase in U.S. treasury yields and an increase in credit spreads on AA-rated corporate bonds in 2018.

- *Coordinating benefits attributable to the Central States Pension Fund* ($1.550 billion pre-tax loss): This represents our current best estimate of potential coordinating benefits that may be required to be paid related to the Central States Pension Fund.

- *Demographic and Assumption Changes* ($105 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

2017 - $4.441 billion pre-tax actuarial loss related to benefit obligation:

- *Discount Rates* ($4.124 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.34% at December 31, 2016 to 3.81% at December 31, 2017, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2017.

- *Demographic and Assumption Changes* ($317 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

Pension and Postretirement Plan Assets

Under the governance of plan trustees, the investment committee establishes investment guidelines and strategies and regularly monitors the performance of investments and investment managers. The investment guidelines address items such as establishing appropriate governance provisions; defining investment objectives; determining strategic asset allocation; monitoring and reporting the investments on a regular basis; appointing/ dismissing investment managers, custodians, consultants and advisors; risk management; determining/defining the mandates for investment managers; rebalancing of assets and determining investment restrictions/prohibited investments.

Pension assets are invested in accordance with applicable laws and regulations. The primary long-term investment objectives for pension assets are to: (1) provide for a reasonable amount of long-term growth of capital given prudent levels of risk exposure while minimizing permanent loss of capital; (2) generate investment results that meet or exceed the long-term rate of return assumption for the plans and (3) match the duration of the liabilities and assets of the plans to reduce the need for large employer contributions in the future. In furtherance of these objectives, investment managers are engaged to actively manage assets within the guidelines and strategies set forth by the Investment Committee. Active managers are monitored regularly and their performance is compared to applicable benchmarks.

Fair Value Measurements

Pension assets utilizing Level 1 inputs include equity investments, corporate debt instruments and U.S. government securities. Fair values were determined by closing prices for those securities traded on national stock exchanges, while securities traded in the over-the-counter market and listed securities for which no sale was reported on the valuation date are valued at the mean between the last reported bid and asked prices.

Level 2 assets include certain bonds that are valued based on yields currently available on comparable securities of other issues with similar credit ratings; mortgage-backed securities that are valued based on cash flow and yield models using acceptable modeling and pricing conventions; and certain investments that are pooled with other investments in a commingled fund. We value our investments in commingled funds by taking the percentage ownership of the underlying assets, each of which has a readily determinable fair value.

Fair value estimates for certain investments are based on unobservable inputs that are not corroborated by observable market data and are thus classified as Level 3.

Investments that do not have a readily determinable fair value, and which provide a net asset value ("NAV" or its equivalent) developed consistent with FASB measurement principles, are valued using NAV as a practical expedient. These investments are not classified in Levels 1, 2, or 3 of the fair value hierarchy but instead included in the subtotals within the tables shown below. Such investments include hedge funds, risk parity funds, real estate investments, private debt and private equity funds. Investments in hedge funds are valued using the reported NAV as of December 31st. Real estate investments, private debt and private equity funds are valued using fair values per the most recent partnership audited financial reports, and adjusted, as appropriate, for any lag between the date of the financial reports and December 31st. Due to the inherent limitations in obtaining a readily determinable fair value measurement for alternative investments, the fair values reported may differ from the values that would have been used had a ready market for the alternative investments existed. These investments are described further below:

- Hedge Funds: Plan assets are invested in hedge funds that pursue multiple strategies to diversify risk and reduce volatility. Most of these hedge funds allow redemptions either quarterly or semi-annually after a two to three month notice period, while others allow for redemption after only a brief notification period with no restriction on redemption frequency. No unfunded commitments existed with respect to hedge funds as of December 31, 2018.

- Risk Parity Funds: Plan assets are invested in risk parity strategies in order to provide diversification and balance risk/return objectives. These strategies reflect a multi-asset class balanced risk approach generally consisting of equity, interest rates, credit and commodities. These funds allow for monthly redemptions with only a brief notification period. No unfunded commitments existed with respect to risk parity funds as of December 31, 2018.

- Real Estate, Private Debt and Private Equity Funds: Plan assets are invested in limited partnership interests in various private equity, private debt and real estate funds. Limited provision exists for the redemption of these interests by the limited partners that invest in these funds until the end of the term of the partnerships, typically ranging between 10 and 15 years from the date of inception. An active secondary market exists for similar partnership interests, although no particular value (discount or premium) can be guaranteed. At December 31, 2018, unfunded commitments to such limited partnerships totaling approximately $2.090 billion are expected to be contributed over the remaining investment period, typically ranging between three and six years.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2018 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 157	$ 108	$ 49	$ —	0.4 %	1-5
Equity Securities:						
U.S. Large Cap	5,276	2,155	3,121	—		
U.S. Small Cap	542	386	156	—		
Emerging Markets	1,859	1,436	423	—		
Global Equity	2,320	2,056	264	—		
International Equity	3,670	2,189	1,481	—		
Total Equity Securities	13,667	8,222	5,445	—	34.5	25-55
Fixed Income Securities:						
U.S. Government Securities	12,295	11,922	373	—		
Corporate Bonds	4,303	—	4,301	2		
Global Bonds	55	—	55	—		
Municipal Bonds	16	—	16	—		
Total Fixed Income Securities	16,669	11,922	4,745	2	42.1	35-55
Other Investments:						
Hedge Funds	3,154	—	1,185	—	8.0	5-15
Private Equity	2,763	—	—	—	7.0	1-10
Private Debt	836	—	178	—	2.1	1-10
Real Estate	1,989	152	53	—	5.0	1-10
Structured Products[2]	138	—	138	—	0.4	1-5
Risk Parity Funds	207	—	—	—	0.5	1-10
Total U.S. Plan Assets	$ 39,580	$ 20,404	$ 11,793	$ 2	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 45	$ 4	$ 41	—	3.5	1-10
Equity Securities:						
Local Markets Equity	171	—	171	—		
U.S. Equity	34	—	34	—		
Emerging Markets	33	33	—	—		
International / Global Equity	348	150	198	—		
Total Equity Securities	586	183	403	—	45.6	30-60
Fixed Income Securities:						
Local Government Bonds	102	24	78	—		
Corporate Bonds	195	54	141	—		
Global Bonds	27	27		—		
Total Fixed Income Securities	324	105	219	—	25.2	25-45
Other Investments:						
Real Estate	121	—	76	—	9.4	5-10
Other	208	—	191	4	16.3	1-20

Total International Plan Assets	$ 1,284	$ 292	$ 930	$ 4	100.0 %
Total Plan Assets	$ 40,864	$ 20,696	$ 12,723	$ 6	

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.
(2) Represent mortgage and asset-backed securities.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2017 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets[1]	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents[2]	$ 5,725	$ 5,292	$ 433	$ —	13.6 %	0-5
Equity Securities:						
U.S. Large Cap	5,924	3,121	2,803	—		
U.S. Small Cap	591	421	170	—		
Emerging Markets	2,101	1,669	432	—		
Global Equity	2,817	2,400	417	—		
International Equity	4,791	2,950	1,841	—		
Total Equity Securities	16,224	10,561	5,663	—	38.5	35-55
Fixed Income Securities:						
U.S. Government Securities	7,695	7,323	372	—		
Corporate Bonds	3,865	—	3,857	8		
Global Bonds	53	—	53	—		
Municipal Bonds	21	—	21	—		
Total Fixed Income Securities	11,634	7,323	4,303	8	27.6	25-35
Other Investments:						
Hedge Funds	2,910	—	1,031	—	6.9	5-15
Private Equity	2,107	—	—	—	5.0	1-10
Private Debt	953	—	237	—	2.3	1-10
Real Estate	2,031	157	139	—	4.8	1-10
Structured Products[3]	172	—	172	—	0.4	0-5
Risk Parity Funds	359	—	—	—	0.9	1-10
Total U.S. Plan Assets	$ 42,115	$ 23,333	$ 11,978	$ 8	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 78	$ 43	$ 35	—	5.8	0-10
Equity Securities:						
Local Markets Equity	213	—	213	—		
U.S. Equity	30	—	30	—		
Emerging Markets	38	38	—	—		
International / Global Equity	356	166	190	—		
Total Equity Securities	637	204	433	—	47.7	30-60
Fixed Income Securities:						
Local Government Bonds	103	25	78	—		
Corporate Bonds	198	59	139	—		
Total Fixed Income Securities	301	84	217	—	22.6	25-50
Other Investments:						
Real Estate	124	—	79	—	9.3	5-10
Other	193	—	184	—	14.6	0-20
Total International Plan Assets	$ 1,333	$ 331	$ 948	$ —	100.0 %	

Total Plan Assets	$ 43,448	$ 23,664	$ 12,926	$ 8	

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

(2) Includes $5 billion in contributions made in December 2017 that had not yet been invested according to the targeted allocations.

(3) Represents mortgage and asset-backed securities.

The following table presents the changes in the Level 3 instruments measured on a recurring basis for the years ended December 31, 2018 and 2017 (in millions).

	Corporate Bonds	Other	Total
Balance on January 1, 2017	$ —	$ —	$ —
Actual Return on Assets:			
Assets Held at End of Year	—	—	—
Assets Sold During the Year	—	—	—
Purchases	9	—	9
Sales	(1)	—	(1)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2017	$ 8	$ —	$ 8
Actual Return on Assets:			
Assets Held at End of Year	—	—	—
Assets Sold During the Year	(7)	—	(7)
Purchases	11	9	20
Sales	(10)	(5)	(15)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2018	$ 2	$ 4	$ 6

There were no UPS class A or B shares of common stock directly held in plan assets as of December 31, 2018 or December 31, 2017.

Expected Cash Flows

Information about expected cash flows for the pension and postretirement benefit plans is as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Expected Employer Contributions:			
2019 to plan trusts	$ 2,000	$ 192	$ 63
2019 to plan participants	20	74	5
Expected Benefit Payments:			
2019	$ 1,505	$ 227	$ 29
2020	1,652	233	32
2021	1,788	227	36
2022	1,930	218	41
2023	2,075	209	46
2024 - 2028	12,550	912	319

Our funding policy for U.S. plans is to contribute amounts annually that are at least equal to the amounts required by applicable laws and regulations, or to directly fund payments to plan participants, as applicable. International plans will be funded in accordance with local regulations. Additional discretionary contributions may be made when deemed appropriate to meet the long-term obligations of the plans. Expected benefit payments for pensions will be primarily paid from plan trusts. Expected benefit payments for postretirement medical benefits will be paid from plan trusts and corporate assets.

NOTE 6. MULTIEMPLOYER EMPLOYEE BENEFIT PLANS

We contribute to a number of multiemployer defined benefit plans under the terms of collective bargaining agreements that cover our union-represented employees. These plans generally provide for retirement, death and/or termination benefits for eligible employees within the applicable collective bargaining units, based on specific eligibility/participation requirements, vesting periods and benefit formulas. The risks of participating in these multiemployer plans are different from single-employer plans in the following aspects:

- Assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.

- If we negotiate to cease participating in a multiemployer plan, we may be required to pay that plan an amount based on our allocable share of its underfunded status, referred to as a "withdrawal liability". However, cessation of participation in a multiemployer plan and subsequent payment of any withdrawal liability is subject to the collective bargaining process.

- If any of the multiemployer pension plans in which we participate enter critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule, we could be required under the Pension Protection Act of 2006 to make additional surcharge contributions to the multiemployer pension plan in the amount of five to ten percent of the existing contributions required by our labor agreement. Such surcharges would cease upon the ratification of a new collective bargaining agreement, and could not recur unless a plan re-entered critical status at a later date.

The discussion that follows sets forth the financial impact on our results of operations and cash flows for the years ended December 31, 2018, 2017 and 2016, from our participation in multiemployer benefit plans. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans are determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 as described above).

The number of employees covered by our multiemployer pension plans has remained consistent over the past three years, and there have been no significant changes that affect the comparability of 2018, 2017 and 2016 contributions. We recognize expense for the contractually-required contribution for each period, and we recognize a liability for any contributions due and unpaid at the end of a reporting period.

Status of Collective Bargaining Agreements

As of December 31, 2018, we had approximately 283,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements expired on July 31, 2018. On October 5, 2018, the Teamsters declared that the tentative national master agreement for the U.S. Domestic Package business unit was considered ratified, and will be implemented as soon as five remaining local and supplemental agreements are negotiated and ratified. We remain in the process of negotiating and ratifying four of these local and supplemental agreements which, when ratified, will be retroactive to August 1, 2018. The UPS Freight business unit national master agreement was ratified on November 11, 2018.

We have approximately 2,800 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which becomes amendable on September 1, 2021.

Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727. On February 8, 2019, the airline mechanics who are covered by this agreement voted to ratify a new contract which will become amendable November 1, 2023. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers (“IAM”) that will expire on July 31, 2019.

Multiemployer Pension Plans

The following table outlines our participation in multiemployer pension plans for the periods ended December 31, 2018, 2017 and 2016, and sets forth our calendar year contributions and accruals for each plan. The "EIN/Pension Plan Number" column provides the Employer Identification Number ("EIN") and the three-digit plan number. The most recent Pension Protection Act zone status available in 2018 and 2017 relates to the plans' two most recent fiscal year-ends. The zone status is based on information that we received from the plans' administrators and is certified by each plan's actuary. Plans certified in the red zone are generally less than 65% funded, plans certified in the orange zone are both less than 80% funded and have an accumulated funding deficiency or are expected to have a deficiency in any of the next six plan years, plans certified in the yellow zone are less than 80% funded, and plans certified in the green zone are at least 80% funded. The "FIP/RP Status Pending/Implemented" column indicates whether a financial improvement plan ("FIP") for yellow/orange zone plans, or a rehabilitation plan ("RP") for red zone plans, is either pending or has been implemented. As of December 31, 2018, all plans that have either a FIP or RP requirement have had the respective plan implemented.

Our collectively-bargained contributions satisfy the requirements of all implemented FIPs and RPs and do not currently require the payment of any surcharges. In addition, minimum contributions outside of the agreed upon contractual rates are not required. For the plans detailed in the following table, the expiration date of the associated collective bargaining agreements was July 31, 2018, with the exception of the Automotive Industries Pension Plan and the IAM National Pension Fund / National Pension Plan which both have a July 31, 2019 expiration date. For those plans covered by the collective bargaining agreement that expired on July 31, 2018, we have accrued a liability for the estimated contributions (which are included in the following table) under our new collective bargaining agreement that has been approved, but not yet implemented. For all plans detailed in the following table, we provided more than 5% of the total plan contributions from all employers for 2018, 2017 and 2016 (as disclosed in the annual filing with the Department of Labor for each respective plan).

Certain plans have been aggregated in the "all other multiemployer pension plans" line in the following table, as the contributions to each of these individual plans are not material.

Pension Fund	EIN / Pension Plan Number	Pension Protection Act Zone Status		FIP / RP Status Pending / Implemented	(in millions) UPS Contributions and Accruals			Surcharge Imposed
		2018	2017		2018	2017	2016	
Alaska Teamster-Employer Pension Plan	92-6003463-024	Red	Red	Yes/Implemented	$ 5	$ 5	$ 5	No
Automotive Industries Pension Plan	94-1133245-001	Red	Red	Yes/Implemented	5	5	4	No
Central Pennsylvania Teamsters Defined Benefit Plan	23-6262789-001	Green	Green	No	44	40	38	No
Eastern Shore Teamsters Pension Fund	52-0904953-001	Green	Green	No	6	5	5	No
Employer-Teamsters Local Nos. 175 & 505 Pension Trust Fund	55-6021850-001	Red	Red	Yes/Implemented	13	12	11	No
Hagerstown Motor Carriers and Teamsters Pension Fund	52-6045424-001	Red	Red	Yes/Implemented	9	8	7	No
I.A.M. National Pension Fund / National Pension Plan	51-6031295-002	Green	Green	No	38	35	31	No
International Brotherhood of Teamsters Union Local No. 710 Pension Fund	36-2377656-001	Green	Green	No	129	118	107	No
Local 705, International Brotherhood of Teamsters Pension Plan	36-6492502-001	Yellow	Yellow	Yes/Implemented	104	93	88	No
Local 804 I.B.T. & Local 447 I.A.M.—UPS Multiemployer Retirement Plan	51-6117726-001	Yellow	Yellow	Yes/Implemented	116	110	103	No
Milwaukee Drivers Pension Trust Fund	39-6045229-001	Green	Green	No	42	38	36	No
New England Teamsters & Trucking Industry Pension Fund	04-6372430-001	Red	Red	Yes/Implemented	121	114	114	No
New York State Teamsters Conference Pension and Retirement Fund	16-6063585-074	Red	Red	Yes/Implemented	108	100	91	No
Teamster Pension Fund of Philadelphia and Vicinity	23-1511735-001	Yellow	Yellow	Yes/Implemented	66	60	56	No
Teamsters Joint Council No. 83 of Virginia Pension Fund	54-6097996-001	Green	Green	No	69	64	61	No
Teamsters Local 639—Employers Pension Trust	53-0237142-001	Green	Green	No	61	55	51	No
Teamsters Negotiated Pension Plan	43-6196083-001	Green	Green	No	34	32	31	No
Truck Drivers and Helpers Local Union No. 355 Retirement Pension Plan	52-6043608-001	Green	Green	No	22	20	19	No
United Parcel Service, Inc.—Local 177, I.B.T. Multiemployer Retirement Plan	13-1426500-419	Red	Red	Yes/Implemented	95	88	83	No
Western Conference of Teamsters Pension Plan	91-6145047-001	Green	Green	No	868	772	694	No
Western Pennsylvania Teamsters and Employers Pension Fund	25-6029946-001	Red	Red	Yes/Implemented	31	30	28	No
All Other Multiemployer Pension Plans					56	66	56	
				Total Contributions	$ 2,042	$ 1,870	$ 1,719	

Agreement with the New England Teamsters and Trucking Industry Pension Fund

In 2012, we reached an agreement with the New England Teamsters and Trucking Industry Pension Fund ("NETTI Fund"), a multiemployer pension plan in which UPS is a participant, to restructure the pension liabilities for approximately 10,200 UPS employees represented by the Teamsters. As of December 31, 2018 and 2017, we had $852 and $859 million, respectively, recognized in "Other non-current liabilities" as well as $7 million as of December 31, 2018 and 2017 recorded in "other current liabilities" on our consolidated balance sheets representing the remaining balance of the NETTI Fund withdrawal liability. This liability is payable in equal monthly installments over a remaining term of approximately 44 years. Based on the borrowing rates currently available to the Company for long-term financing of a similar maturity, the fair value of the NETTI Fund withdrawal liability as of December 31, 2018 and 2017 was $832 and $921 million, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of this liability.

Multiemployer Health and Welfare Plans

We also contribute to several multiemployer health and welfare plans that cover both active and retired employees. Healthcare benefits are provided to participants who meet certain eligibility requirements as covered under the applicable collective bargaining unit. The following table sets forth our calendar year plan contributions and accruals. For those plans covered by the collective bargaining agreement that expired on July 31, 2018, we have accrued a liability for the estimated contributions (which are included in the following table) under our new collective bargaining agreement that has been approved, but not yet implemented. Certain plans have been aggregated in the "all other multiemployer health and welfare plans" line in the table, as the contributions to each of these individual plans are not material.

	(in millions) UPS Contributions and Accruals		
Health and Welfare Fund	**2018**	**2017**	**2016**
Central States, South East & South West Areas Health and Welfare Fund	$ 2,530	$ 2,366	$ 2,268
Teamsters Western Region & Local 177 Health Care Plan	656	605	571
Health & Welfare Insurance Fund Teamsters Local 653	8	7	6
Bay Area Delivery Drivers	40	37	35
Central Pennsylvania Teamsters Health & Pension Fund	29	27	25
Delta Health Systems—East Bay Drayage Drivers	30	29	27
Employer—Teamster Local Nos. 175 & 505	12	11	11
General Teamsters Local 493 Health Services & Insurance Plan	6	5	5
Joint Council #83 Health & Welfare Fund	40	37	33
Local 191 Teamsters Health Fund	13	13	12
Local 401 Teamsters Health & Welfare Fund	10	9	8
Local 443 Transportation Health Services & Insurance Plan	6	5	5
Local 804 Welfare Trust Fund	90	84	79
Milwaukee Drivers Pension Trust Fund—Milwaukee Drivers Health and Welfare Trust Fund	43	38	36
Montana Teamster Employers Trust	9	8	8
New York State Teamsters Health & Hospital Fund	62	59	56
North Coast Benefit Trust	12	11	8
Northern California General Teamsters (DELTA)	153	132	116
Northern New England Benefit Trust	54	50	47
Oregon / Teamster Employers Trust	43	38	34
Teamsters 170 Health & Welfare Fund	18	17	16
Teamsters Benefit Trust	48	46	43
Teamsters Local 251 Health & Insurance Plan	17	15	14
Teamsters Local 404 Health & Insurance Plan	8	8	7
Teamsters Local 638 Health Fund	48	43	40
Teamsters Local 639—Employers Health & Pension Trust Funds	29	27	27
Teamsters Local 671 Health Services & Insurance Plan	19	17	17
Teamsters Union 25 Health Services & Insurance Plan	56	52	50
Teamsters Union Local 677 Health Services & Insurance Plan	12	11	10
Truck Drivers and Helpers Local 355 Baltimore Area Health & Welfare Fund	18	16	16
Utah-Idaho Teamsters Security Fund	32	29	26
Washington Teamsters Welfare Trust	57	52	47
All Other Multiemployer Health and Welfare Plans	60	68	58

Total Contributions	$ 4,268	$ 3,972	$ 3,761

NOTE 7. GOODWILL AND INTANGIBLE ASSETS

The following table indicates the allocation of goodwill by segment (in millions):

	U.S. Domestic Package	International Package	Supply Chain & Freight	Consolidated
Balance on January 1, 2017	$ 715	$ 407	$ 2,635	$ 3,757
Acquired	—	18	54	72
Currency / Other	—	10	33	43
Balance on December 31, 2017	$ 715	$ 435	$ 2,722	$ 3,872
Acquired	—	—	—	—
Currency / Other	—	(18)	(43)	(61)
Balance on December 31, 2018	$ 715	$ 417	$ 2,679	$ 3,811

2018 Goodwill Activity

The change in goodwill for both the Supply Chain & Freight and the International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

2017 Goodwill Activity

The goodwill acquired in the Supply Chain & Freight segment is primarily related to our January 2017 acquisition of Freightex Ltd. ("Freightex") and our November 2017 acquisition of STTAS Global Holdings, Inc ("Sandler & Travis Trade Advisory Services" or "STTAS"). The remaining goodwill acquired in the Supply Chain & Freight segment was related to other, smaller acquisitions immaterial to our consolidated financial position or results of operations.

The goodwill acquired in the International Package segment is related to our June 2017 acquisition of Eirpost Group Unlimited Company ("Nightline").

The remaining change in goodwill for both the Supply Chain & Freight and the International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

Goodwill Impairment

We completed our annual goodwill impairment valuation, as of July 1st, on a reporting unit basis. For the periods presented, no triggering events were identified that required an interim impairment test.

U.S. Domestic Package is our largest reporting segment. In our International Package reporting segment, we have the following reporting units: Europe, Asia, Americas and ISMEA (Indian Subcontinent, Middle East and Africa). In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote.

In assessing our goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. We primarily determine the fair value of our reporting units using a discounted cash flow model, and supplement this with observable valuation multiples for comparable companies, as applicable. If the carrying amount of a reporting unit exceeds the reporting unit’s fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit’s goodwill with the carrying value of that goodwill.

In 2018, we utilized a qualitative assessment to determine that it was more likely than not that the reporting unit fair value exceeded the carrying value for our U.S. Domestic Package, Europe Package, Asia Package, Americas Package, ISMEA Package, Forwarding, Logistics, UPS Mail Innovations, The UPS Store and UPS Capital reporting units. For the remaining reporting units owned at the annual goodwill impairment testing date, we utilized the two-step process to test goodwill for impairment. We did not have any goodwill impairment charges in 2018, 2017 or 2016. Cumulatively, our Supply Chain & Freight segment has recorded $622 million of goodwill impairment charges, while our International and U.S. Domestic Package segments have not recorded any goodwill impairment charges.

Intangible Assets

The following is a summary of intangible assets at December 31, 2018 and 2017 (in millions):

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted-Average Amortization Period (in years)
December 31, 2018				
Capitalized software	$ 3,693	$ (2,478)	$ 1,215	6.9
Licenses	117	(36)	81	3.9
Franchise rights	145	(105)	40	20.0
Customer relationships	736	(217)	519	10.5
Trade name	200	—	200	N/A
Trademarks, patents and other	52	(31)	20	5.8
Total Intangible Assets	$ 4,943	$ (2,867)	$ 2,075	7.7
December 31, 2017				
Capitalized software	$ 3,273	$ (2,310)	$ 963	
Licenses	114	(10)	104	
Franchise rights	144	(97)	47	
Customer relationships	776	(160)	616	
Trade name	200	—	200	
Trademarks, patents and other	71	(37)	34	
Total Intangible Assets	$ 4,578	$ (2,614)	$ 1,964	

A trade name and licenses with a carrying value of $200 and $5 million, respectively, as of December 31, 2018 are deemed to be indefinite-lived intangible assets, and therefore are not amortized. Impairment tests for indefinite-lived intangible assets are performed on an annual basis. All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are thus amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that may indicate that the carrying value of the intangible may not be recoverable. There was a $12 and $7 million impairment of finite-lived intangible assets in 2018 and 2017, respectively.

Amortization of intangible assets was $339, $287 and $321 million during 2018, 2017 and 2016, respectively. Expected amortization of finite-lived intangible assets recorded as of December 31, 2018 for the next five years is as follows (in millions): 2019—$432; 2020—$380; 2021—$312; 2022—$249; 2023—$199. Amortization expense in future periods will be affected by business acquisitions, software development, licensing agreements, franchise rights purchases and other factors.

NOTE 8. DEBT AND FINANCING ARRANGEMENTS

The following table sets forth the principal amount, maturity or range of maturities, as well as the carrying value of our debt obligations, as of December 31, 2018 and 2017 (in millions). The carrying value of these debt obligations can differ from the principal amount due to the impact of unamortized discounts or premiums and valuation adjustments resulting from interest rate swap hedging relationships.

	Principal		Carrying Value	
	Amount	Maturity	2018	2017
Commercial paper	$ 2,662	2019	$ 2,662	$ 3,203
Fixed-rate senior notes:				
5.500% senior notes	750	2018	—	751
5.125% senior notes	1,000	2019	998	1,019
3.125% senior notes	1,500	2021	1,492	1,549
2.050% senior notes	700	2021	698	696
2.450% senior notes	1,000	2022	1,023	979
2.350% senior notes	600	2022	597	597
2.500% senior notes	1,000	2023	994	992
2.800% senior notes	500	2024	496	495
2.400% senior notes	500	2026	498	497
3.050% senior notes	1,000	2027	991	990
6.200% senior notes	1,500	2038	1,482	1,482
4.875% senior notes	500	2040	490	489
3.625% senior notes	375	2042	368	368
3.400% senior notes	500	2046	491	491
3.750% senior notes	1,150	2047	1,136	1,135
Floating-rate senior notes:				
Floating-rate senior notes	350	2021	349	348
Floating-rate senior notes	400	2022	399	398
Floating-rate senior notes	500	2023	499	496
Floating-rate senior notes	1,042	2049-2067	1,029	1,032
8.375% Debentures:				
8.375% debentures	424	2020	419	447
8.375% debentures	276	2030	274	282
Pound Sterling Notes:				
5.500% notes	84	2031	84	84
5.125% notes	577	2050	546	586
Euro Senior Notes:				
0.375% senior notes	803	2023	797	832
1.625% senior notes	803	2025	798	833
1.000% senior notes	573	2028	570	595
1.500% senior notes	573	2032	569	594
Floating-rate senior notes	573	2020	572	598
Canadian senior notes:				
2.125% senior notes	551	2024	548	593

Capital lease obligations	534	2019 – 3005	534	500
Facility notes and bonds	320	2029 – 2045	320	319
Other debt	13	2019 – 2022	13	19
Total debt	$ 23,633		22,736	24,289
Less: current maturities			(2,805)	(4,011)
Long-term debt			$ 19,931	$ 20,278

Commercial Paper

We are authorized to borrow up to $10.0 billion under a U.S. commercial paper program and €5.0 billion (in a variety of currencies) under a European commercial paper program. We had the following amounts outstanding under these programs as of December 31, 2018: $1.968 billion with an average interest rate of 2.34% and €606 million ($694 million) with an average interest rate of -0.37%. The amount of commercial paper outstanding under these programs in 2019 is expected to fluctuate.

Debt Classification

We have classified our 5.125% senior notes due April 2019 with a principal balance of $1.0 billion as long term based on our intent and ability to refinance the debt as of December 31, 2018. We have classified certain floating-rate senior notes that are putable by the note holders as long-term debt, due to our intent and ability to refinance the debt if the put option is exercised by the note holders.

Fixed-Rate Senior Notes

We have completed several offerings of fixed-rate senior notes. All of the notes pay interest semi-annually, and allow for redemption of the notes by UPS at any time by paying the greater of the principal amount or a "make-whole" amount, plus accrued interest. We subsequently entered into interest rate swaps on several of these notes, which effectively converted the fixed interest rates on the notes to variable LIBOR-based interest rates. The average interest rate payable on these notes, including the impact of the interest rate swaps, for 2018 and 2017, respectively, were as follows:

	Principal Value	Maturity	Average Effective Interest Rate 2018	Average Effective Interest Rate 2017
1.125% senior notes	$ 375	2017	—%	1.51%
5.50% senior notes	750	2018	3.63%	3.45%
5.125% senior notes	1,000	2019	3.99%	2.98%
3.125% senior notes	1,500	2021	2.32%	1.34%
2.45% senior notes	1,000	2022	2.77%	1.78%

On January 15, 2018, our $750 million 5.500% senior notes matured and were repaid in full.

8.375% Debentures

The 8.375% debentures consist of two separate tranches, as follows:

- $276 million of the debentures have a maturity of April 1, 2030. These debentures have an 8.375% interest rate until April 1, 2020, and, thereafter, the interest rate will be 7.62% for the final 10 years. These debentures are redeemable in whole or in part at our option at any time. The redemption price is equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption (at a benchmark treasury yield plus five basis points) plus accrued interest.

- $424 million of the debentures have a maturity of April 1, 2020. These debentures are not subject to redemption prior to maturity.

Interest is payable semi-annually in April and October for both tranches and neither tranche is subject to sinking fund requirements. We subsequently entered into interest rate swaps on the 2020 debentures, which effectively converted the fixed interest rates on the debentures to variable LIBOR-based interest rates. The average interest rate payable on the 2020 debentures, including the impact of the interest rate swaps, for 2018 and 2017 was 6.93% and 5.95%, respectively.

Floating-Rate Senior Notes

The floating-rate senior notes with principal amounts totaling $1.042 billion, bear interest at either one or three-month LIBOR, less a spread ranging from 30 to 45 basis points. The average interest rate for 2018 and 2017 was 1.76% and 0.74%, respectively. These notes are callable at various times after 30 years at a stated percentage of par value, and putable by the note holders at various times after one year at a stated percentage of par value. The notes have maturities ranging from 2049 through 2067. We classified the floating-rate senior notes that are putable by the note holder as a long-term liability, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

The remaining three floating-rate senior notes in the principal amounts of $350, $400 and $500 million, bear interest at three-month LIBOR, plus a spread ranging from 15 to 45 basis points. The average interest rate for 2018 and 2017 was 2.50% and 0.5%, respectively. These notes are not callable. The notes have maturities ranging from 2021 through 2023. We classified the floating-rate senior notes that are putable by the note holder as a long-term liability, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

Capital Lease Obligations

We have certain property, plant and equipment subject to capital leases. Some of the obligations associated with these capital leases have been legally defeased. The recorded value of our property, plant and equipment subject to capital leases is as follows as of December 31 (in millions):

	2018	2017
Aircraft	$ 2,291	$ 2,291
Buildings	265	285
Vehicles, plant equipment, technology equipment and other	22	70
Accumulated amortization	(924)	(990)
Property, plant and equipment subject to capital leases	$ 1,654	$ 1,656

These capital lease obligations have principal payments due at various dates from 2019 through 3005.

Facility Notes and Bonds

We have entered into agreements with certain municipalities to finance the construction of, or improvements to, facilities that support our U.S. Domestic Package and Supply Chain & Freight operations in the United States. These facilities are located around airport properties in Louisville, Kentucky; Dallas, Texas; and Philadelphia, Pennsylvania. Under these arrangements, we enter into a lease or loan agreement that covers the debt service obligations on the bonds issued by the municipalities, as follows:

- Bonds with a principal balance of $149 million issued by the Louisville Regional Airport Authority associated with our Worldport facility in Louisville, Kentucky. The bonds, which are due in January 2029, bear interest at a variable rate, and the average interest rates for 2018 and 2017 were 1.43% and 0.83%, respectively.

- Bonds with a principal balance of $42 million and due in November 2036 issued by the Louisville Regional Airport Authority associated with our air freight facility in Louisville, Kentucky. The bonds bear interest at a variable rate, and the average interest rates for 2018 and 2017 were 1.39% and 0.80%, respectively.

- Bonds with a principal balance of $29 million issued by the Dallas / Fort Worth International Airport Facility Improvement Corporation associated with our Dallas, Texas airport facilities. The bonds are due in May 2032 and bear interest at a variable rate, however the variable cash flows on the obligation have been swapped to a fixed 5.11%.

- Bonds with a principal balance of $100 million issued by the Delaware County, Pennsylvania Industrial Development Authority associated with our Philadelphia, Pennsylvania airport facilities. These bonds, which are due September 2045, bear interest at a variable rate. The average interest rate for 2018 and 2017 was 1.35% and 0.78%, respectively.

Pound Sterling Notes

The Pound Sterling notes consist of two separate tranches, as follows:

- Notes with a principal amount of £66 million accrue interest at a 5.50% fixed rate, and are due in February 2031. These notes are not callable.

- Notes with a principal amount of £455 million accrue interest at a 5.125% fixed rate, and are due in February 2050. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption at a benchmark U.K. government bond yield plus 15 basis points and accrued interest.

Canadian Dollar Senior Notes

The Canadian Dollar senior notes consist of a single series a follows:

- Notes in the principal amount of C$750 million, which bear interest at a 2.125% fixed interest rate and mature in May 2024. Interest on the notes is payable semi-annually beginning November 2017. The notes are callable at our option, in whole or in part at the Government of Canada yield plus 21.5 basis points, and on or after the par call date, at par value.

Euro Senior Notes

The Euro senior notes consist of four separate issuances, as follows:

- Notes in the principal amount of €500 million accrue interest at a 1% fixed rate and are due in November 2028. Interest is payable annually on the notes, commencing in November 2017. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amounts, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable German government bond yield plus 15 basis points and accrued interest.

- Notes with a principal amount of €500 million accrue interest at a variable rate equal to three-month EURIBOR plus 43 basis points and are due in July 2020. Interest is payable quarterly on the notes, commencing in April 2016. These notes are not callable. The senior notes bear interest at a variable rate, and the average interest rates for 2018 and 2017 were 0.11% and 0.10%, respectively.

- Notes with a principal amount of €700 million accrue interest at a 1.625% fixed rate and are due in November 2025. Interest is payable annually on the notes, commencing in November 2016. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption at a benchmark German government bond yield plus 20 basis points and accrued interest.

- Notes with principal amounts of €700 million and €500 million accrue interest at a 0.375% and 1.500% fixed rates, respectively, and are due in November 2023 and November 2032, respectively. Interest on these notes is payable annually, beginning in November 2018. The notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable government bond yield plus 10 and 20 basis points, respectively, and accrued interest.

Contractual Commitments

We lease certain aircraft, facilities, land, equipment and vehicles under operating leases, which expire at various dates through 2066. Certain of the leases contain escalation clauses and renewal or purchase options. Rent expense related to our operating leases was $959, $804 and $686 million for 2018, 2017 and 2016, respectively.

The following table sets forth the aggregate minimum lease payments under capital and operating leases, the aggregate annual principal payments due under our long-term debt and the aggregate amounts expected to be spent for purchase commitments (in millions).

Year	Capital Leases	Operating Leases	Debt Principal	Purchase Commitments
2019	$ 158	$ 578	$ 3,667	$ 3,686
2020	95	477	998	1,732

2021	42	399	2,551	1,150
2022	39	325	2,000	383
2023	36	262	2,303	22
After 2023	293	926	10,830	8
Total	$ 663	$ 2,967	$ 22,349	$ 6,981
Less: imputed interest	(129)			
Present value of minimum capitalized lease payments	534			
Less: current portion	(140)			
Long-term capitalized lease obligations	$ 394			

As of December 31, 2018, we had outstanding letters of credit totaling approximately $1.256 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2018, we had $1.031 billion of surety bonds written.

Sources of Credit

We maintain two credit agreements with a consortium of banks. One of these agreements provides revolving credit facilities of $3.0 billion, and expires on December 10, 2019. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) JPMorgan Chase Bank's publicly announced prime rate; (2) the Federal Funds effective rate plus 0.50%; and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, subject to a minimum rate of 0.10% and a maximum rate of 0.75%. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not lower than 0.00%). We are also able to request advances under this facility based on competitive bids for the applicable interest rate. There were no amounts outstanding under this facility as of December 31, 2018.

The second agreement provides revolving credit facilities of $3.0 billion, and expires on March 24, 2022. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) JPMorgan Chase Bank's publicly announced prime rate, (2) the Federal Funds effective rate plus 0.50%; and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, interpolated for a period from the date of determination of such credit default swap spread in connection with a new interest period until the latest maturity date of this facility then in effect (but not less than a period of one year). The minimum applicable margin rate is 0.10% and the maximum applicable margin rate is 0.75% per annum. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not less than 0.00%). We are also able to request advances under this facility based on competitive bids. There were no amounts outstanding under this facility as of December 31, 2018.

Debt Covenants

Our existing debt instruments and credit facilities subject us to certain financial covenants. As of December 31, 2018 and for all prior periods presented, we have satisfied these financial covenants. These covenants limit the amount of secured indebtedness that we may incur, and limit the amount of attributable debt in sale-leaseback transactions, to 10% of net tangible assets. As of December 31, 2018, 10% of net tangible assets is equivalent to $3.004 billion; however, we have no covered sale-leaseback transactions or secured indebtedness outstanding. We do not expect these covenants to have a material impact on our financial condition or liquidity.

Fair Value of Debt

Based on the borrowing rates currently available to the Company for long-term debt with similar terms and maturities, the fair value of long-term debt, including current maturities, is approximately $23.293 and $25.206 billion as of December 31, 2018 and 2017, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of all of our debt instruments.

NOTE 9. LEGAL PROCEEDINGS AND CONTINGENCIES

We are involved in a number of judicial proceedings and other matters arising from the conduct of our business activities.

Although there can be no assurance as to the ultimate outcome, we have generally denied, or believe we have a meritorious defense and will deny, liability in all pending matters, including (except as otherwise noted herein) the matters described below, and we intend to defend vigorously each matter. We accrue for legal claims when, and to the extent that, amounts associated with the claims become probable and can be reasonably estimated. The actual costs of resolving legal claims may be substantially higher or lower than the amounts accrued for those claims.

For those matters as to which we are not able to estimate a possible loss or range of loss, we are not able to determine whether the loss will have a material adverse effect on our business, financial condition or results of operations or liquidity. For matters in this category, we have indicated in the descriptions that follow the reasons that we are unable to estimate the possible loss or range of loss.

Judicial Proceedings

In February 2015, the State and City of New York filed suit against UPS in the U.S. District Court for the Southern District of New York, arising from alleged shipments of cigarettes to New York State and City residents. The complaint asserted claims under various federal and state laws. The complaint also included a claim that UPS violated the Assurance of Discontinuance it entered into with the New York Attorney General in 2005 concerning cigarette deliveries. On March 24, 2017, the District Court issued an opinion and order finding liability against UPS on each of the plaintiffs' causes of action. On May 25, 2017, the District Court issued a corrected opinion and order on liability and an order awarding the plaintiffs damages of $9.4 million and penalties of $237.6 million. An accrual of $9.4 million with respect to the damages awarded by the court is included on our consolidated balance sheets at December 31, 2018. We estimate that the amount of losses could be up to $247 million, plus interest; however, the amount of penalties ultimately payable, if any, is subject to a variety of complex factors and potential outcomes that remain to be determined in future legal proceedings. Consequently, we are unable to reasonably estimate a likely amount of loss within that range. We strongly disagree with the District Court's analysis and conclusions, and have appealed to the United States Court of Appeals for the Second Circuit. The briefing is now complete and oral argument has been scheduled for the first quarter of 2019.

We are a defendant in a number of lawsuits filed in state and federal courts containing various class action allegations under state wage-and-hour laws. Except as described below, we do not believe that any loss associated with any matter would have a material adverse effect on our financial condition, results of operations or liquidity. Hughes v. UPS Supply Chain Solutions, Inc., and United Parcel Service, Inc. has been certified as a class action in Kentucky state court. In this action, Plaintiffs allege that they were not properly compensated for time entering and exiting security checkpoints and getting to their work areas at UPS's facilities. Plaintiffs seek compensatory damages, liquidated damages, attorneys' fees, and interest. We have denied any liability and intend to vigorously defend ourselves in this case. There are multiple factors that prevent us from being able to estimate the amount of loss, if any, that may result from this matter, including: (1) we are vigorously defending ourselves and believe that we have a number of meritorious legal defenses; and (2) there are unresolved questions of law and fact that could be important to the ultimate resolution of this matter. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

Other Matters

In October 2015, the Department of Justice ("DOJ") informed us of an industry-wide inquiry into the transportation of mail under the United States Postal Service ("USPS") International Commercial Air contracts. In October 2017, we received a Civil Investigative Demand seeking certain information relating to our contracts. The DOJ has indicated it is investigating potential violations of the False Claims Act or other statutes. We are cooperating with the DOJ. We are unable to predict what action, if any, might be taken in the future by any government authorities as a result of their investigation. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

In August 2016, Spain's National Markets and Competition Commission ("CNMC") announced an investigation into 10 companies in the commercial delivery and parcel industry, including UPS, related to alleged nonaggression agreements to allocate customers. In May 2017, UPS received a Statement of Objections issued by the CNMC. In July 2017, UPS received a Proposed Decision from the CNMC. On March 8, 2018 the CNMC adopted a final decision, finding an infringement and imposing a fine on UPS of €19.2 million. UPS has appealed the decision and in September 2018, obtained a suspension of the implementation of the decision (including payment of the fine). The appeal is pending. There are multiple factors that prevent us from being able to estimate the amount of loss, if any, that may result from this matter, including: (1) we are vigorously defending ourselves and believe that we have a number of meritorious legal defenses; and (2) there are unresolved questions of law and fact that could be important to the ultimate resolution of this matter. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

In February 2018, the Turkish Competition Authority ("Authority") opened an investigation into nine companies (including UPS) in the small package industry related to alleged customer allocations in violation of Turkish competition law. In April 2018, the Authority consolidated this investigation with two other investigations involving similar allegations. The consolidated investigation involves over 30 companies. The investigation is in its early stages. There are multiple factors that prevented us from being able to estimate the amount of loss, if any, that may result from this matter including: (1) we are vigorously defending ourselves and believe that we have a number of meritorious legal defenses; and (2) there are unresolved questions of law and fact that could be important to the ultimate resolution of this matter. Accordingly, at this time we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operation or liquidity.

We are a party in various other matters that arose in the normal course of business. We do not believe that the eventual resolution of these other matters (either individually or in the aggregate), including any reasonably possible losses in excess of current accruals, will have a material adverse effect on our financial condition, results of operations or liquidity.

NOTE 10. SHAREOWNERS' EQUITY

Capital Stock, Additional Paid-In Capital and Retained Earnings

We maintain two classes of common stock, which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange ("NYSE") under the symbol "UPS". Class A and B shares both have a $0.01 par value, and as of December 31, 2018, there were 4.6 billion class A shares and 5.6 billion class B shares authorized to be issued. Additionally, there are 200 million preferred shares authorized to be issued, with a par value of $0.01 per share; as of December 31, 2018, no preferred shares had been issued.

The following is a rollforward of our common stock, additional paid-in capital and retained earnings accounts (in millions, except per share amounts):

	2018		2017		2016	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Class A Common Stock:						
Balance at beginning of year	173	$ 2	180	$ 2	194	$ 2
Common stock purchases	(3)	—	(4)	—	(4)	—
Stock award plans	3	—	4	—	5	—
Common stock issuances	4	—	3	—	2	—
Conversions of class A to class B common stock	(14)	—	(10)	—	(17)	—
Class A shares issued at end of year	163	$ 2	173	$ 2	180	$ 2
Class B Common Stock:						
Balance at beginning of year	687	$ 7	689	$ 7	693	$ 7
Common stock purchases	(5)	—	(12)	—	(21)	—
Conversions of class A to class B common stock	14	—	10	—	17	—
Class B shares issued at end of year	696	$ 7	687	$ 7	689	$ 7
Additional Paid-In Capital:						
Balance at beginning of year		$ —		$ —		$ —
Stock award plans		419		396		541
Common stock purchases		(859)		(813)		(898)
Common stock issuances		406		363		303
Option premiums received (paid)		34		54		54
Balance at end of year		$ —		$ —		$ —
Retained Earnings:						
Balance at beginning of year		$ 5,852		$ 4,880		$ 6,011
Net income attributable to controlling interests		4,791		4,905		3,422
Dividends ($3.64, $3.32, and $3.12 per share)		(3,189)		(2,928)		(2,771)
Common stock purchases		(141)		(1,003)		(1,782)
Reclassification from AOCI pursuant to the early adoption of ASU 2018-02		735		—		—
Other		$ (42)		$ (2)		$ —

Balance at end of year	$ 8,006	$ 5,852	$ 4,880

For the years ended December 31, 2018, 2017 and 2016, we repurchased a total of 8.9, 16.1 and 25.2 million shares of class A and class B common stock for $1.000, $1.816 and $2.680 billion, respectively ($1.011, $1.813 and $2.678 billion in repurchases for 2018, 2017 and 2016, respectively, are reported on the cash flow statement due to the timing of settlements). In May 2016, the Board of Directors approved a new share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. This new share repurchase authorization has no expiration date. As of December 31, 2018, we had $3.339 billion of this share repurchase authorization remaining.

From time to time, we enter into share repurchase programs with large financial institutions to assist in our buyback of company stock. These programs allow us to repurchase our shares at a price below the weighted average UPS share price for a given period. During the fourth quarter of 2016, we entered into an accelerated share repurchase program, which allowed us to repurchase $300 million of shares (2.6 million shares). The program was completed in December 2016.

In order to lower the average cost of acquiring shares in our ongoing share repurchase program, we periodically enter into structured repurchase agreements involving the use of capped call options for the purchase of UPS class B shares. We pay a fixed sum of cash upon execution of each agreement in exchange for the right to receive either a pre-determined amount of cash or stock. Upon expiration of each agreement, if the closing market price of our common stock is above the pre-determined price, we will have our initial investment returned with a premium in either cash or shares (at our election). If the closing market price of our common stock is at or below the pre-determined price, we will receive the number of shares specified in the agreement. We received net premiums of $34 million during 2018 and $54 million during both 2017 and 2016, related to entering into and settling capped call options for the purchase of class B shares. As of December 31, 2018, we had outstanding options for the purchase of 0.2 million shares with an average strike price of $95.60 per share that will settle in the first quarter of 2019.

Accumulated Other Comprehensive Income (Loss)

We recognize activity in AOCI for unrealized holding gains and losses on available-for-sale securities, foreign currency translation adjustments, unrealized gains and losses from derivatives that qualify as hedges of cash flows and unrecognized pension and postretirement benefit costs. Additionally, effective January 1, 2018, we early adopted an ASU that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act (see note 1 for further information). The activity in AOCI is as follows (in millions):

	2018	2017	2016
Foreign Currency Translation Gain (Loss), Net of Tax:			
Balance at beginning of year	$ (930)	$ (1,016)	$ (897)
Translation adjustment (net of tax effect of $37, $(161) and $32)	(149)	86	(119)
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	(47)	—	—
Balance at end of year	(1,126)	(930)	(1,016)
Unrealized Gain (Loss) on Marketable Securities, Net of Tax:			
Balance at beginning of year	(2)	(1)	(1)
Current period changes in fair value (net of tax effect of $(1), $(1) and $0)	(3)	(2)	—
Reclassification to earnings (net of tax effect of $1, $1 and $0)	3	1	—
Balance at end of year	(2)	(2)	(1)
Unrealized Gain (Loss) on Cash Flow Hedges, Net of Tax:			
Balance at beginning of year	(366)	(45)	67
Current period changes in fair value (net of tax effect of $135, $(190) and $75)	429	(316)	124
Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02	(79)	—	—
Reclassification to earnings (net of tax effect of $18, $(3) and $(142))	56	(5)	(236)
Balance at end of year	40	(366)	(45)
Unrecognized Pension and Postretirement Benefit Costs, Net of Tax:			
Balance at beginning of year	$ (3,569)	$ (3,421)	$ (2,709)
Reclassification to earnings (net of tax effect of $439, $269 and $1,040)	1,389	731	1,783
	(609)	—	—

Reclassification to retained earnings pursuant to the early adoption of ASU 2018-02			
Net actuarial gain (loss) and prior service cost resulting from remeasurements of plan assets and liabilities (net of tax effect of $(355), $(180) and $(1,460))	(1,117)	(879)	(2,495)
Balance at end of year	(3,906)	(3,569)	(3,421)
Accumulated other comprehensive income (loss) at end of year	(4,994)	(4,867)	(4,483)

Detail of the gains (losses) reclassified from AOCI to the statements of consolidated income for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

Twelve Months Ended December 31:	**2018 Amount Reclassified from AOCI**	**2017 Amount Reclassified from AOCI**	**2016 Amount Reclassified from AOCI**	**Affected Line Item in the Income Statement**
Unrealized Gain (Loss) on Marketable Securities:				
Realized gain (loss) on sale of securities	(4)	(2)	—	Investment income (expense) and other
Income tax (expense) benefit	1	1	—	Income tax expense
Impact on net income	(3)	(1)	—	Net income
Unrealized Gain (Loss) on Cash Flow Hedges:				
Interest rate contracts	(24)	(27)	(26)	Interest expense
Foreign exchange contracts	(50)	35	404	Revenue
Income tax (expense) benefit	18	(3)	(142)	Income tax expense
Impact on net income	(56)	5	236	Net income
Unrecognized Pension and Postretirement Benefit Costs:				
Prior service costs	(201)	(200)	(172)	Investment income (expense) and other
Remeasurement of benefit obligation	(1,627)	(800)	(2,651)	Investment income (expense) and other
Income tax (expense) benefit	439	269	1,040	Income tax expense
Impact on net income	(1,389)	(731)	(1,783)	Net income
Total amount reclassified for the period	$ (1,448)	$ (727)	$ (1,547)	Net income

Deferred Compensation Obligations and Treasury Stock

We maintain a deferred compensation plan whereby certain employees were previously able to elect to defer the gains on stock option exercises by deferring the shares received upon exercise into a rabbi trust. The shares held in this trust are classified as treasury stock, and the liability to participating employees is classified as “deferred compensation obligations” in the shareowners’ equity section of the consolidated balance sheets. The number of shares needed to settle the liability for deferred compensation obligations is included in the denominator in both the basic and diluted earnings per share calculations. Employees are generally no longer able to defer the gains from stock options exercised subsequent to December 31, 2004.

Activity in the deferred compensation program for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

	2018		**2017**		**2016**	
	Shares	**Dollars**	**Shares**	**Dollars**	**Shares**	**Dollars**
Deferred Compensation Obligations:						
Balance at beginning of year		$ 37		$ 45		$ 51
Reinvested dividends		2		2		3
Benefit payments		(7)		(10)		(9)
Balance at end of year		$ 32		$ 37		$ 45
Treasury Stock:						

Balance at beginning of year	(1)	$ (37)	(1)	$ (45)	(1)	$ (51)
Reinvested dividends	—	(2)	—	(2)	—	(3)
Benefit payments	—	7	—	10	—	9
Balance at end of year	(1)	$ (32)	(1)	$ (37)	(1)	$ (45)

Noncontrolling Interests

We have noncontrolling interests in certain consolidated subsidiaries in our International Package and Supply Chain & Freight segments. Noncontrolling interests decreased $14 million and increased $6 million for the years ended December 31, 2018 and 2017, respectively.

NOTE 11. STOCK - BASED COMPENSATION

The UPS Incentive Compensation Plan permits the grant of non-qualified and incentive stock options, stock appreciation rights, restricted stock and stock units, and restricted performance shares and units to eligible employees. Shares authorized for issuance under the Incentive Compensation Plan were 26 million. Each share issued pursuant to restricted stock units and restricted performance units (collectively referred to as "Restricted Units"), stock options and other permitted awards will reduce the share reserve by one share. We had 20 million shares available to be issued under the Incentive Compensation Plan as of December 31, 2018.

The primary compensation programs offered under the UPS Incentive Compensation Plan include the UPS Management Incentive Award program, the Coyote Restricted Stock Award, the UPS Long-Term Incentive Performance Award program and the UPS Stock Option program. These awards are discussed in the following paragraphs. The total expense recognized in our income statement under all stock compensation award programs was $634, $584 and $591 million during 2018, 2017 and 2016, respectively. The associated income tax benefit recognized in our statements of consolidated income was $186, $227 and $219 million during 2018, 2017 and 2016, respectively. The cash income tax benefit received from the exercise of stock options and the lapsing of Restricted Units was $175, $276 and $207 million during 2018, 2017 and 2016, respectively.

Management Incentive Award Program ("MIP")

Non-executive management earning the right to receive the Management Incentive Award are determined annually by the Salary Committee, which is comprised of executive officers of UPS. Awards granted to executive officers are determined annually by the Compensation Committee of the UPS Board of Directors. Our Management Incentive Award program provides, with certain exceptions, that one-half to two-thirds of the annual Management Incentive Award will be made in Restricted Units (depending upon the level of management involved). The other one-third to one-half of the award is electable in the form of cash or unrestricted shares of class A common stock, and is fully vested at the time of grant.

Upon vesting, Restricted Units result in the issuance of the equivalent number of UPS class A common shares after required tax withholdings. Except in the case of death, Restricted Units granted for our Management Incentive Award vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. The entire grant (less estimated forfeitures) is expensed on a straight-line basis over the requisite service period (except in the case of death, disability or retirement, in which case immediate expensing occurs). All Restricted Units granted are subject to early cancellation or vesting under certain conditions. Dividends earned on Restricted Units are reinvested in additional Restricted Units at each dividend payable date.

Coyote Restricted Stock Award

In August 2015 we acquired Coyote, a U.S.-based truckload brokerage company. During the third quarter of 2015, we granted Restricted Units to eligible Coyote management employees. The vesting of Restricted Units granted under this award varies between one and four years with an equal number of restricted units vesting at each anniversary date (except in the case of death, in which case immediate vesting occurs). The entire grant is expensed on a straight-line basis over the requisite service period (except in the case of death or disability, in which case immediate expensing occurs).

As of December 31, 2018, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our Management Incentive Award program and the Coyote Restricted Stock Award:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)

Nonvested at January 1, 2018	10,471	$	99.16			
Vested	(5,197)		97.33			
Granted	4,734		110.95			
Reinvested Dividends	352		N/A			
Forfeited / Expired	(221)		104.74			
Nonvested at December 31, 2018	10,139	$	104.47	1.41	$	989
Restricted Units Expected to Vest	10,029	$	104.52	1.40	$	978

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2018, 2017 and 2016 was $110.95, $105.62 and $97.04, respectively. The total fair value of Restricted Units vested was $596, $534 and $445 million in 2018, 2017 and 2016, respectively. As of December 31, 2018, there was $495 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of three years and two months.

Long-Term Incentive Performance Award Program

We award Restricted Units in conjunction with our Long-Term Incentive Performance Award program to certain eligible employees. Performance targets are equally-weighted among consolidated operating return on invested capital, growth in currency-constant consolidated revenue and total shareowner return relative ("RTSR") to a peer group of companies. The Restricted Units granted under this award vest at the end of a three-year period (except in the case of death, in which case immediate vesting occurs on a prorated basis. In the case of disability and retirement, vesting occurs at the end of the three-year period on a prorated basis). The number of Restricted Units earned will be based on the percentage achievement of the performance targets set forth on the grant date. The range of percentage achievement can vary from 0% to 200% of the target award.

For the two-thirds of the award related to consolidated operating return on invested capital and growth in currency-constant consolidated revenue, we recognize the grant date fair value of these units (less estimated forfeitures) as compensation expense ratably over the vesting period, based on the number of awards expected to be earned. The remaining one-third of the award related to RTSR is valued using a Monte Carlo model. This portion of the award is recognized as compensation expense (less estimated forfeitures) ratably over the vesting period.

The weighted-average assumptions used, by year, and the calculated weighted-average fair values of the RTSR portion of the grants, are as follows:

	2018	2017	2016
Risk-free interest rate	2.61%	1.46%	1.00%
Expected volatility	16.51%	16.59%	16.46%
Weighted-average fair value of units granted	$ 137.57	$ 119.29	$ 136.18
Share payout	123.47%	113.55%	129.08%

There is no expected dividend yield as units earn dividend equivalents.

As of December 31, 2018, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our Long-Term Incentive Performance Award program:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Nonvested at January 1, 2018	1,787	$ 105.58		
Vested	(912)	105.60		
Granted	957	111.42		
Reinvested Dividends	79	N/A		
Forfeited / Expired	(210)	107.98		
Nonvested at December 31, 2018	1,701	$ 108.63	1.49	$ 166
Restricted Units Expected to Vest	1,631	$ 108.64	1.50	$ 159

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2018, 2017 and 2016 was $111.42, $105.65 and $105.50, respectively. The total fair value of Restricted Units vested was $97, $71 and $13 million in

2018, 2017 and 2016, respectively. As of December 31, 2018, there was $102 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of one year and nine months.

Non-qualified Stock Options

We maintain fixed stock option plans, under which options are granted to purchase shares of UPS class A common stock. Stock options granted in connection with the UPS Incentive Compensation Plan must have an exercise price at least equal to the NYSE closing price of UPS class B common stock on the date the option is granted.

Executive officers and certain senior managers receive a non-qualified stock option grant annually, in which the value granted is determined as a percentage of salary. Options granted generally vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. All options granted are subject to earlier cancellation or vesting under certain conditions. The options granted will expire ten years after the date of the grant. Option holders may exercise their options via the tender of cash or class A common stock and new class A shares are issued upon exercise.

The following is an analysis of options to purchase shares of class A common stock issued and outstanding:

	Shares (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at January 1, 2018	1,291	$ 91.58		
Exercised	(178)	84.79		
Granted	279	106.38		
Forfeited / Expired	(8)	104.87		
Outstanding at December 31, 2018	1,384	$ 95.36	6.28	$ 9
Options Vested and Expected to Vest	1,384	$ 95.36	6.28	$ 9
Exercisable at December 31, 2018	857	$ 89.36	5.05	$ 9

The fair value of each option grant is estimated using the Black-Scholes option pricing model. The weighted-average assumptions used, by year, and the calculated weighted-average fair values of options, are as follows:

	2018	2017	2016
Expected dividend yield	2.93%	2.89%	2.95%
Risk-free interest rate	2.84%	2.15%	1.62%
Expected life in years	7.5	7.5	7.5
Expected volatility	16.72%	17.81%	22.40%
Weighted-average fair value of options granted	$ 15.23	$ 14.70	$ 16.46

Expected volatilities are based on the historical returns on our stock and the implied volatility of our publicly-traded options. The expected dividend yield is based on the recent historical dividend yields for our stock, taking into account changes in dividend policy. The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time options are expected to remain outstanding, and we have relied upon a combination of the observed exercise behavior of our prior grants with similar characteristics, the vesting schedule of the grants and an index of peer companies with similar grant characteristics in estimating this variable.

We received cash of $12, $41 and $72 million during 2018, 2017 and 2016, respectively, from option holders resulting from the exercise of stock options. The total intrinsic value of options exercised during 2018, 2017 and 2016 was $6, $22 and $24 million, respectively. As of December 31, 2018, there was $2 million of total unrecognized compensation cost related to nonvested options. That cost is expected to be recognized over a weighted-average period of three years and six months.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2018:

	Options Outstanding			Options Exercisable	
Exercise Price Range	Shares (in thousands)	Weighted-Average Remaining Contractual Term (in years)	Weighted-Average Exercise Price	Shares (in thousands)	Weighted-Average Exercise Price
$55.01 - $70.00	116	0.88	$ 61.94	116	$ 61.94
$70.01 - $80.00	168	2.81	75.79	168	75.79
$80.01 - $90.00	104	4.17	82.89	104	82.89
$90.01 - $110.00	996	7.72	103.88	469	102.49
	1,384	6.28	$ 95.36	857	$ 89.36

Discounted Employee Stock Purchase Plan

We maintain an employee stock purchase plan for all eligible employees. Under this plan, shares of UPS class A common stock may be purchased at quarterly intervals at 95% of the NYSE closing price of UPS class B common stock on the last day of each quarterly period. Employees purchased 0.9 million shares at average prices of $105.53, $108.98 and $99.27 per share during 2018, 2017 and 2016, respectively. This plan is not considered to be compensatory, and therefore no compensation cost is measured for the employees' purchase rights.

NOTE 12. SEGMENT AND GEOGRAPHIC INFORMATION

We report our operations in three segments: U.S. Domestic Package operations, International Package operations and Supply Chain & Freight operations. Package operations represent our most significant business and are broken down into regional operations around the world. Regional operations managers are responsible for both domestic and export products within their geographic area.

U.S. Domestic Package

Domestic Package operations include the time-definite delivery of letters, documents and packages throughout the United States.

International Package

International Package operations include delivery to more than 220 countries and territories worldwide, including shipments wholly outside the United States, as well as shipments with either origin or destination outside the United States. Our International Package reporting segment includes the operations of our Europe, Asia, Americas and ISMEA operating segments.

Supply Chain & Freight

Supply Chain & Freight includes our Forwarding, Logistics, Coyote, Marken, UPS Mail Innovations, UPS Freight and other aggregated business units. Our Forwarding, Logistics and UPS Mail Innovations units provide services in more than 200 countries and territories worldwide and include international air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting services. UPS Freight offers a variety of LTL and TL services to customers in North America. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the life sciences industry. Other aggregated business units within this segment include The UPS Store and UPS Capital.

In evaluating financial performance, we focus on operating profit as a segment's measure of profit or loss. Operating profit is before investment income (expense) and other, interest expense and income taxes. The accounting policies of the segments are the same as those described in the "Items Affecting Comparability" section of Management's Discussion and Analysis, with certain expenses allocated between the segments using activity-based costing methods. Unallocated assets are comprised primarily of cash, marketable securities and certain investment partnerships. In 2018, we changed the segment allocation methodology for certain shared assets. All prior periods have been recast to reflect this change in methodology.

Segment information for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

	2018	2017	2016
Revenue:			
U.S. Domestic Package	$ 43,593	$ 40,761	$ 38,284
International Package	14,442	13,342	12,346
Supply Chain & Freight	13,826	12,482	10,980
Consolidated	$ 71,861	$ 66,585	$ 61,610
Operating Profit:			
U.S. Domestic Package	$ 3,643	$ 4,303	$ 4,628
International Package	2,529	2,429	2,417
Supply Chain & Freight	852	797	643
Consolidated	$ 7,024	$ 7,529	$ 7,688
Assets:			
U.S. Domestic Package	$ 28,216	$ 25,449	$ 22,299
International Package	12,070	10,361	9,219
Supply Chain & Freight	8,411	8,267	7,841
Unallocated	1,319	1,497	1,186
Consolidated	$ 50,016	$ 45,574	$ 40,545
Depreciation and Amortization Expense:			
U.S. Domestic Package	$ 1,375	$ 1,479	$ 1,482
International Package	526	509	488
Supply Chain & Freight	306	294	254
Consolidated	$ 2,207	$ 2,282	$ 2,224

Revenue by product type for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

	2018	2017	2016
U.S. Domestic Package:			
Next Day Air	$ 7,618	$ 7,088	$ 6,752
Deferred	4,752	4,422	4,080
Ground	31,223	29,251	27,452
Total U.S. Domestic Package	43,593	40,761	38,284
International Package:			
Domestic	2,874	2,646	2,441
Export	10,973	10,170	9,369
Cargo	595	526	536
Total International Package	14,442	13,342	12,346
Supply Chain & Freight:			
Forwarding	6,580	5,674	4,873
Logistics	3,234	3,017	2,644
Freight	3,218	3,000	2,737
Other	794	791	726
Total Supply Chain & Freight	13,826	12,482	10,980
Consolidated	$ 71,861	$ 66,585	$ 61,610

Geographic information for the years ended December 31, 2018, 2017 and 2016 is as follows (in millions):

	2018	2017	2016
United States:			
Revenue	$ 56,115	$ 52,080	$ 48,434
Long-lived assets	$ 24,918	$ 21,141	$ 18,761
International:			
Revenue	$ 15,746	$ 14,505	$ 13,176
Long-lived assets	$ 8,577	$ 7,966	$ 6,700
Consolidated:			
Revenue	$ 71,861	$ 66,585	$ 61,610
Long-lived assets	$ 33,495	$ 29,107	$ 25,461

Long-lived assets include property, plant and equipment, pension and postretirement benefit assets, long-term investments, goodwill and intangible assets.

No countries outside of the United States, nor any individual customers, provided 10% or more of consolidated revenue for the years ended December 31, 2018, 2017 or 2016.

NOTE 13. INCOME TAXES

The income tax expense (benefit) for the years ended December 31, 2018, 2017 and 2016 consists of the following (in millions):

	2018	2017	2016
Current:			
U.S. Federal	$ 89	$ 671	$ 1,338
U.S. State and Local	7	49	67
Non-U.S.	374	288	177
Total Current	470	1,008	1,582
Deferred:			
U.S. Federal	668	1,115	98
U.S. State and Local	75	118	30
Non-U.S.	15	(9)	(11)
Total Deferred	758	1,224	117
Total Income Tax Expense	$ 1,228	$ 2,232	$ 1,699

Income before income taxes includes the following components (in millions):

	2018	2017	2016
United States	$ 4,307	$ 5,987	$ 4,307
Non-U.S.	1,712	1,150	814
Total Income Before Income Taxes:	$ 6,019	$ 7,137	$ 5,121

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2018, 2017 and 2016 consists of the following:

	2018	2017	2016
Statutory U.S. federal income tax rate	21.0 %	35.0 %	35.0 %
U.S. state and local income taxes (net of federal benefit)	1.4	1.5	1.5
Non-U.S. tax rate differential	0.2	(2.0)	(2.4)
U.S. federal tax credits	(1.1)	(1.8)	(1.2)
Income tax benefit from the Tax Cuts and Jobs Act and other non-U.S. tax law changes	—	(3.6)	—
Defined benefit plans mark-to-market charge tax rate differential (1)	—	1.5	—
Other	(1.1)	0.7	0.3
Effective income tax rate	20.4 %	31.3 %	33.2 %

(1) Impact of applying Tax Act corporate rate enacted of 21% versus 35%

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions in which we operate and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year, but may not be consistent from year to year.

Our effective tax rate decreased to 20.4% in 2018, compared with 31.3% in 2017 and 33.2% in 2016, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items.

Tax Cuts and Jobs Act

On December 22, 2017, the United States enacted into law the Tax Act. The Tax Act made broad and complex changes to the U.S. tax code, including a permanent corporate rate reduction to 21% and a transition to a territorial international system effective in 2018. The Tax Act includes provisions that affected 2017, including: (1) requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries (“Transition Tax”) that is payable over eight years; (2) requiring a remeasurement of all U.S. deferred tax assets and liabilities to the newly enacted corporate tax rate of 21% and (3) providing for additional first-year depreciation that allows full expensing of qualified property placed into service after September 27, 2017.

In late December 2017, the SEC staff issued Staff Accounting Bulletin ("SAB") 118, which provided guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under U.S. GAAP. We recorded a $272 million provisional benefit inclusive of our Transition Tax liability, the change in our indefinite reinvestment assertion for certain foreign subsidiaries and the remeasurement of our U.S. net deferred tax liabilities for the year ended December 31, 2017. During the fourth quarter of 2018, we completed our accounting for the Tax Act based on the current regulatory guidance available at the end of the SAB 118 measurement period and recorded no material net adjustments to our provisional estimate.

The Tax Act also enacted provisions that took effect in 2018 including but not limited to: (1) a provision that imposes U.S. tax on certain foreign subsidiary income known as GILTI, (2) a new deduction for Foreign-Derived Intangible Income ("FDII"), (3) additional limitations on tax deductions for expenses such as interest and executive compensation, and (4) a new minimum tax based on certain payments from a U.S. company to foreign related parties known as the Base Erosion and Anti-Abuse Tax ("BEAT").

We included the impact of each of the newly effective Tax Act provisions in our computation of the 2018 income tax expense. Throughout 2018, the U.S. Department of the Treasury and Internal Revenue Service issued preliminary regulatory guidance clarifying certain provisions of the Tax Act, and we anticipate additional regulatory guidance and technical clarifications during 2019. When additional guidance is issued, we will recognize the related tax impact in the quarter of enactment.

2018 Discrete Items

The decrease in our effective tax rate was primarily due to the impact of the Tax Act which reduced the U.S. federal corporate income tax rate from 35% to 21% effective January 1, 2018.

In the fourth quarter of 2018, we recognized an income tax benefit of $390 million related to pre-tax mark-to-market losses of $1.627 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate because it included the effect of U.S. state and local and foreign taxes.

We recorded pre-tax transformation strategy costs of $360 million during the year ended December 31, 2018. As a result, we recorded an additional income tax benefit of $87 million. This income tax benefit was generated at a higher average tax rate than the 2018 U.S. federal statutory tax rate due to the effect of U.S. state and local and foreign taxes.

The recognition of excess tax benefits and deficiencies related to share-based compensation in income tax expense resulted in a net tax benefit of $38 million and reduced our effective tax rate by 0.6% during the year ended December 31, 2018.

Other factors that impacted our 2018 effective tax rate include favorable resolutions of uncertain tax positions, favorable U.S. state and local tax law changes, favorable tax provisions enacted in the Bipartisan Budget Act of 2018 and discrete tax credits associated with the filing of our 2017 U.S. federal income tax return.

2017 Discrete Items

In addition to the impact of the Tax Act described above, the following discrete items were recorded during the year ended December 31, 2017.

In the fourth quarter of 2017, we recognized an income tax benefit of $193 million related to pre-tax mark-to-market losses of $800 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average tax rate than the 2017 U.S. federal statutory tax rate due to future tax rate changes enacted by the Tax Act and differences between U.S. and foreign statutory rates, which was partially offset by the effect of U.S. state and local taxes.

In the fourth quarter of 2017, tax law changes were enacted in certain non-U.S. jurisdictions in which we operate. As a result, we recorded a decrease to our foreign net deferred tax assets of $14 million with a corresponding net increase to deferred tax expense of $14 million for the year ended December 31, 2017.

In the first quarter of 2017, we adopted a new accounting standard that requires the recognition of excess tax benefits related to share-based compensation in income tax expense, which resulted in tax benefits for the year ended December 31, 2017 of $71 million and reduced our effective tax rate by 1.0%.

2016 Discrete Items

In the fourth quarter of 2016, we recognized an income tax benefit of $978 million related to pre-tax mark-to-market losses of $2.651 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average tax rate than the U.S. federal statutory tax rate because it included the effect of U.S. state and local taxes.

Other Items

Beginning in 2012, we were granted a tax incentive for certain of our non-U.S. operations, which is effective through December 31, 2021. The tax incentive is conditional upon our meeting specific employment and investment thresholds. The impact of this tax incentive decreased non-U.S. tax expense by $27 million ($0.03 per share), $24 million ($0.03 per share) and $21 million ($0.02 per share) for 2018, 2017, and 2016, respectively.

Deferred income tax assets and liabilities are comprised of the following at December 31, 2018 and 2017 (in millions):

	2018	2017
Fixed assets and capitalized software	$ (4,010)	$ (3,288)
Other	(493)	(532)
Deferred tax liabilities	(4,503)	(3,820)
Pension and postretirement benefits	1,743	1,877
Loss and credit carryforwards	298	323
Insurance reserves	437	449
Stock compensation	189	182
Accrued employee compensation	274	266
Other	196	359
Deferred tax assets	3,137	3,456
Deferred tax assets valuation allowance	(112)	(126)
Deferred tax asset (net of valuation allowance)	3,025	3,330
Net deferred tax asset (liability)	$ (1,478)	$ (490)
Amounts recognized in the consolidated balance sheets:		
Deferred tax assets	$ 141	$ 266

Deferred tax liabilities	(1,619)	(756)
Net deferred tax asset (liability)	$ (1,478)	$ (490)

The valuation allowance changed by $(14), $(33) and $(38) million during the years ended December 31, 2018, 2017 and 2016, respectively.

We have a U.S. federal capital loss carryforward of $31 million as of December 31, 2018, $30 million of which expires on December 31, 2021, and the remainder of which expires on December 31, 2022. In addition, we have U.S. state and local operating loss and credit carryforwards as follows (in millions):

	2018	2017
U.S. state and local operating loss carryforwards	$ 1,014	$ 1,215
U.S. state and local credit carryforwards	$ 80	$ 83

The U.S. state and local operating loss carryforwards and credits can be carried forward for periods ranging from one year to indefinitely. We also have non-U.S. loss carryforwards of $706 million as of December 31, 2018, the majority of which may be carried forward indefinitely. As indicated in the table above, we have established a valuation allowance for certain non-U.S. and state carryforwards due to the uncertainty resulting from a lack of previous taxable income within the applicable tax jurisdictions.

Undistributed earnings and profits ("E&P") of our foreign subsidiaries amounted to $6.583 billion at December 31, 2018. As a result of the Tax Act, during the year ended December 31, 2017, we changed our indefinite reinvestment assertion with respect to the earnings of certain foreign subsidiaries. For all other foreign subsidiaries, we continue to assert that these earnings are indefinitely reinvested. $1.458 billion of the undistributed E&P of our foreign subsidiaries is considered to be indefinitely reinvested and, accordingly, no deferred income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to U.S. state and local taxes and withholding taxes payable in various jurisdictions. Determination of the amount of unrecognized deferred income tax liability is not practicable because of the complexities associated with its hypothetical calculation.

The following table summarizes the activity related to our uncertain tax positions (in millions):

	Tax	Interest	Penalties
Balance at January 1, 2016	$ 148	$ 53	$ 6
Additions for tax positions of the current year	17	—	—
Additions for tax positions of prior years	20	10	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(41)	(13)	—
Settlements during the period	—	—	—
Lapses of applicable statute of limitations	—	—	—
Balance at December 31, 2016	144	50	6
Additions for tax positions of the current year	16	—	—
Additions for tax positions of prior years	33	14	3
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(24)	(18)	—
Settlements during the period	(6)	(3)	—
Lapses of applicable statute of limitations	(3)	—	—
Balance at December 31, 2017	160	43	9
Additions for tax positions of the current year	47	—	1
Additions for tax positions of prior years	7	10	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(43)	(8)	(5)
Settlements during the period	(1)	(1)	—
Lapses of applicable statute of limitations	(3)	—	—

Balance at December 31, 2018	$ 167	$ 44	$ 5

The total amount of gross uncertain tax positions as of December 31, 2018, 2017 and 2016 that, if recognized, would affect the effective tax rate was $165, $159 and $142 million, respectively. Our continuing policy is to recognize interest and penalties associated with income tax matters as a component of income tax expense.

We file income tax returns in the U.S. federal jurisdiction, most U.S. state and local jurisdictions, and many non-U.S. jurisdictions. We have substantially resolved all U.S. federal income tax matters for tax years prior to 2015.

A number of years may elapse before an uncertain tax position is audited and ultimately settled. It is difficult to predict the ultimate outcome or the timing of resolution for uncertain tax positions. It is reasonably possible that the liability for uncertain tax positions could significantly increase or decrease within the next twelve months. Items that may cause changes to uncertain tax positions include the timing of interest deductions and the allocation of income and expense between tax jurisdictions. These changes could result from the settlement of ongoing litigation, the completion of ongoing examinations, the expiration of the statute of limitations, additional regulatory guidance on the Tax Act or other unforeseen circumstances. At this time, an estimate of the range of the reasonably possible change cannot be made.

NOTE 14. EARNINGS PER SHARE

The earnings per share amounts are the same for class A and class B common shares as the holders of each class are legally entitled to equal per share distributions whether through dividends or in liquidation.

The following table sets forth the computation of basic and diluted earnings per share (in millions, except per share amounts):

	2018	2017	2016
Numerator:			
Net income attributable to common shareowners	$ 4,791	$ 4,905	$ 3,422
Denominator:			
Weighted-average shares	860	865	878
Deferred compensation obligations	1	1	1
Vested portion of restricted shares	5	5	4
Denominator for basic earnings per share	866	871	883
Effect of Dilutive Securities:			
Restricted performance units	4	3	3
Stock options	—	1	1
Denominator for diluted earnings per share	870	875	887
Basic Earnings Per Share	$ 5.53	$ 5.63	$ 3.88
Diluted Earnings Per Share	$ 5.51	$ 5.61	$ 3.86

Diluted earnings per share for the years ended December 31, 2018, 2017 and 2016 exclude the effect of 0.2, 0.1 and 0.2 million shares, respectively, of common stock that may be issued upon the exercise of employee stock options because such effect would be antidilutive.

NOTE 15. DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT

Risk Management Policies

Changes in fuel prices, interest rates and foreign exchange rates impact our results of operations. These exposures are actively monitored by management. To manage the impact of these exposures, we enter into a variety of derivative financial instruments. Our objective is to manage, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency rates, commodity prices and interest rates. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures. As we use price sensitive instruments to hedge a certain portion of our existing and anticipated transactions, we expect that any loss in value for those instruments generally would be offset by increases in the value of those hedged transactions. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Credit Risk Management

The forward contracts, swaps and options discussed below contain an element of risk that the counterparties may be unable to meet the terms of the agreements; however we seek to minimize such risk exposures for these instruments by limiting the counterparties to banks and financial institutions that meet established credit guidelines and by monitoring counterparty credit risk to prevent concentrations of credit risk with any single counterparty.

We have agreements with all of our active counterparties (covering the majority of our derivative positions) containing early termination rights and/or zero threshold bilateral collateral provisions whereby cash is required based on the net fair value of derivatives associated with those counterparties.

At December 31, 2018 and 2017, we held cash collateral of $325 and $17 million, respectively, under these agreements; this collateral is included in "Cash and cash equivalents" on the consolidated balance sheets and its use by UPS is not restricted. At December 31, 2018 and 2017, $0 and $174 million, respectively, of additional collateral was required to be posted with our counterparties.

Events such as a counterparty credit rating downgrade (depending on the ultimate rating level) could also allow us to take additional protective measures such as the early termination of trades. The amount of collateral required would be determined by the net fair value of the associated derivatives with each counterparty. We have not historically incurred, and do not expect to incur in the future, any losses as a result of counterparty default. At December 31, 2018, there were no instruments in a net liability position that were not covered by the zero threshold bilateral collateral provisions.

Accounting Policy for Derivative Instruments

We recognize all derivative instruments as assets or liabilities on the consolidated balance sheets at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the derivative, based upon the exposure being hedged, as a cash flow hedge, a fair value hedge or a hedge of a net investment in a foreign operation.

A cash flow hedge refers to hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. For derivative instruments that are designated and qualify as a cash flow hedge, the effective portion of the gain or loss on the derivative instrument is reported as a component of AOCI, and reclassified into earnings in the same period during which the hedged transaction affects earnings. The remaining gain or loss on the derivative instrument in excess of the cumulative change in the present value of future cash flows of the hedged item, or hedge components excluded from the assessment of effectiveness, are recognized in the statements of consolidated income during the current period.

A fair value hedge refers to hedging the exposure to changes in the fair value of an existing asset or liability on the consolidated balance sheets that is attributable to a particular risk. For derivative instruments that are designated and qualify as a fair value hedge, the gain or loss on the derivative instrument is recognized in the statements of consolidated income during the current period, as well as the offsetting gain or loss on the hedged item.

A net investment hedge refers to the use of cross currency swaps, forward contracts or foreign currency denominated debt to hedge portions of our net investments in foreign operations. For hedges that meet the effectiveness requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in the foreign currency translation adjustment within AOCI. The remainder of the change in value of such instruments is recorded in earnings.

Types of Hedges

Commodity Risk Management

Currently, the fuel surcharges that we apply to our domestic and, international package and LTL services are the primary means of reducing the risk of adverse fuel price changes on our business. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. We periodically enter into derivative contracts on energy commodity products to manage the price risk associated with forecasted transactions involving refined fuels, principally jet-A, diesel and unleaded gasoline. The objective of the hedges is to reduce the variability of cash flows, due to changing fuel prices, associated with the forecasted transactions involving those products. We normally designate and account for these contracts as cash flow hedges of the underlying forecasted transactions involving these fuel products and, therefore, the resulting gains and losses from these hedges are recognized as a component of fuel expense or revenue when the underlying transactions occur.

Foreign Currency Risk Management

To protect against the reduction in value of forecasted foreign currency cash flows from our international package business, we maintain a foreign currency cash flow hedging program. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We hedge portions of our forecasted revenue denominated in foreign currencies with option and forward contracts. We normally designated and account for these contracts as cash flow hedges of anticipated foreign currency denominated revenue and, therefore, the resulting gains and losses from these hedges are recognized as a component of international package revenue when the underlying sales transactions occur.

We also hedge portions of our anticipated cash settlements of intercompany transactions and interest payments on certain debt subject to foreign currency remeasurement using foreign currency forward contracts. We normally designate and account for these contracts as cash flow hedges of forecasted foreign currency denominated transactions; therefore the resulting gains and losses from these hedges are recognized as a component of investment income (expense) and other when the underlying transactions are subject to currency remeasurement.

We hedge our net investment in certain foreign operations with foreign currency denominated debt instruments. The use of foreign denominated debt as the hedging instrument allows the debt to be remeasured to foreign currency translation adjustment within AOCI to offset the translation risk from those investments. Any ineffective portion of net investment hedging is recognized as a component of investment income (expense) and other. Balances in the cumulative translation adjustment accounts remain until the sale or complete liquidation of the foreign entity.

Interest Rate Risk Management

Our indebtedness under our various financing arrangements creates interest rate risk. We use a combination of derivative instruments as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment date and maturity date of the swaps match the terms of the associated debt being hedged. Interest rate swaps allow us to maintain a target range of floating-rate debt within our capital structure.

We have designated and account for the majority of our interest rate swaps that convert fixed-rate interest payments into floating-rate interest payments as hedges of the fair value of the associated debt instruments. Therefore, the gains and losses resulting from fair value adjustments to the interest rate swaps and fair value adjustments to the associated debt instruments are recorded to interest expense in the period in which the gains and losses occur. We have designated and account for interest rate swaps that convert floating-rate interest payments into fixed-rate interest payments as cash flow hedges of the forecasted payment obligations. The gains and losses resulting from fair value adjustments to the interest rate swaps are recorded to AOCI.

We periodically hedge the forecasted fixed-coupon interest payments associated with anticipated debt offerings by, using forward starting interest rate swaps, interest rate locks or similar derivatives. These agreements effectively lock a portion of our interest rate exposure between the time the agreement is entered into and the date when the debt offering is completed, thereby mitigating the impact of interest rate changes on future interest expense. These derivatives are settled commensurate with the issuance of the debt, and any gain or loss upon settlement is amortized as an adjustment to the effective interest yield on the debt.

Outstanding Positions

The notional amounts of our outstanding derivative positions were as follows as of December 31, 2018 and 2017 (in millions):

		2018	2017
Currency Hedges:			
Euro	EUR	4,924	4,942
British Pound Sterling	GBP	2,037	1,736
Canadian Dollar	CAD	1,443	1,259
Hong Kong Dollar	HKD	3,642	—
Mexican Peso	MXN	—	169
Singapore Dollar	SGD	20	11
Interest Rate Hedges:			
Fixed to Floating Interest Rate Swaps	USD	4,674	5,424
Floating to Fixed Interest Rate Swaps	USD	778	778
Investment Market Price Hedges:			
Marketable Securities	EUR	—	64

As of December 31, 2018, we had no outstanding commodity hedge positions.

Balance Sheet Recognition

The following table indicates the location on the consolidated balance sheets where our derivative assets and liabilities have been recognized, and the related fair values of those derivatives as of December 31, 2018 and 2017 (in millions). The table is segregated between those derivative instruments that qualify and are designated as hedging instruments and those that are not, as well as by type of contract and whether the derivative is in an asset or liability position.

We have master netting arrangements with substantially all of our counterparties giving us the right of offset for our derivative positions. However, we have not elected to offset the fair value positions of the derivative contracts recorded on our consolidated balance sheets. The columns labeled "Net Amounts if Right of Offset had been Applied" indicate the potential net fair value positions by type of contract and location on the consolidated balance sheets had we elected to apply the right of offset.

		Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Asset Derivatives	**Balance Sheet Location**	**2018**	**2017**	**2018**	**2017**
Derivatives Designated As Hedges:					
Foreign exchange contracts	Other current assets	$ 90	$ 2	$ 83	$ —
Interest rate contracts	Other current assets	1	1	1	1
Foreign exchange contracts	Other non-current assets	230	1	215	—
Interest rate contracts	Other non-current assets	14	59	6	43
Derivatives Not Designated As Hedges:					
Foreign exchange contracts	Other current assets	7	18	5	17
Foreign exchange contracts	Other non-current assets	1	—	1	—
Interest rate contracts	Other non-current assets	18	26	18	26

Total Asset Derivatives	$ 361	$ 107	$ 329	$ 87

Liability Derivatives	Balance Sheet Location	Gross Amounts Presented in Consolidated Balance Sheets 2018	Gross Amounts Presented in Consolidated Balance Sheets 2017	Net Amounts if Right of Offset had been Applied 2018	Net Amounts if Right of Offset had been Applied 2017
Derivatives Designated As Hedges:					
Foreign exchange contracts	Other current liabilities	$ 7	$ 93	$ —	$ 91
Interest rate contracts	Other current liabilities	—	—	—	—
Foreign exchange contracts	Other non-current liabilities	15	194	—	193
Interest rate contracts	Other non-current liabilities	41	28	33	12
Derivatives Not Designated As Hedges:					
Foreign exchange contracts	Other current liabilities	3	1	1	—
Investment market price contracts	Other current liabilities	—	16	—	16
Foreign exchange contracts	Other non-current liabilities	1	—	1	—
Total Liability Derivatives		$ 67	$ 332	$ 35	$ 312

Income Statement and AOCI Recognition

The following table indicates the amount of gains and losses that have been recognized in AOCI within "unrealized gain (loss) on cash flow hedges" for the years ended December 31, 2018 and 2017 for those derivatives designated as cash flow hedges (in millions):

Derivative Instruments in Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in AOCI on Derivative (Effective Portion) 2018	Amount of Gain (Loss) Recognized in AOCI on Derivative (Effective Portion) 2017
Interest rate contracts	$ 1	$ —
Foreign exchange contracts	563	(506)
Total	$ 564	$ (506)

As of December 31, 2018, $84 million of pre-tax gains related to cash flow hedges that are currently deferred in AOCI are expected to be reclassified to income over the 12 month period ended December 31, 2019. The actual amounts that will be reclassified to income over the next 12 months will vary from this amount as a result of changes in market conditions. The maximum term over which we are hedging exposures to the variability of cash flow is 14 years.

The amount of ineffectiveness recognized in income on derivative instruments designated in cash flow hedging relationships was immaterial for the years ended December 31, 2018, 2017 and 2016.

The following table indicates the amount of gains and losses that have been recognized in AOCI within "foreign currency translation gain (loss)" for the years ended December 31, 2018 and 2017 for those instruments designated as net investment hedges (in millions):

Non-derivative Instruments in Net Investment Hedging Relationships	Amount of Gain (Loss) Recognized in AOCI on Debt (Effective Portion) 2018	Amount of Gain (Loss) Recognized in AOCI on Debt (Effective Portion) 2017
Foreign denominated debt	$ 211	$ (428)
Total	$ 211	$ (428)

The amount of ineffectiveness recognized in income on non-derivative instruments designated in net investment hedging relationships was immaterial for the years ended December 31, 2018, 2017 and 2016.

The following table indicates the amount and location in the statements of consolidated income in which derivative gains and losses, as well as the associated gains and losses on the underlying exposure, have been recognized for those derivatives designated as fair value hedges for the years ended December 31, 2018 and 2017 (in millions):

Derivative Instruments in Fair Value Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income		Hedged Items in Fair Value Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income	
		2018	2017			2018	2017
Interest rate contracts	Interest Expense	$ (57)	$ (84)	Fixed-Rate Debt and Capital Leases	Interest Expense	$ 57	$ 84

Additionally, we maintain some interest rate swaps, foreign exchange currency forwards and investment market price forward contracts that are not designated as hedges. These interest rate swap contracts are intended to provide an economic hedge of portions of our outstanding debt. These foreign exchange forward contracts are intended to provide an economic offset to foreign currency remeasurement and settlement risks for certain assets and liabilities in our consolidated balance sheets. These investment market price forward contracts are intended to provide an economic offset to fair value fluctuations of certain investments in marketable securities.

We also periodically terminate interest rate swaps and foreign exchange currency options by entering into offsetting swap and foreign currency positions with different counterparties. As part of this process, we de-designate our original swap and foreign exchange currency contracts. These transactions provide an economic offset that effectively eliminates the effects of changes in market valuation.

The following is a summary of the amounts recorded in the statements of consolidated income related to fair value changes and settlements of these foreign currency forwards, interest rate swaps, investment market price and commodity contracts not designated as hedges for the years ended December 31, 2018 and 2017 (in millions):

Derivative Instruments Not Designated in Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income	
		2018	2017
Foreign exchange contracts	Investment income (expense) and other	$ (102)	$ 60
Investment market price contracts	Investment income (expense) and other	16	(5)
Interest rate contracts	Interest Expense	(9)	(9)
Total		$ (95)	$ 46

Fair Value Measurements

Our foreign currency, interest rate and investment market price derivatives are largely comprised of over-the-counter derivatives, which are primarily valued using pricing models that rely on market observable inputs such as yield curves, currency exchange rates and commodity forward prices, and therefore are classified as Level 2. The fair values of our derivative assets and liabilities as of December 31, 2018 and 2017 by hedge type are as follows (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2018				
Assets:				
Foreign Exchange Contracts	$ —	$ 328	$ —	$ 328
Interest Rate Contracts	—	33	—	33
Total	$ —	$ 361	$ —	$ 361
Liabilities:				
Foreign Exchange Contracts	$ —	$ 25	$ —	$ 25
Investment Market Price Contracts	—	—	—	—
Interest Rate Contracts	—	42	—	42
Total	$ —	$ 67	$ —	$ 67

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2017				
Assets:				
Foreign Exchange Contracts	$ —	$ 21	$ —	$ 21
Interest Rate Contracts	—	86	—	86
Total	$ —	$ 107	$ —	$ 107
Liabilities:				
Foreign Exchange Contracts	$ —	$ 288	$ —	$ 288
Investment Market Price Contracts	—	16	—	16
Interest Rate Contracts	—	28	—	28
Total	$ —	$ 332	$ —	$ 332

NOTE 16. TRANSFORMATION STRATEGY

In the first quarter of 2018, we launched the first phase of a multi-year, enterprise-wide transformation strategy to modernize our business and operations and enhance quality and efficiency. Over the next few years additional transformation phases will be implemented. The program includes investments impacting global direct and indirect operating costs, as well as changes in processes and technology.

During the year ended December 31, 2018 we recorded pre-tax charges of $360 million that reflect costs and other benefits of $262 million of primarily voluntary severance included within "Compensation and benefits" on the statements of consolidated income, and other costs of $98 million recorded to total other expenses. The after-tax transformation strategy costs totaled $273 million. The income tax effects of the transformation strategy costs are calculated by multiplying the amount of the adjustments by the statutory tax rates applicable in each tax jurisdiction. There were no comparable costs for the twelve months of 2017.

NOTE 17. QUARTERLY INFORMATION (UNAUDITED)

Our revenue, segment operating profit, net income, basic and diluted earnings per share on a quarterly basis are presented below (in millions, except per share amounts):

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2018	2017	2018	2017	2018	2017	2018	2017
Revenue:								
U.S. Domestic Package	$ 10,227	$ 9,536	$ 10,354	$ 9,741	$ 10,437	$ 9,651	$ 12,575	$ 11,833
International Package	3,533	3,074	3,602	3,171	3,478	3,376	3,829	3,721
Supply Chain & Freight	3,353	2,900	3,500	3,015	3,529	3,146	3,444	3,421
Total revenue	17,113	15,510	17,456	15,927	17,444	16,173	19,848	18,975
Operating Profit:								
U.S. Domestic Package	756	950	939	1,255	949	1,011	999	1,087
International Package	594	518	618	570	536	606	781	735
Supply Chain & Freight	170	149	216	212	242	195	224	241
Total operating profit	1,520	1,617	1,773	2,037	1,727	1,812	2,004	2,063
Total Other Income and (Expense)	$ 141	$ 93	$ 153	$ 82	$ 162	$ 125	$ (1,461)	$ (692)
Net Income	$ 1,345	$ 1,166	$ 1,485	$ 1,384	$ 1,508	$ 1,259	$ 453	$ 1,096
Net Income Per Share:								
Basic	$ 1.55	$ 1.33	$ 1.71	$ 1.59	$ 1.74	$ 1.45	$ 0.52	$ 1.26
Diluted	$ 1.55	$ 1.33	$ 1.71	$ 1.58	$ 1.73	$ 1.44	$ 0.52	$ 1.26

This table reflects the impact of the adoption of new accounting standards in 2018. Refer to note 1 to the audited consolidated financial statements.

Operating profit for the quarter ended June 30, 2018 was impacted by $263 million of transformation strategy costs, which includes voluntary retirement plan severance costs of $192 million and other costs of $71 million. These costs were allocated between the U.S. Domestic Package segment ($196 million), International Package segment ($36 million) and Supply Chain & Freight segment ($31 million). The transformation strategy costs reduced second quarter net income by $200 million, and basic and diluted earnings per share by $0.24 and $0.23, respectively.

Operating profit for the quarter ended September 30, 2018 was impacted by $97 million of transformation strategy costs. These costs were allocated between the U.S. Domestic Package segment ($39 million), International

Package segment ($40 million) and Supply Chain & Freight segment ($18 million). The transformation strategy costs reduced third quarter net income by $73 million, and basic and diluted earnings per share by $0.09.

Other income and (expense) for the quarter ended December 31, 2018 was impacted by a mark-to-market loss of $1.627 billion on our pension and postretirement benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor. This loss reduced net income by $1.237 billion and basic and diluted earnings per share by $1.43 and $1.42, respectively.

Other income and (expense) for the quarter ended December 31, 2017 was impacted by a mark-to-market loss of $800 million on our pension and postretirement benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor. Net income for the quarter ended December 31, 2017 includes an income tax benefit of $258 million attributable to the 2017 Tax Act. These items reduced fourth quarter net income by $349 million and basic and diluted earnings per share by $0.41 and $0.40, respectively.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, management, including our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures. Based upon, and as of the date of, the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported as and when required and is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control:

There were no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting:

UPS management is responsible for establishing and maintaining adequate internal control over financial reporting for United Parcel Service, Inc. and its subsidiaries (the "Company"). Based on the criteria for effective internal control over financial reporting established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, management has assessed the Company's internal control over financial reporting as effective as of December 31, 2018. The independent registered public accounting firm of Deloitte & Touche LLP, as auditors of the consolidated balance sheets of United Parcel Service, Inc. and its subsidiaries as of December 31, 2018 and the related statements of consolidated income, consolidated comprehensive income and consolidated cash flows for the year ended December 31, 2018, has issued an attestation report on the Company's internal control over financial reporting, which is included herein.

Report of Independent Registered Public Accounting Firm

To the Shareowners and Board of Directors of
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (“PCAOB”), the consolidated financial statements as of and for the year ended December 31, 2018 of the Company and our report dated February 21, 2019, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company’s adoption of new accounting standards.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2019

Item 9B. ***Other Information***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Executive Officers of the Registrant

Name and Office	Age	Principal Occupation and Employment For the Last Five Years
David P. Abney Chairman and Chief Executive Officer	63	Chief Executive Officer (2014 - present), Chairman (2016 - present) Senior Vice President and Chief Operating Officer (2007 - 2014).
James J. Barber, Jr. Senior Vice President and President, Chief Operating Officer	58	Chief Operating Officer (2018 - present) President, UPS International (2013 - 2018), Chief Operating Officer, UPS Europe, Middle East and Africa (2010 - 2013).
Norman M. Brothers, Jr. Senior Vice President, General Counsel and Corporate Secretary	51	Senior Vice President, General Counsel and Corporate Secretary (2016 - present), Corporate Legal Department Manager (2014 - 2016), Vice President, Corporate Legal (2004 - 2014).
Nando Cesarone Senior Vice President and President, UPS International	47	President, UPS International (2018 - present), Europe Region Manager (2016 - 2018), Asia Pacific Region Manager (2013 - 2016).
Philippe Gilbert Senior Vice President and President, UPS Supply Chain Solutions	54	President, Supply Chain Solutions (2019 - present), Regional CEO of the Americas, DB Schenker Logistics (2015 - 2018), Regional CEO for West Europe, DB Schenker Logistics (2013 - 2015).
Kate M. Gutmann Senior Vice President, Chief Sales and Solutions Officer	50	Chief Sales and Solutions Officer; Senior Vice President The UPS Store and UPS Capital (2017 - present), Senior Vice President, Worldwide Sales and Solutions (2014 - 2017), President, Worldwide Sales (2011 - 2014).
Teri P. McClure Senior Vice President, Chief Human Resources Officer, Labor Relations	55	Chief Human Resources Officer and Senior Vice President, Labor (2016 - present), Chief Legal, Communications and Human Resources Officer (2015 - 2016), Senior Vice President of Legal, Compliance and Public Affairs, General Counsel and Corporate Secretary (2006 - 2014).
Richard N. Peretz Senior Vice President, Chief Financial Officer and Treasurer	57	Chief Financial Officer (2015 - present), Corporate Controller and Treasurer (2014 - 2015), Corporate Controller (2013 - 2015), Vice President of Corporate Finance and Accounting (2008 - 2013).
Juan R. Perez Senior Vice President, Chief Information Officer	52	Chief Information Officer and Engineering Officer (2017 - present), Chief Information Officer (2016 - 2017), Vice President, Information Services (2011 - 2016).
Scott A. Price Senior Vice President, Chief Transformation Officer	56	Chief Strategy Transformation Officer (2017 - present), Walmart International Executive Vice President of Global Leverage - Walmart International, Walmart Stores, Inc. (2017 - 2017), Chief Administrative Officer and Executive Vice President - Walmart International, Walmart Store Inc. (2016 - 2017), Chief Executive Officer and President of Walmart Asia Pte. Ltd (2014 - 2016).

Kevin Warren Senior Vice President, Chief Marketing Officer	56	Chief Marketing Operating (2018 - present), Executive Vice-President and Chief Commercial Officer, Xerox Corp (2017 - 2018), President, Commercial Business Group, Xerox Corp. (2016 - 2017), President, Industrial, Retail and Hospitality Business Group, Xerox Corp. (2015 - 2016), President of Strategic Growth Initiatives, Xerox Corp. (2014 - 2015).
George Willis Senior Vice President and President, United States Operations	54	President, U.S. Operations (2018 - present), President, West Region (2015 - 2018), U.K., Ireland, and Nordics District Manager (2013 - 2015).

Information about our directors is presented under the caption “Our Board of Directors" in our definitive proxy statement for the Annual Meeting of Shareowners to be held on May 9, 2019 (the “Proxy Statement”) and is incorporated herein by reference.

Information about our Audit Committee is presented under the caption “Our Board of Directors - Committees of the Board of Directors” and "Audit Committee Matters" in our Proxy Statement and is incorporated herein by reference.

Information about our Code of Business Conduct is presented under the caption “Where You Can Find More Information” in Part I, Item 1 of this report.

Information about our compliance with Section 16 of the Exchange Act of 1934, as amended, is presented under the caption “Ownership of Our Securities - Section 16(a) Beneficial Ownership Reporting Compliance” in our Proxy Statement and is incorporated herein by reference.

Item 11. *Executive Compensation*

Information about our board and executive compensation is presented under the captions “Our Board of Directors - Director Compensation" and "Executive Compensation" in our Proxy Statement and is incorporated herein by reference.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

Information about security ownership is presented under the caption “Ownership of Our Securities - Securities Ownership of Certain Beneficial Owners and Management” in our Proxy Statement and is incorporated herein by reference.

Information about our equity compensation plans is presented under the caption “Executive Compensation - Equity Compensation Plans” in our Proxy Statement and is incorporated herein by reference.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

Information about transactions with related persons is presented under the caption “Corporate Governance - Conflicts of Interest and Related Person Transactions” in our Proxy Statement and is incorporated herein by reference.

Information about director independence is presented under the caption “Corporate Governance - Director Independence” in our Proxy Statement and is incorporated herein by reference.

Item 14. *Principal Accounting Fees and Services*

Information about aggregate fees billed to us by our principal accountant is presented under the caption “Audit Committee Matters - Principal Accounting Firm Fees” in our Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. *Exhibits and Financial Statement Schedules*

(a) *Documents filed as a part of this report:*

1. *Financial Statements*.

See Item 8 for the financial statements filed with this report.

2. *Financial Statement Schedules*.

None.

3. *Exhibits*.

See the Exhibit Index below for a list of the exhibits incorporated by reference into or filed with this report.

(b) *Exhibits Required To Be Filed*

See Item 15(a)1 above

(c) *Financial Statement Schedules Required To Be Filed*

See Item 15(a) 2 above

Item 16. *Form 10-K Summary*

None

EXHIBIT INDEX

Exhibit No.		Description
3.1	—	Restated Certificate of Incorporation of United Parcel Service, Inc. (incorporated by reference to Exhibit 3.3 to Form 8-K filed on May 12, 2010).
3.2	—	Amended and Restated Bylaws of United Parcel Service, Inc. as of November 17, 2017 (incorporated by reference to Exhibit 3.1 to Form 8-K, filed on November 17, 2017).
4.1	—	Indenture relating to 8 3/8% Debentures due April 1, 2020 (incorporated by reference to Exhibit 4(c) to Registration Statement No. 33-32481, filed on December 7, 1989)(1).
4.2	—	Indenture dated as of December 18, 1997 (incorporated by reference to Exhibit T-3C to Form T-3, filed on December 18, 1997) (1).
4.3	—	Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to Form S-3 (No. 333-08369), filed on January 26, 1999) (1).
4.4	—	Form of First Supplemental Indenture to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.2 to Post-Effective Amendment No. 1 to Form S-3 (No. 333-08369-01), filed on March 15, 2000).
4.5	—	Second Supplemental Indenture dated as of September 21, 2001 to Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4 to Form 10-Q for the quarter ended September 30, 2001).
4.6	—	Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.1 to Form S-3 (No. 333-108272), filed on August 27, 2003).
4.7	—	First Supplemental Indenture dated as of November 15, 2013 to Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.2 to Form S-3ASR (No. 333-192369), filed on November 15, 2013).
4.8	—	Second Supplemental Indenture dated as of May 18, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 18, 2017).
4.9	—	Form of 6.20% Senior Notes due January 15, 2038 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on January 15, 2008).
4.10	—	Form of 5.125% Senior Notes due April 1, 2019 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on March 24, 2009).
4.11	—	Form of 3.125% Senior Notes due January 15, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 12, 2010).
4.12	—	Form of 4.875% Senior Notes due November 15, 2040 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 12, 2010).
4.13	—	Form of 2.450% Senior Notes due October 1, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on September 27, 2012).
4.14	—	Form of 3.625% Senior Notes due October 1, 2042 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on September 27, 2012).
4.15	—	Form of Floating Rate Senior Notes due December 15, 2064 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on December 15, 2014).
4.16	—	Form of Floating Rate Senior Notes due September 15, 2065 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on September 17, 2015).

4.17	—	Form of Floating Rate Senior Notes due July 15, 2020 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 20, 2015).
4.18	—	Form of 1.625% Senior Notes due November 15, 2025 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 20, 2015).
4.19	—	Form of Floating Rate Senior Notes due March 15, 2066 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on April 1, 2016).
4.20	—	Form of 2.40% Senior Notes Due November 2026 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on October 25, 2016).

4.21	—	Form of 3.40% Senior Notes Due November 2046 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on October 25, 2016).
4.22	—	Form of 1.00% Senior Notes Due November 2028 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on October 25, 2016).
4.23	—	Form of Floating Rate Senior Notes due March 15, 2067 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on March 31, 2017).
4.24	—	Form of Floating Rate Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on May 16, 2017).
4.25	—	Form of 2.350% Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 16, 2017).
4.26	—	Form of 2.125% Senior Notes due May 21, 2024 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on May 18, 2017).
4.27	—	Form of 0.375% Senior Notes due November 15, 2023 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 13, 2017).
4.28	—	Form of 1.500% Senior Notes due November 15, 2032 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 13, 2017).
4.29	—	Form of Floating Rate Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K, filed on November 14, 2017).
4.30	—	Form of Floating Rate Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.2 to Form 8-K, filed on November 14, 2017).
4.31	—	Form of 2.050% Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.3 to Form 8-K, filed on November 14, 2017).
4.32	—	Form of 2.500% Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.4 to Form 8-K, filed on November 14, 2017).
4.33	—	Form of 2.800% Senior Notes due November 15, 2024 (incorporated by reference to Exhibit 4.5 to Form 8-K, filed on November 14, 2017).
4.34	—	Form of 3.050% Senior Notes due November 15, 2027 (incorporated by reference to Exhibit 4.6 to Form 8-K, filed on November 14, 2017).
4.35	—	Form of 3.750% Senior Notes due November 15, 2047 (incorporated by reference to Exhibit 4.7 to Form 8-K, filed on November 14, 2017).
4.36	—	Form of Floating Rate Senior Notes due November 15, 2067 (incorporated by reference to Exhibit 4.8 to Form 8-K, filed on November 14, 2017).
10.1	—	UPS Retirement Plan Amendment and Restatement Effective January 1 , 2014 (incorporated by reference to Exhibit 10.1 to From 10-K for the year ended December 31, 2014).*
10.1(a)	—	Amendment No. 1 to UPS Retirement Plan, as Amended and Restated, effective as of June 30, 2016 (incorporated by reference to Exhibit 10.1 to Form 10-Q for the quarter ended June 30, 2016).*
10.1(b)	—	Amendment Four to the Amended and Restated UPS Retirement Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.2 to Form 8-K, filed on June 27, 2017).*
10.2	—	UPS 401(k) Savings Plan, Amendment and Restatement effective as of January 1, 2017 (incorporated by reference to Exhibit 10.1 to Form 8-K, filed on June 27, 2017).*

10.3	—	UPS Restoration Savings Plan effective January 1, 2017 (incorporated by reference to Exhibit 10.3 to Form 8-K filed on June 27, 2017).*
10.4	—	Amendment One to the Amended and Restated UPS Excess Coordinating Benefit Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.4 to Form 8-K filed on June 27, 2017).*
10.4(a)	—	UPS Excess Coordinating Benefit Plan, as Amended and Restated, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to the Form 10-K for the year ended December 31, 2012).*

10.5	—	United Parcel Service, Inc. 2012 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement, filed on March 12, 2012).*
10.5(a)	—	Form of Long-Term Incentive Performance Award Agreement (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2011).*
10.5(b)	—	Form of Non-Management Director Restricted Stock Unit Award Agreement (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2010).*
10.5(c)	—	UPS Management Incentive Program Terms and Conditions effective as of January 1, 2011 (incorporated by reference to Exhibit 10.10(3) to the Form 10-K) for the year ended December 31, 2010).*
10.5(d)	—	UPS Stock Option Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(4) to the Form 10-K for the year ended December 31, 2011).*
10.5(e)	—	UPS Long-Term Incentive Performance Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(5) to the Form 10-K for the year ended December 31, 2011).*
10.6	—	Form of UPS Deferred Compensation Plan as Amended and Restated effective January 1, 2012 .*
10.6(a)	—	Amendment No. 1 to Amended and Restated UPS Deferred Compensation Plan (incorporated by reference to Exhibit 10.7(1) to the Form 10-K for the year ended December 31, 2012).*
10.7	—	2015 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 24, 2015).*
10.8	—	2018 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 16, 2018).*
10.8(a)	—	UPS Management Incentive Program Amended and Restated Terms and Conditions effective November 8, 2018.*
10.8(b)	—	UPS Stock Option Program Amended and Restated Terms and Conditions effective November 8, 2018.*
10.8(c)	—	UPS Long-Term Incentive Performance Program Amended and Restated Terms and Conditions effective as of November 8, 2018.*
10.9	—	Employment offer letter agreement between the Company and Scott Price, dated November 28, 2017.*
10.10	—	Form of Protective Covenant Agreement between the Company and Scott Price.*
10.11	—	Employment offer letter agreement between the Company and Kevin Warren, dated May 5, 2018.*
10.12	—	Form of Protective Covenant Agreement between the Company and Kevin Warren.*
21	—	Subsidiaries
23	—	Consent of Deloitte & Touche LLP.
31.1	—	Certificate of the Chief Executive Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	—	Certificate of the Chief Financial Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

32.1	—	Certification of the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	—	Certification of the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	—	The following financial information from the Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income (Loss), (iv) the Consolidated Statements of Cash Flows and (v) the Notes to the Consolidated Financial Statements.

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(1) Filed in paper format.

* Management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, United Parcel Service, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNITED PARCEL SERVICE, INC.
(REGISTRANT)

By: /S/ DAVID P. ABNEY

David P. Abney

Chairman and Chief Executive Officer

Date: February 21, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ DAVID P. ABNEY **David P. Abney**	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 21, 2019
/S/ RODNEY C. ADKINS **Rodney C. Adkins**	Director	February 21, 2019
/S/ MICHAEL J. BURNS **Michael J. Burns**	Director	February 21, 2019
/S/ WILLIAM R. JOHNSON **William R. Johnson**	Director	February 21, 2019
/S/ Dr. CANDACE KENDLE **Candace Kendle**	Director	February 21, 2019
/S/ ANN M. LIVERMORE **Ann M. Livermore**	Director	February 21, 2019
/S/ RUDY H.P. MARKHAM **Rudy H. P. Markham**	Director	February 21, 2019
/S/ FRANCK J. MOISON **Franck J. Moison**	Director	February 21, 2019
/S/ RICHARD N. PERETZ **Richard N. Peretz**	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	February 21, 2019
/S/ CLARK T. RANDT, JR.	Director	February 21, 2019

Clark T. Randt, Jr.		
/S/ CHRISTIANA SMITH SHI **Christiana Smith Shi**	Director	February 21, 2019
/S/ JOHN T. STANKEY **John T. Stankey**	Director	February 21, 2019
/S/ CAROL B. TOMÉ **Carol B. Tomé**	Director	February 21, 2019
/S/ KEVIN M. WARSH **Kevin M. Warsh**	Director	February 21, 2019

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

FOR ANNUAL AND TRANSITION REPORTS
PURSUANT TO SECTIONS 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

(Mark One)

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2017
or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to
Commission file number 001-15451

upslogoa01.jpg
United Parcel Service, Inc.

Delaware	**58-2480149**
(State or Other Jurisdiction of Incorporation or Organization)	***(I.R.S. Employer Identification No.)***
55 Glenlake Parkway, N.E. Atlanta, Georgia	**30328**
(Address of Principal Executive Offices)	***(Zip Code)***

(404) 828-6000
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Class B common stock, par value $.01 per share	New York Stock Exchange
Floating-Rate Senior Notes due 2020	New York Stock Exchange
1.625% Senior Notes due 2025	New York Stock Exchange
1% Senior Notes due 2028	New York Stock Exchange
0.375% Senior Notes due 2023	New York Stock Exchange
1.500% Senior Notes due 2032	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
Class A common stock, par value $.01 per share

(Title of Class)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of "accelerated filer", "large accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. Check one:

Large accelerated filer ☒	Accelerated filer ☐	Non-accelerated filer ☐	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the class B common stock held by non-affiliates of the registrant was $76,094,649,311 as of June 30, 2017. The registrant's class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of the registrant's class A common stock is convertible into one share of the registrant's class B common stock.

As of February 8, 2018, there were 173,362,905 outstanding shares of class A common stock and 688,251,874 outstanding shares of class B common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for its annual meeting of shareowners scheduled for May 10, 2018 are incorporated by reference into Part III of this report.

UNITED PARCEL SERVICE, INC.
ANNUAL REPORT ON FORM 10-K
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PART I

Cautionary Statement About Forward-Looking Statements

This report includes certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Statements in the future tense, and all statements accompanied by terms such as "believe," "project," "expect," "estimate," "assume," "intend," "anticipate," "target," "plan" and variations thereof and similar terms, are intended to be forward-looking statements. We intend that all forward-looking statements we make will be subject to safe harbor protection of the federal securities laws pursuant to Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934.

Our disclosure and analysis in this report, in our Annual Report to Shareholders and in our other filings with the Securities and Exchange Commission ("SEC") contain forward-looking statements regarding our intent, belief and current expectations about our strategic direction, prospects and future results. From time to time, we also provide forward-looking statements in other materials we release as well as oral forward-looking statements. Such statements give our current expectations or forecasts of future events; they do not relate strictly to historical or current facts. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made.

Forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from our historical experience and our present expectations or anticipated results. These risks and uncertainties are described in Part I, "Item 1A. Risk Factors" and may also be described from time to time in our future reports filed with the SEC. You should consider the limitations on, and risks associated with, forward-looking statements and not unduly rely on the accuracy of predictions contained in such forward-looking statements. We do not undertake any obligation to update forward-looking statements to reflect events, circumstances, changes in expectations or the occurrence of unanticipated events after the date of those statements.

Item 1. *Business*

Overview

United Parcel Service, Inc. ("UPS") was founded in 1907 as a private messenger and delivery service in Seattle, Washington. Today, we are the world's largest package delivery company, a leader in the U.S. less-than-truckload industry and a premier provider of global supply chain management solutions. We deliver packages each business day for 1.5 million shipping customers to 9.0 million receivers ("consignees") in over 220 countries and territories. In 2017, we delivered an average of 20.0 million pieces per day, or a total of 5.1 billion packages. Total revenue in 2017 was $65.872 billion.

We serve the global market for logistics services, which includes transportation, distribution, contract logistics, ground freight, ocean freight, air freight, customs brokerage, insurance and financing. We have three segments: U.S. Domestic Package, International Package and Supply Chain & Freight, all of which are described below. For financial information concerning our segments and geographic regions, refer to note 12 of our audited consolidated financial statements.

Strategy

Our market strategy is to provide customers with advanced logistics solutions made possible by a broad portfolio of differentiated services and capabilities expertly assembled and integrated into our customers' businesses. This approach, supported by our efficient and globally balanced multimodal network, enables us to deliver value to our customers and thereby build lasting partnerships with them.

Customers leverage our broad portfolio of logistics capabilities comprised of: our balanced global presence in North America, Europe, Middle East, Africa, Asia Pacific and Latin America; reliability; industry-leading technologies and solutions expertise for competitive advantage in markets where they choose to compete. We continue to invest to expand our integrated global network and service portfolio. In 2017, we formed and received approval for a joint venture with SF Express, China’s leading small package company, which will ultimately provide millions of potential customers in China with improved access to buyers and sellers around the world. We acquired Freightex, Ltd. ("Freightex") to extend our platform-based freight transportation capabilities into both the U.K. and European markets. The acquisition of Eirpost Group Unlimited Company ("Nightline") vaulted UPS to a leading market position in Ireland. We added shipping centers and healthcare and distribution facilities in Mexico, Colombia and India. In 2017, we also acquired STTAS Global Holdings, Inc. ("Sandler & Travis Trade Advisory Services" or "STTAS"), the world’s largest dedicated global trade compliance management company.

We are increasing our capital expenditures to meet increasing global demand. Within our facilities, we are expanding automated capacity, driving greater efficiencies and providing additional network flexibilities. We also continue to invest in our air network capacity through aircraft acquisitions. In 2017, we announced investments in four new regional facilities in the Indianapolis, Phoenix, Salt Lake City and Dallas areas, with the previously announced regional facility in Atlanta, Georgia continuing to move toward completion.

We have a long history of sound financial management and our consolidated balance sheet reflects financial strength. Cash generation is a significant strength of UPS, giving us ample capacity to service our obligations and allowing for distributions to shareowners, reinvestment in our business and the pursuit of growth opportunities.

Reporting segments and products & services

Global Small Package

Our global small package operations provide time-definite delivery services for express letters, documents, small packages and palletized freight via air and ground services. We serve more than 220 countries and territories around the world along with domestic delivery service in over 50 countries. We handle packages that weigh up to 150 pounds and are up to 165 inches in combined length and girth as well as palletized shipments weighing more than 150 pounds. All of our package services are supported by numerous shipping, visibility and billing technologies.

We handle all levels of service (air, ground, domestic, international, commercial and residential) through one global integrated pickup and delivery network. We combine all packages within our network, unless dictated by specific service commitments. This enables one UPS driver to pick up customers' shipments for any of our services at the same scheduled time each day. Compared to companies with single service network designs, our integrated network uniquely provides operational and capital efficiencies while being more environmentally friendly.

We offer same-day pickup of air and ground packages upon request. Customers can schedule pickups for one to five days a week, based on their specific needs. Additionally, our wholly-owned and partnered global network offers more than 150,000 entry points where customers can tender a package to us at a location or time convenient to them. This combined network includes UPS drivers who can accept packages provided to them, UPS drop boxes, UPS Access Point locations, The UPS Store locations, authorized shipping outlets and commercial counters, alliance locations and customer centers attached to UPS facilities. Some of these locations offer a full array of services, including pickup, delivery and packing options, while others are drop-off locations only.

The continued growth of online and mobile shopping has increased our customers' needs for efficient and reliable returns, resulting in our development of a robust selection of returns services that are available in more than 145 countries. The portfolio provides a range of cost-effective label options and a vast network of consumer drop points, as well as a selection of return technologies that promote efficiency and a friction-free consumer experience. These options vary based on customer need and country and include solutions such as UPS Returns®, as well as more-specialized services such as UPS Returns® Exchange. Our technologies promote systems integration, client ease of use and visibility of inbound merchandise, which help reduce costs and improve efficiency of our merchants' reverse logistics processes. The newly launched UPS Returns® Manager is an excellent example of this value.

We operate one of the largest airlines in the world, with global operations centered at our Worldport hub in Louisville, Kentucky. Worldport sort capacity has expanded over the years due to volume growth and centralization efforts. Our European air hub is located in Cologne, Germany, and we maintain Asia Pacific air hubs in Shanghai, China; Shenzhen, China and Hong Kong. Our regional air hub in Canada is located in Hamilton, Ontario and our regional air hub for Latin America and the Caribbean is in Miami, Florida.

Our U.S. regional air hubs in Dallas, Texas; Ontario, California; Philadelphia, Pennsylvania and Rockford, Illinois support Worldport. This network design creates cost-effective package processing in our most technology-enabled facilities, which allows us to use fewer, larger and more fuel-efficient aircraft. Our U.S. ground fleet serves all business and residential zip codes in the contiguous U.S.

U.S. Domestic Package reporting segment

We are a leader in time-definite, money-back guaranteed, small package delivery services in the U.S. We offer a full spectrum of U.S. domestic guaranteed ground and air package transportation services.

- Customers can select from same day, next day, two day and three day delivery alternatives. UPS's Air portfolio offers options enabling customers to specify a time-of-day guarantee for their delivery (e.g., by 8:00 A.M., 10:30 A.M., noon, end of day, etc.).

- Customers can also leverage our extensive ground network to ship using our day-definite guaranteed ground service that serves every U.S. business and residential address. We deliver more ground packages in the U.S. than any other carrier, with average daily package volume of 14.1 million, most within one to three business days.

- We also offer UPS SurePost, an economy residential ground service for customers with non-urgent, lightweight residential shipments. UPS SurePost is a contractual residential ground service that combines the consistency and reliability of the UPS Ground network with final delivery often provided by the U.S. Postal Service. We utilize our operational technology to identify multiple package delivery opportunities and redirect UPS SurePost packages for final delivery, improving time in transit, customer service and operational efficiency.

International Package reporting segment

Our International Package reporting segment includes small package operations in Europe, Asia Pacific, Canada and Latin America, and the Indian sub-continent, Middle East and Africa ("ISMEA"). We offer a wide selection of guaranteed day and time-definite international shipping services. We offer more guaranteed time-definite express options (Express Plus, Express and Express Saver) than any other carrier.

- In 2017, we continued expansion of our Express time-definite portfolios:

  - We expanded UPS WorldWide Express to five new countries around the globe.

  - UPS Express now reaches 124 countries with guaranteed mid-day delivery and 56 countries with guaranteed morning delivery with Express Plus.

  - Express Saver reaches 220 countries and territories with guaranteed end-of-day delivery.

  - Express Freight Midday is available from all 67 WorldWide Express Freight origin countries to 35 destination countries.

- For international package shipments that do not require Express services, UPS Worldwide Expedited offers a reliable, deferred, guaranteed day-definite service option. The service is available from more than 80 origin countries to more than 220 countries and territories.

- For cross-border ground package delivery, we offer UPS Standard delivery services within Europe, between the U.S. and Canada and between the U.S. and Mexico.

Europe, our largest region outside of the U.S., accounts for approximately half of international revenue and is one of the primary drivers of our growth. To accommodate the strong potential for growth in small package exports, we made a series of enhancements to both our ground and air networks that help reduce transit time by one to two days and will result in improved exporting opportunities for customers in Europe. These expansions and enhancements are part of our commitment to invest nearly $2 billion in our European infrastructure.

Asia Pacific remains a strategic market due to growth rates in intra-Asia trade and the expanding Chinese economy. To capitalize on these opportunities, we are bringing faster time-in-transit to customers focused on intra-Asia trade and reducing transit time from Asia to the U.S. and Europe. Through added flight frequencies, we provide our customers the ability to ship next day to more places in the U.S. and Europe - guaranteed - than any other express carrier. We serve more than 40 Asia Pacific countries and territories through more than two dozen alliances with local delivery companies that supplement company-owned operations. Our new joint venture with SF Express combines SF's extensive Chinese network with UPS's delivery capabilities in the U.S. and Europe to increase our market presence and help provide Chinese enterprises with greater global access.

Additional international highlights include several air network enhancements, improving time in transit and better addressing growing markets. A new direct flight from the U.S. to Dubai improves time in transit to key destinations in the ISMEA region for shippers throughout the U.S., Canada and the Americas. Europe added flight segments in Lithuania, Poland and Spain, while a dedicated chartered flight from Cologne to Casablanca continues our investment strategy in Morocco, an emerging market.

Supply Chain & Freight segment

The Supply Chain & Freight segment consists of our forwarding and logistics services, truckload freight brokerage, dedicated contract carriage truckload services, less-than-truckload (“LTL”) services and our financial offerings through UPS Capital. Supply chain complexity creates demand for a global service offering that incorporates transportation, distribution and international trade and brokerage services, with complementary financial and information services. Outsourcing of non-core logistics activity is a strategy more and more companies are pursuing. With increased competition and growth opportunities in new markets, businesses require flexible and responsive supply chains to support their business strategies. We meet this demand by offering a broad array of supply chain services in more than 200 countries and territories.

Freight Forwarding

We are one of the largest U.S. domestic air freight carriers and among the top international air freight forwarders globally. We offer a portfolio of guaranteed and non-guaranteed global air freight services. Additionally, as one of the world’s leading non-vessel operating common carriers, we provide ocean freight full-container load, less-than-container load and multimodal transportation services between most major ports around the world.

Truckload Freight Brokerage

In 2015, we acquired Coyote Logistics Midco, Inc. ("Coyote"), a U.S.-based truckload freight brokerage company. We successfully integrated this large-scale truckload freight brokerage and transportation management services operation into our Supply Chain & Freight segment and have seen significant synergies in the areas of purchased transportation, backhaul utilization, technology systems and industry best practices. Coyote's access to our UPS fleet, combined with its broad carrier network, has created a customized capacity solution for all markets, customers and situations. Moreover, Coyote creates access to UPS services (such as air freight, customs brokerage and global freight forwarding) for its customer base.

In January 2017, UPS acquired U.K.-based freight brokerage firm, Freightex. The acquisition of Freightex adds a full-scale truckload brokerage and transportation management solution to UPS’s European portfolio, creating a one-stop shop for shippers throughout Europe with freight ranging from parcel to full truckload. The combination of Coyote’s technology and business model with Freightex’s market knowledge and established customer and carrier base complements UPS’s North American truckload brokerage business, as many international shippers know and trust the Coyote truckload product.

Global Logistics and Distribution

We provide value-added logistics services to customers through our global network of company-owned and leased distribution centers and field stocking locations. We leverage a global network of more than 900 facilities in more than 100 countries around the globe to ensure products and parts are in the right place, at the right time.

Our distribution centers are strategically located near UPS air and ground transportation hubs for rapid delivery to consumer and business markets. In 2017, UPS began piloting a new integrated transportation-fulfillment solution for small business e-commerce merchants, enabling them to rapidly expand and grow their offerings without additional capital investment.

UPS Post Sales relies on central and field stocking sites to support installed and delivered equipment and devices. In 2017, we integrated UPS Access Point locations into our network, offering greater flexibility, more convenience and improved service for our customers. We also began piloting GPS tracking capabilities and are converting our primary transportation couriers across the U.S. and Canada, which will continue in 2018.

Since its acquisition in late 2016, Maze 1 Limited ("Marken") has served as the clinical trials logistics subsidiary of UPS. Marken strengthened its position as the only patient-centric supply chain organization 100 percent dedicated to the pharmaceutical and life sciences industries. Marken expanded into new facilities, acquiring Touchdown International Logistics Co., Ltd. in Taiwan, and launching a new hybrid service that leverages the strength and reach of UPS’s global network. The focus in 2017 was on accelerating revenue growth through new business wins and realizing cost synergies in areas such as IT purchasing, air transportation and insurance premiums.

UPS Express Critical provides urgent, secure transportation for time-sensitive and high-value goods. The service complements UPS's core parcel and air freight services. It includes same-day, next-flight-out and door-to-door ground services, including specialized charter and hand-carry services for both lightweight and heavyweight shipments. In 2017, UPS focused on serving fast-growing industries such as life sciences and aerospace and we will continue this focus in 2018.

UPS Freight

UPS Freight offers regional, inter-regional and long-haul LTL services in all 50 states, Canada, Puerto Rico, Guam, the U.S. Virgin Islands and Mexico. UPS Freight provides reliable LTL service backed by a day-definite, on-time guarantee at no additional cost. UPS Freight also provides dedicated contract carriage truckload services to select clients. Additionally, user friendly shipping, visibility and billing technology offerings, including UPS WorldShip®, Quantum View and UPS Billing Center, allow freight customers to create electronic bills of lading, monitor shipment progress and reconcile shipping charges.

Customs Brokerage

We are among the world's largest customs brokers by both the number of shipments processed annually and by the number of dedicated brokerage employees worldwide. In addition to customs clearance services, we also provide trade management and consulting services. In 2017, we acquired STTAS, the world's largest dedicated global trade compliance management company. STTAS will help us reach our vision of becoming the global broker of choice by expanding the depth of services we provide, as well as our geographic coverage.

UPS Capital

UPS Capital provides financial, insurance and payment services to leverage cash and help protect companies from risk in their supply chains. With services available in more than 21 countries, UPS Capital and its affiliates support all aspects of the order-to-cash cycle, including financing inventory warehoused overseas, insuring shipments and providing payment solutions. The UPS Capital suite of insurance services, trade finance and payment solutions helps customers protect their assets and keeps their businesses running smoothly. With the acquisitions of Parcel Pro™ and the Insured Parcel Services business of G4S International Logistics in 2015, UPS Capital now offers insured transportation of high value goods including loose stones, finished jewelry and wristwatches.

Our People

The strength of our company is our people, working together with a common purpose. We had more than 454,000 employees (excluding temporary seasonal employees) as of December 31, 2017, of which 374,000 are in the U.S. and 80,000 are located internationally. Our global workforce includes approximately 81,000 management employees (40% of whom are part-time) and 373,000 hourly employees (49% of whom are part-time).

As of December 31, 2017, we had approximately 280,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the International Brotherhood of Teamsters ("Teamsters"). During 2014, the Teamsters ratified a national master agreement with UPS that will expire on July 31, 2018.

We have approximately 2,700 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which runs through September 1, 2021. The economic provisions in the agreement included pay increases, signing bonuses and enhanced pension benefits.

Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727, which became amendable November 1, 2013. We are currently in negotiations with Teamsters Local 2727. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers ("IAM") that will expire on July 31, 2019.

Competition

UPS is a global leader in logistics. We offer a broad array of services in the package and freight delivery industry and compete with many different local, regional, national and international logistics providers. Our competitors include worldwide postal services, various motor carriers, express companies, freight forwarders, air couriers and others, including startups that combine technology with crowdsourcing to focus on local market needs. Through our supply chain service offerings, we compete with a number of providers in the supply chain, financial services and information technology industries.

Competitive Strengths

Our competitive strengths include:

Global Network. We believe that our integrated global ground and air network is the most extensive in the industry. We provide all types of package services (air, ground, domestic, international, commercial and residential) through a single pickup and delivery service network. We also have extensive air freight, ocean freight, ground freight and logistics networks that provide additional capabilities in the global transportation and logistics market. Our sophisticated engineering systems allow us to optimize our network efficiency and asset utilization on a daily basis.

Global Presence. We serve more than 220 countries and territories around the world. We have a significant presence in all of the world's major economies.

Cutting-Edge Technology. We are a global leader in developing technology that helps our customers enhance their shipping and logistics business processes to lower costs, improve service and increase efficiency.

Technology powers virtually every service we offer and every operation we perform. Customer need drives our technology offerings. We offer a variety of online service options that enable our customers to integrate UPS functionality into their own businesses not only to send, manage and track their shipments conveniently, but also to provide their customers with better information services. We provide the infrastructure for an internet presence that extends to tens of thousands of customers who have integrated UPS tools directly into their own websites.

Broad Portfolio of Services. Our portfolio of services helps customers choose the delivery option that is most appropriate for their requirements. Increasingly, our customers benefit from business solutions that integrate many UPS services beyond package delivery. For example, our supply chain services – such as freight forwarding, truckload brokerage, customs brokerage, order fulfillment and returns management – help improve the efficiency of the supply chain management process.

Customer Relationships. We focus on building and maintaining long-term customer relationships. We serve 1.5 million shipping customers and 9.0 million delivery customers daily. Cross selling small package, supply chain and freight services across our customer base is an important growth mechanism for UPS.

Brand Equity. We have built a leading and trusted brand that stands for quality service, reliability and service innovation. The distinctive appearance of our vehicles and the professional courtesy of our drivers are major contributors to our brand equity.

Distinctive Culture. We believe that the dedication of our employees comes in large part from our distinctive "employee-owner" concept. Our employee stock ownership tradition dates back to 1927, when our founders, who believed that employee stock ownership was a vital foundation for successful business, first offered stock to employees. To encourage employee stock ownership, we maintain several stock-based compensation programs.

Financial Strength. Our financial strength gives us the resources to achieve global scale; to invest in employee development, technology, transportation equipment and facilities; to pursue strategic opportunities that facilitate our growth; to service our obligations and to return value to our shareowners in the form of dividends, share repurchases and steady share growth.

Government regulation

We are subject to numerous laws and regulations in connection with our package and non-package businesses in the countries in which we operate. Certain of these laws and regulations are summarized below.

Air Operations

The U.S. Department of Transportation ("DOT"), the Federal Aviation Administration ("FAA") and the U.S. Department of Homeland Security, through the Transportation Security Administration ("TSA"), have regulatory authority over United Parcel Service Co.'s ("UPS Airlines") air transportation services. The Federal Aviation Act of

1958, as amended, is the statutory basis for DOT and FAA authority and the Aviation and Transportation Security Act of 2001, as amended, is the basis for TSA aviation security authority.

The DOT's authority primarily relates to economic aspects of air transportation, such as insurance requirements, discriminatory pricing, non-competitive practices, interlocking relations and cooperative agreements. The DOT also regulates, subject to the authority of the President of the United States, international routes, fares, rates and practices and is authorized to investigate and take action against discriminatory treatment of U.S. air carriers abroad. International operating rights for U.S. airlines are usually subject to bilateral agreements between the U.S. and foreign governments or, in the absence of such agreements, by principles of reciprocity. We are also subject to current and potential aviation regulations imposed by foreign governments in the countries in which we operate, including registration and license requirements and security regulations. UPS Airlines has international route operating rights granted by the DOT and we may apply for additional authorities when those operating rights are available and are required for the efficient operation of our international network. The efficiency and flexibility of our international air transportation network is dependent on DOT and foreign government regulations and operating restrictions.

The FAA's authority primarily relates to safety aspects of air transportation, including aircraft operating procedures, transportation of hazardous materials, record keeping standards and maintenance activities and personnel. In 1988, the FAA granted us an operating certificate, which remains in effect so long as we meet the safety and operational requirements of the applicable FAA regulations. In addition, we are subject to non-U.S. government regulation of aviation rights involving non-U.S. jurisdictions and non-U.S. customs regulation.

UPS aircraft maintenance programs and procedures, including aircraft inspection and repair at periodic intervals, are approved for all aircraft under FAA regulations. The future cost of repairs pursuant to these programs may fluctuate according to aircraft condition, age and the enactment of additional FAA regulatory requirements.

The TSA regulates various security aspects of air cargo transportation in a manner consistent with the TSA mission statement to "protect the Nation's transportation systems to ensure freedom of movement for people and commerce." UPS Airlines, and specified airport and off-airport locations, are regulated under TSA regulations applicable to the transportation of cargo in an air network. In addition, personnel, facilities and procedures involved in air cargo transportation must comply with TSA regulations.

UPS Airlines, along with a number of other domestic airlines, participates in the Civil Reserve Air Fleet ("CRAF") program. Our participation in the CRAF program allows the U.S. Department of Defense ("DOD") to requisition specified UPS Airlines wide-body aircraft for military use during a national defense emergency. The DOD compensates us for the use of aircraft under the CRAF program. In addition, participation in CRAF entitles UPS Airlines to bid for military cargo charter operations.

Ground Operations

Our ground transportation of packages in the U.S. is subject to regulation by the DOT and its agency, the Federal Motor Carrier Safety Administration (the "FMCSA") and the states' jurisdiction with respect to the regulation of operations, safety, insurance and hazardous materials. We also must comply with the safety and fitness regulations promulgated by the FMCSA, including those relating to drug and alcohol testing and hours of service for drivers. We are subject to similar regulation in many non-U.S. jurisdictions.

The Postal Reorganization Act of 1970 created the U.S. Postal Service as an independent establishment of the executive branch of the federal government, and created the Postal Rate Commission, an independent agency, to recommend postal rates. The Postal Accountability and Enhancement Act of 2006 amended the 1970 Act to give the re-named Postal Regulatory Commission revised oversight authority over many aspects of the Postal Service, including postal rates, product offerings and service standards. We sometimes participate in the proceedings before the Postal Regulatory Commission in an attempt to secure fair postal rates for competitive services.

Our ground operations are subject to compliance with various cargo-security and transportation regulations issued by the U.S. Department of Homeland Security, including regulation by the TSA.

Customs

We are subject to the customs laws in the countries in which we operate, regarding the import and export of shipments, including those related to the filing of documents on behalf of client importers and exporters. Our activities, including customs brokerage and freight forwarding, are subject to regulation by the Bureau of Customs and Border Protection, the TSA, the U.S. Federal Maritime Commission and the DOT.

Environmental

We are subject to federal, state and local environmental laws and regulations across all of our business units. These laws and regulations cover a variety of processes, including, but not limited to: proper storage, handling and disposal of waste materials; appropriately managing wastewater and stormwater; monitoring and maintaining the integrity of underground storage tanks; complying with laws regarding clean air, including those governing emissions; protecting against and appropriately responding to spills and releases and communicating the presence of reportable quantities of hazardous materials to local responders. We have established site- and activity-specific environmental compliance and pollution prevention programs to address our environmental responsibilities and remain compliant. In addition, we have created numerous programs which seek to minimize waste and prevent pollution within our operations.

Pursuant to the Federal Aviation Act, the FAA, with the assistance of the Environmental Protection Agency ("EPA"), is authorized to establish standards governing aircraft noise. Our aircraft fleet is in compliance with current noise standards of the federal aviation regulations. Our international operations are also subject to noise regulations in certain countries in which we operate.

Communications

Because of our extensive use of radio and other communication facilities in our aircraft and ground transportation operations, we are subject to the Federal Communications Act of 1934, as amended. Additionally, the Federal Communications Commission regulates and licenses our activities pertaining to satellite communications.

Where You Can Find More Information

We maintain a website at *www.ups.com*. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available through our website *www.investors.ups.com* as soon as reasonably practical after we electronically file or furnish the reports to the SEC. However, information on these websites is not incorporated by reference into this report or any other report filed with or furnished to the SEC.

We have adopted a written Code of Business Conduct that applies to all of our directors, officers and employees, including our principal executive officer and senior financial officers. It is available in the governance section of our investor relations website, located at *www.investors.ups.com*. In the event that we make changes in, or provide waivers from, the provisions of the Code of Business Conduct that the SEC requires us to disclose, we intend to disclose these events in the governance section of our investor relations website.

Our Corporate Governance Guidelines and the Charters for our Audit Committee, Compensation Committee, Executive Committee, Risk Committee and Nominating and Corporate Governance Committee are also available in the governance section of our investor relations website.

Our sustainability report, which describes our activities that support our commitment to acting responsibly and contributing to society, is available at *www.sustainability.ups.com*. We provide the addresses to our internet sites solely for the information of investors. We do not intend for any addresses to be active links or to otherwise incorporate the contents of any website into this report.

Item 1A. *Risk Factors*

You should carefully consider the following factors, which could materially affect our business, financial condition or results of operations. You should read these Risk Factors in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7 and our Consolidated Financial Statements and related notes in Item 8.

General economic conditions, both in the U.S. and internationally, may adversely affect our results of operations.

We conduct operations in over 220 countries and territories. Our U.S. and international operations are subject to normal cycles affecting the economy in general, as well as the local economic environments in which we operate. The factors that create cyclical changes to the economy and to our business are beyond our control, may adversely impact our credit rating and it may be difficult for us to adjust our business model to mitigate the impact of these factors. In particular, our business is affected by levels of industrial production, consumer spending and retail activity and our business, financial position and results of operations could be materially affected by adverse developments in these aspects of the economy. The United Kingdom’s vote to leave the European Union could result in economic uncertainty and instability, resulting in fewer goods being transported globally.

We face significant competition which could adversely affect our business, financial position and results of operations.

We face significant competition on a local, regional, national and international basis. Our competitors include the postal services of the U.S. and other nations, various motor carriers, express companies, freight forwarders, air couriers and others. Competition may also come from other sources in the future. Some of our competitors have cost and organizational structures that differ from ours and may offer services and pricing terms that we may not be willing or able to offer. If we are unable to timely and appropriately respond to competitive pressures, our business, financial position and results of operations could be adversely affected.

The transportation industry continues to consolidate and competition remains strong. As a result of consolidation, our competitors may increase their market share and improve their financial capacity, and may strengthen their competitive positions. Business combinations could also result in competitors providing a wider variety of services and products at competitive prices, which could adversely affect our financial performance.

Changes in our relationships with our significant customers, including the loss or reduction in business from one or more of them, could have an adverse impact on us.

No single customer accounts for 10% or more of our consolidated revenue. We do not believe the loss of any single customer would materially impair our overall financial condition or results of operations; however, collectively, some of our large customers might account for a relatively significant portion of the growth in revenue in a particular quarter or year. These customers can drive the growth in revenue for particular services based on factors such as: new customer product launches; trends in the e-commerce industry, such as the seasonality associated with the fourth quarter holiday season; business mergers and acquisitions and the overall fast growth of a customer's underlying business. These customers could choose to divert all or a portion of their business with us to one of our competitors, demand pricing concessions for our services, require us to provide enhanced services that increase our costs, or develop their own shipping and distribution capabilities. If these factors drove some of our large customers to cancel all or a portion of their business relationships with us, it could materially impact the growth in our business and the ability to meet our current and long-term financial forecasts.

Our business is subject to complex and stringent regulation in the U.S. and internationally.

We are subject to complex and stringent aviation, transportation, environmental, security, labor, employment and other governmental laws, regulations and policies, both in the U.S. and in the other countries in which we operate. In addition, our business is impacted by laws, regulations and policies that affect global trade, including tariff and trade policies, export requirements, taxes, monetary policies and other restrictions and charges. Changes in laws, regulations and policies and the related interpretations may alter the landscape in which we do business and may affect our costs of doing business. The impact of new laws, regulations and policies cannot be predicted. Compliance with new laws and regulations may increase our operating costs or require significant capital expenditures. Any failure to comply with applicable laws or regulations in the U.S. or in any of the countries in which we operate could result in substantial fines or possible revocation of our authority to conduct our operations, which could adversely affect our financial performance.

Increased security requirements could impose substantial costs on us and we could be the target of an attack or have a security breach.

As a result of concerns about global terrorism and homeland security, governments around the world have adopted or may adopt stricter security requirements that will result in increased operating costs for businesses in the transportation industry. These requirements may change periodically as a result of regulatory and legislative requirements and in response to evolving threats. We cannot determine the effect that these new requirements will have on our cost structure or our operating results, and these rules or other future security requirements may increase our costs of operations and reduce operating efficiencies. Regardless of our compliance with security requirements or the steps we take to secure our facilities or fleet, we could be the target of an attack or security breaches could occur, which could adversely affect our operations or our reputation.

We are subject to increasingly stringent regulations related to climate change, and new regulations could materially increase our operating costs.

Concern over climate change, including the impact of global warming, has led to significant legislative and regulatory efforts, particularly internationally but also in the United States, to limit greenhouse gas ("GHG") emissions. State and local governments also are increasingly considering GHG regulation. The possibility of increased regulation of GHG emissions potentially exposes our transportation and logistics businesses to significant new taxes, fees and other costs. Compliance with such potential regulation or the associated potential costs is further complicated by the fact that various countries and regions are following different approaches to the regulation of climate change.

We are subject to international regulation of GHG emissions. For example, in 2009 the European Commission approved the extension to the airline industry of the European Union Emissions Trading Scheme ("ETS") for GHG emissions. Under this decision, all of our flights operating within the European Union are covered by the ETS requirements, and we are required annually to purchase emission allowances in an amount exceeding the number of free allowances allocated to us under the ETS. Similarly, in 2016, the International Civil Aviation Organization ("ICAO") passed a resolution adopting the Carbon Offsetting and Reduction Scheme for International Aviation ("CORSIA"), which is a global, market-based emissions offset program to encourage carbon-neutral growth beyond 2020. A pilot phase is scheduled to begin in 2021 in which countries may voluntarily participate, and full mandatory participation is scheduled to begin in 2027. ICAO continues to develop details regarding implementation, but compliance with CORSIA will increase our operating costs.

In the U.S., Congress in the past several years has considered various bills that would regulate GHG emissions, but these bills so far have not received sufficient Congressional support for enactment. Nevertheless, some form of federal climate change legislation is possible in the future. Even in the absence of such legislation, the Environmental Protection Agency ("EPA"), spurred by judicial interpretation of the Clean Air Act, could determine to regulate GHG emissions, especially aircraft or diesel engine emissions, and this could impose substantial costs on us.

In August 2017, the U.S. announced its intention to withdraw from the Paris climate accord, an agreement among 196 countries to reduce GHG emissions, and the effect of that withdrawal on future U.S. policy regarding GHG emissions, on CORSIA and on other GHG regulation is uncertain. Nevertheless, the extent to which other countries implement that agreement could have an adverse direct or indirect effect on our business.

We may face additional regulations regarding GHG emissions internationally and in the United States. Potential costs to us of increased regulation regarding GHG emissions, especially aircraft or diesel engine emissions, include an increase in the cost of the fuel and other energy we purchase and capital costs associated with updating or replacing our aircraft or vehicles prematurely. However, until the timing, scope and extent of any future regulation becomes known, we cannot predict its effect on our cost structure or our operating results. It is reasonably possible that such regulation could significantly increase our operating expenses if we are unable to pass such costs along to our customers. Moreover, even without such regulation, increased awareness and any adverse publicity in the global marketplace about the GHGs emitted by companies in the airline and transportation industries could harm our reputation and reduce customer demand for our services, especially our air services.

Strikes, work stoppages and slowdowns by our employees could adversely affect our business, financial position and results of operations.

A significant number of our employees are employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. In addition, our airline pilots, airline mechanics, ground mechanics and certain other employees are employed under other collective bargaining agreements. Strikes, work stoppages and slowdowns by our employees could adversely affect our ability to meet our customers' needs, and customers may do more business with competitors if they believe that such actions or threatened actions may adversely affect our ability to provide services. We may face a permanent loss of customers if we are unable to provide uninterrupted service, and this could adversely affect our business, financial position and results of operations. The terms of future collective bargaining agreements also may affect our competitive position and results of operations.

We are exposed to the effects of changing prices of energy, including gasoline, diesel and jet fuel, and interruptions in supplies of these commodities.

Changing fuel and energy costs may have a significant impact on our operations. We require significant quantities of fuel for our aircraft and delivery vehicles and are exposed to the risk associated with variations in the market price for petroleum products, including gasoline, diesel and jet fuel. We mitigate our exposure to changing fuel prices through our indexed fuel surcharges and we may also enter into hedging transactions from time to time. If we are unable to maintain or increase our fuel surcharges, higher fuel costs could adversely impact our operating results. Even if we are able to offset the cost of fuel with our surcharges, high fuel surcharges may result in a mix shift from our higher-yielding air products to lower-yielding ground products or an overall reduction in volume. There can be no assurance that our hedging transactions will be effective to protect us from changes in fuel prices. Moreover, we could experience a disruption in energy supplies, including our supply of gasoline, diesel and jet fuel, as a result of war, actions by producers or other factors beyond our control, which could have an adverse effect on our business.

Changes in exchange rates or interest rates may have an adverse effect on our results.

We conduct business across the globe with a significant portion of our revenue derived from operations outside the United States. Our operations in international markets are affected by changes in the exchange rates for local currencies, and in particular the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar.

We are exposed to changes in interest rates, primarily on our short-term debt and that portion of our long-term debt that carries floating interest rates. The impact of a 100-basis-point change in interest rates affecting our debt is discussed in the “Quantitative and Qualitative Disclosures about Market Risk” section of this report. Additionally, changes in interest rates impact the valuation of our pension and postretirement benefit obligations and the related benefit cost recognized in the income statement. The impact of changes in interest rates on our pension and postretirement benefit obligations and costs is discussed further in the "Critical Accounting Policies and Estimates" section of this report.

We monitor and manage our exposures to changes in currency exchange rates and interest rates, and make use of derivative instruments to mitigate the impact of changes in these rates on our financial position and results of operations; however, changes in exchange rates and interest rates cannot always be predicted or hedged.

If we are unable to maintain our brand image and corporate reputation, our business may suffer.

Our success depends in part on our ability to maintain the image of the UPS brand and our reputation for providing excellent service to our customers. Service quality issues, actual or perceived, even when false or unfounded, could tarnish the image of our brand and may cause customers to use other companies. Also, adverse publicity surrounding labor relations, environmental concerns, security matters, political activities and the like, or attempts to connect our company to these sorts of issues, either in the United States or other countries in which we operate, could negatively affect our overall reputation and acceptance of our services by customers. Damage to our reputation and loss of brand equity could reduce demand for our services and thus have an adverse effect on our business, financial position and results of operations, and could require additional resources to rebuild our reputation and restore the value of our brand.

A significant data breach or IT system disruption could adversely affect our business, financial results, or reputation, and we may be required to increase our spending on data and system security.

We rely heavily on information technology networks and systems, including the Internet, to manage or support a wide variety of important business processes and activities throughout our operations. For example, we rely on information technology to receive package level information in advance of physical receipt of packages, to track items that move through our delivery systems, to efficiently plan deliveries, to execute billing processes, and to track and report financial and operational data. Our franchised center locations and businesses we have acquired also are reliant on the use of information technology systems to manage their business processes and activities.

In addition, the provision of service to our customers and the operation of our networks and systems involve the storage and transmission of significant amounts of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. To conduct our operations, we regularly move data across national borders, and consequently we are subject to a variety of continuously evolving and developing laws and regulations in the United States and abroad regarding privacy, data protection and data security. The scope of the laws that may be applicable to us is often uncertain and may be conflicting, particularly with respect to foreign laws. For example, the European Union's General Data Protection Regulation ("GDPR"), which greatly increases the jurisdictional reach of European Union law and adds a broad array of requirements for handling personal data, including the public disclosure of significant data breaches, becomes effective in May 2018. Other countries have enacted or are enacting data localization laws that require data to stay within their borders. All of these evolving compliance and operational requirements impose significant costs that are likely to increase over time.

Our information technology systems (as well as those of our franchisees and acquired businesses) may be susceptible to damage, disruptions or shutdowns due to failures during the process of upgrading or replacing software, databases or components thereof, power outages, hardware failures, computer viruses, cyber-attacks, ransomware attacks, malware attacks, malicious employees or other insiders, telecommunications failures, human errors or catastrophic events. Hackers, foreign governments, cyber-terrorists and cyber-criminals, acting individually or in coordinated groups, may launch distributed denial of service attacks or other coordinated attacks that may cause service outages, gain inappropriate or block legitimate access to systems or information, or result in other interruptions in our business. In addition, breaches in security could expose us, our customers and franchisees, or the individuals affected, to a risk of loss or misuse of proprietary information and sensitive or confidential data, including personal information of customers, employees and others. The techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, may be difficult to detect for a long time and often are not recognized until launched against a target. As a result, we may be unable to anticipate these techniques or to implement adequate preventative measures.

We also depend on and interact with the information technology networks and systems of third-parties for many aspects of our business operations, including our customers and franchisees and service providers such as cloud service providers and third-party delivery services. These third parties may have access to information we maintain about our company, operations, customers, employees and vendors, or operating systems that are critical to or can significantly impact our business operations. Like us, these third-parties are subject to risks imposed by data breaches and cyber-attacks and other events or actions that could damage, disrupt or close down their networks or systems. Security processes, protocols and standards that we have implemented and contractual provisions requiring security measures that we may have sought to impose on such third-parties may not be sufficient or effective at preventing such events, which could result in unauthorized access to, or disruptions or denials of access to, or misuse of, information or systems that are important to our business, including proprietary information, sensitive or confidential data, and other information about our operations, customers, employees and suppliers, including personal information.

Any of these events that impact our information technology networks or systems, or those of acquired businesses, franchisees, customers, service providers or other third-parties, could result in disruptions in our operations, the loss of existing or potential customers, damage to our brand and reputation, regulatory scrutiny, and litigation and potential liability for the company. Among other consequences, our customers' confidence in our ability to protect data and systems and to provide services consistent with their expectations could be impacted, further disrupting our operations. Similarly, an actual or alleged failure to comply with applicable U.S. or foreign data protection regulations or other data protection standards may expose us to litigation, fines, sanctions or other penalties.

We have invested and continue to invest in technology security initiatives, information technology risk management and disaster recovery plans. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly intense, complex and sophisticated global cyber threats. Despite our best efforts, we are not fully insulated from data breaches and system disruptions. For example, in August 2014, a broad-based malware intrusion targeting retailers throughout the U.S. was discovered and subsequently eradicated at approximately 1% of our franchisees' locations. While the impact of this cyber-attack, including the costs associated with investigation and remediation activities, was not material to our business and our financial results, there is no assurance that such impacts will not be material in the future, and our efforts to deter, identify, mitigate and/or eliminate future breaches may require significant additional effort and expense and may not be successful.

Severe weather or other natural or manmade disasters could adversely affect our business.

Severe weather conditions and other natural or manmade disasters, including storms, floods, fires or earthquakes, epidemics or pandemics, conflicts or unrest, or terrorist attacks, may result in decreased revenues, as our customers reduce their shipments, or increased costs to operate our business, which could have an adverse effect on our results of operations for a quarter or year. Any such event affecting one of our major facilities could result in a significant interruption in or disruption of our business.

We make significant capital investments in our business of which a significant portion is tied to projected volume levels.

We require significant capital investments in our business consisting of aircraft, vehicles, technology, facilities and sorting and other types of equipment to support both our existing business and anticipated growth. Forecasting projected volume involves many factors which are subject to uncertainty, such as general economic trends, changes in governmental regulation and competition. If we do not accurately forecast our future capital investment needs, we could have excess capacity or insufficient capacity, either of which would negatively affect our revenues and profitability. In addition to forecasting our capital investment requirements, we adjust other elements of our operations and cost structure in response to adverse economic conditions; however, these adjustments may not be sufficient to allow us to maintain our operating margins in a weak economy.

We derive a significant portion of our revenues from our international operations and are subject to the risks of doing business in international markets.

We have significant international operations, and while the geographical diversity of our international operations helps ensure that we are not overly reliant on a single region or country, we are continually exposed to changing economic, political and social developments that are beyond our control. Emerging markets are typically more volatile than those in the developed world, and any broad-based downturn in these markets could reduce our revenues and adversely affect our business, financial position and results of operations. We are subject to many laws governing our international operations, including those that prohibit improper payments to government officials and commercial customers, and restrict where we can do business, our shipments to certain countries and the information that we can provide to non-U.S. governments.

We are subject to changes in markets and our business plans that have resulted, and may in the future result, in substantial write-downs of the carrying value of our assets, thereby reducing our net income.

Our regular review of the carrying value of our assets has resulted, from time to time, in significant impairments, and we may in the future be required to recognize additional impairment charges. Changes in business strategy, government regulations, or economic or market conditions have resulted and may result in further substantial impairments of our intangible, fixed or other assets at any time in the future. In addition, we have been and may be required in the future to recognize increased depreciation and amortization charges if we determine that the useful lives of our fixed assets or intangible assets are shorter than we originally estimated. Such changes could reduce our net income.

Employee health and retiree health and pension benefit costs represent a significant expense to us.

Our expenses relating to employee health and retiree health and pension benefits are significant. In recent years, we have experienced significant increases in some of these costs, largely as a result of economic factors beyond our control, including, in particular, ongoing increases in healthcare costs well in excess of the rate of inflation and historically low discount rates that we use to value our benefit plan obligations. Continually increasing healthcare costs, volatility in investment returns and discount rates, as well as changes in laws, regulations and assumptions used to calculate retiree health and pension benefit expenses, may adversely affect our business, financial position, results of operations or require significant contributions to our benefit plans. The national master agreement with the IBT includes changes that are designed to mitigate certain of these healthcare expenses, but there can be no assurance that our efforts will be successful or that the failure or success of these efforts will not adversely affect our business, financial position, results of operations or liquidity.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans will be determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 in the event that a plan enters critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule). In future collective bargaining negotiations, we could agree to make significantly higher future contributions to improve the funded status of one or more of these plans. The funded status of these multiemployer plans is impacted by various factors, including investment performance, healthcare inflation, changes in demographics and changes in participant benefit levels. At this time, we are unable to determine the amount of additional future contributions, if any, or whether any material adverse effect on our financial condition, results of operations or liquidity could result from our participation in these plans.

In addition to our on-going multiemployer pension plan obligations, we may have additional exposure with respect to benefits earned in the Central States Pension Fund (the "CSPF"). UPS was a contributing employer to the CSPF until 2007 when we withdrew from the plan and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters (“IBT”), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan (“UPS/IBT Plan”) for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 (“the UPS Transfer Group”) in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF.

In December 2014, Congress passed the Multiemployer Pension Reform Act (“MPRA”), which for the first time ever allowed multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury under the MPRA. The CSPF plan proposed to reduce retirement benefits to the CSPF participants, including the UPS Transfer Group. We vigorously challenged the proposed benefit reduction plan because we believed that it did not comply with the law and that the CSPF failed to comply with its contractual obligation to obtain our consent to reduce benefits to the UPS Transfer Group under the terms of the withdrawal agreement with the CSPF. On May 6, 2016, the U.S. Department of the Treasury rejected the proposed plan submitted by the CSPF, stating that it failed to satisfy a number of requirements set forth in the MPRA.

The CSPF has asserted that it will become insolvent in 2025, which could lead to the reduction of retirement benefits. Although there are numerous factors that could affect the CSPF’s funding status, if the CSPF were to become insolvent as they have projected, UPS may be required to provide coordinating benefits, thereby increasing the current projected benefit obligation for the UPS/IBT Plan by approximately $4 billion. The CSPF has said that it believes a legislative solution to its funding status is necessary, and we expect that the CSPF will continue to explore options to avoid insolvency.

The potential obligation to pay coordinating benefits from the UPS/IBT Plan is subject to a number of significant uncertainties, including actions that may be taken by the CSPF, the federal government or others. These actions include whether the CSPF will submit a revised pension benefit reduction plan or otherwise seek federal government assistance, the extent to which benefits are paid by the Pension Benefit Guaranty Corporation, our ability to successfully defend our legal positions as well as the effect of discount rates, CSPF asset returns and various other actuarial assumptions.

We account for this potential obligation under Accounting Standards Codification Topic 715- Compensation-Retirement Benefits (“ASC 715”). Under ASC 715 we are required to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely solution to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities. Our best estimate as of the measurement date of December 31, 2017 does not incorporate this solution. However, if a future change in law resulted in an obligation to provide coordinating benefits under the UPS/IBT Plan, it may be a significant event, and may require us to remeasure the plan assets and projected benefit obligation of the UPS/IBT Plan at the date the law is enacted.

Our best estimate of the next most likely outcome to resolve the CSPF's solvency concerns is that the CSPF will submit another benefit suspension application under the MPRA to forestall insolvency without reducing benefits to the UPS Transfer Group. If the CSPF attempts to reduce benefits for the UPS Transfer Group under a MPRA filing, we would be in a strong legal position to prevent that from occurring given that these benefits cannot be reduced without our consent and such a reduction, without first exhausting reductions to other groups in the CSPF, would be contrary to the statute. Accordingly, our best estimate as of the measurement date of December 31, 2017 is that there is no liability to be recognized for additional coordinating benefits of the UPS/IBT Plan. However, the projected benefit obligation could materially increase as the uncertainties are resolved. We will continue to assess the impact of these uncertainties on the projected benefit obligation of the UPS/IBT Plan in accordance with ASC 715.

We may have additional tax liabilities.

We are subject to income taxes in the U.S. and many foreign jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes. In the course of our business, there are many transactions and calculations where the ultimate tax determination is uncertain. For example, compliance with the 2017 United States Tax Cut and Jobs Act (the "Tax Act") may require the collection of information not regularly produced within our company, the use of provisional estimates in our financial statements, and the exercise of significant judgment in accounting for its provisions. Many aspects of the Tax Act are unclear and may not be clarified for some time. As regulations and guidance evolve with respect to the Tax Act, and as we gather more information and perform more analysis, our results may differ from previous estimates and may materially affect our financial position.

We regularly are under audit by tax authorities in different jurisdictions. Economic and political pressures to increase tax revenue in various jurisdictions may make resolving tax disputes favorably more difficult. Although we believe our tax estimates are reasonable, the final determination of tax audits and any related litigation in the jurisdictions where we are subject to taxation could be materially different from our historical income tax provisions and accruals. In addition, changes in U.S. federal and state or international tax laws applicable to corporate multinationals, other fundamental law changes currently being considered by many countries, including in the U.S., and changes in taxing jurisdictions' administrative interpretations, decisions, policies and positions may materially adversely impact our tax expense and cash flows.

We may be subject to various claims and lawsuits that could result in significant expenditures.

The nature of our business exposes us to the potential for various claims and litigation related to labor and employment, personal injury, property damage, business practices, environmental liability and other matters. Any material litigation or a catastrophic accident or series of accidents could have a material adverse effect on our business, financial position and results of operations.

We may not realize the anticipated benefits of acquisitions, joint ventures or strategic alliances.

As part of our business strategy, we may acquire businesses and form joint ventures or strategic alliances. Whether we realize the anticipated benefits from these transactions depends, in part, upon the successful integration between the businesses involved, the performance of the underlying operations, capabilities or technologies and the management of the acquired operations. Accordingly, our financial results could be adversely affected by our failure to effectively integrate the acquired operations, unanticipated performance issues, transaction-related charges or charges for impairment of long-term assets that we acquire.

Insurance and claims expenses could have a material adverse effect on our business, financial condition and results of operations.

We have a combination of both self-insurance and high-deductible insurance programs for the risks arising out of the services we provide and the nature of our global operations, including claims exposure resulting from cargo loss, personal injury, property damage, aircraft and related liabilities, business interruption and workers' compensation. Workers' compensation, automobile and general liabilities are determined using actuarial estimates of the aggregate liability for claims incurred and an estimate of incurred but not reported claims, on an undiscounted basis. Our accruals for insurance reserves reflect certain actuarial assumptions and management judgments, which are subject to a high degree of variability. If the number or severity of claims for which we are retaining risk increases, our financial condition and results of operations could be adversely affected. If we lose our ability to self-insure these risks, our insurance costs could materially increase and we may find it difficult to obtain adequate levels of insurance coverage.

Item 1B. ***Unresolved Staff Comments***

Not applicable.

Item 2. ***Properties***

Operating Facilities

We own our headquarters, which is located in Atlanta, Georgia and consists of about 745,000 square feet of office space, and our UPS Supply Chain Solutions group's headquarters, which is located in Alpharetta, Georgia and consists of about 310,000 square feet of office space.

Our primary information technology operations are consolidated in a 444,000 square foot owned facility, the Ramapo Ridge facility, in Mahwah, New Jersey. Our information technology headquarters is located in Parsippany, New Jersey, consisting of about 200,000 square feet of office space. We also own a 175,000 square foot facility in Alpharetta, Georgia, which serves as a backup to the main information technology operations facility in New Jersey. This facility provides production functions and backup capacity in the event that a power outage or other disaster incapacitates the main data center. It also helps to meet our internal communication needs.

We own or lease over 1,000 package operating facilities in the U.S., with approximately 68 million square feet of floor space. The smaller of these facilities have vehicles and drivers stationed for the pickup and delivery of packages, and capacity to sort and transfer packages. The larger of these facilities also service our vehicles and equipment, and employ specialized mechanical installations for the sorting and handling of packages. We own or lease approximately 800 facilities that support our international package operations, with approximately 20 million square feet of floor space.

In addition, we own or lease more than 500 facilities, with approximately 34 million square feet of floor space, that support our freight forwarding and logistics operations. We own and operate a logistics campus consisting of approximately 4 million square feet in Louisville, Kentucky.

We own or lease approximately 200 UPS Freight service centers with approximately 6 million square feet of floor space. The main offices of UPS Freight are located in Richmond, Virginia and consist of about 217,000 square feet of office space.

Our aircraft are operated in a hub and spoke pattern in the U.S., with our principal air hub, known as Worldport, located in Louisville, Kentucky. The Worldport facility consists of over 5 million square feet and includes high speed conveyor and computer control systems.

We also own or lease regional air hubs globally, with over 4 million square feet of floor space. Our U.S. regional air hubs are located in Dallas, Texas; Ontario, California; Philadelphia, Pennsylvania and Rockford, Illinois. These hubs house facilities for the sorting, transfer and delivery of packages. Our European air hub is located in Cologne, Germany, and we maintain Asia Pacific air hubs in Shanghai, China; Shenzhen, China and Hong Kong. Our regional air hub in Canada is located in Hamilton, Ontario, and our regional air hub for Latin America and the Caribbean is in Miami, Florida.

In 2017, we announced seven new buildings and one expansion that total more than 5 million square feet. We believe that our facilities are adequate to support our current operations.

Fleet

Aircraft

The following table shows information about our aircraft fleet as of December 31, 2017:

Description	Owned and Capital Leases	Short-term Leased or Chartered From Others	On Order	Under Option
Boeing 757-200F	75	—	—	—
Boeing 767-300ERF	59	—	—	—
Boeing 767-300BCF	2	—	1	—
Airbus A300-600F	52	—	—	—
Boeing MD-11F	37	—	—	—
Boeing 747-400F	11	—	—	—
Boeing 747-400BCF	2	—	—	—
Boeing 747-8F	3	—	11	14
Other	—	340	—	—
Total	241	340	12	14

On February 1, 2018, we announced an order for 14 Boeing 747-8 freighters previously under option and four new Boeing 767 aircraft to be delivered between 2019 and 2022.

Vehicles

We operate a global ground fleet of approximately 119,000 package cars, vans, tractors and motorcycles. Our ground support fleet consists of 35,000 pieces of equipment designed specifically to support our aircraft fleet, ranging from non-powered container dollies and racks to powered aircraft main deck loaders and cargo tractors. We also have 45,000 containers used to transport cargo in our aircraft.

Item 3. ***Legal Proceedings***

For a discussion of legal proceedings affecting us and our subsidiaries, please see note 4 to the audited consolidated financial statements for a discussion of pension related matters and note 9 for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

Item 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities*

Our class A common stock is not listed on a national securities exchange or traded in an organized over-the-counter market, but each share of our class A common stock is convertible into one share of our class B common stock.

The following is a summary of our class B common stock price activity and dividend information for 2017 and 2016. Our class B common stock is listed on the New York Stock Exchange under the symbol "UPS".

	High	Low	Close	Dividends Declared
2017:				
First Quarter	$ 118.19	$ 103.23	$ 107.30	$ 0.83
Second Quarter	$ 111.55	$ 102.12	$ 110.59	$ 0.83
Third Quarter	$ 120.42	$ 106.98	$ 120.09	$ 0.83
Fourth Quarter	$ 125.16	$ 111.30	$ 119.15	$ 0.83
2016:				
First Quarter	$ 106.10	$ 88.70	$ 105.47	$ 0.78
Second Quarter	$ 107.72	$ 100.66	$ 107.72	$ 0.78
Third Quarter	$ 111.50	$ 106.86	$ 109.36	$ 0.78
Fourth Quarter	$ 120.16	$ 106.84	$ 114.64	$ 0.78

As of February 8, 2018, there were 154,033 and 18,863 shareowners of record of class A and class B common stock, respectively.

Our practice has been to pay dividends on a quarterly basis. The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors.

On February 8, 2018, our Board declared a dividend of $0.91 per share, which is payable on March 7, 2018 to shareowners of record on February 20, 2018. This represents a 10% increase from the previous $0.83 quarterly dividend in 2017.

A summary of repurchases of our class A and class B common stock during the fourth quarter of 2017 is as follows (in millions, except per share amounts):

	Total Number of Shares Purchased[1]	Total Number of Shares Purchased as Part of Publicly Announced Program	Average Price Paid Per Share	Approximate Dollar Value of Shares that May Yet be Purchased Under the Program (as of month-end)
October 1—October 31	1.3	1.3	$ 119.28	$ 4,644
November 1—November 30	1.2	1.2	123.47	4,490
December 1—December 31	1.3	1.3	119.50	4,339
Total October 1—December 31	3.8	3.8	$ 120.71	

(1) Includes shares repurchased through our publicly announced share repurchase program and shares tendered to pay the exercise price and tax withholding on employee stock options.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. The new share repurchase authorization has no expiration date. We anticipate repurchasing approximately $1.0 billion of shares in 2018.

Shareowner Return Performance Graph

The following performance graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any future filing under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that the Company specifically incorporates such information by reference into such filing.

The following graph shows a five-year comparison of cumulative total shareowners' returns for our class B common stock, the Standard & Poor's 500 Index and the Dow Jones Transportation Average. The comparison of the total cumulative return on investment, which is the change in the quarterly stock price plus reinvested dividends for each of the quarterly periods, assumes that $100 was invested on December 31, 2012 in the Standard & Poor's 500 Index, the Dow Jones Transportation Average and our class B common stock.

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	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017
United Parcel Service, Inc.	$ 100.00	$ 146.54	$ 159.23	$ 148.89	$ 182.70	$ 195.75
Standard & Poor's 500 Index	$ 100.00	$ 132.38	$ 150.49	$ 152.55	$ 170.79	$ 208.06
Dow Jones Transportation Average	$ 100.00	$ 141.38	$ 176.83	$ 147.19	$ 179.37	$ 213.49

Item 6. ***Selected Financial Data***

The following table sets forth selected financial data for each of the five years in the period ended December 31, 2017 (in millions, except per share amounts). This financial data should be read together with our consolidated financial statements and related notes, Management's Discussion and Analysis of Financial Condition and Results of Operations, including the *Items Affecting Comparability* section, and other financial data appearing elsewhere in this report.

	Years Ended December 31,				
	2017	2016	2015	2014	2013
Selected Income Statement Data					
Revenue:					
U.S. Domestic Package	$ 40,764	$ 38,301	$ 36,747	$ 35,851	$ 34,074
International Package	13,338	12,350	12,149	12,988	12,429
Supply Chain & Freight	11,770	10,255	9,467	9,393	8,935
Total Revenue	65,872	60,906	58,363	58,232	55,438
Operating Expenses:					
Compensation and benefits	34,588	34,770	31,028	32,045	28,557
Other	23,755	20,669	19,667	21,219	19,847
Total Operating Expenses	58,343	55,439	50,695	53,264	48,404
Operating Profit:					
U.S. Domestic Package	4,280	3,017	4,767	2,859	4,603
International Package	2,464	2,044	2,137	1,677	1,757
Supply Chain and Freight	785	406	764	432	674
Total Operating Profit	7,529	5,467	7,668	4,968	7,034
Other Income and (Expense):					
Investment income	72	50	15	22	20
Interest expense	(453)	(381)	(341)	(353)	(380)
Income Before Income Taxes	7,148	5,136	7,342	4,637	6,674
Income Tax Expense	2,238	1,705	2,498	1,605	2,302
Net Income	$ 4,910	$ 3,431	$ 4,844	$ 3,032	$ 4,372
Per Share Amounts:					
Basic Earnings Per Share	$ 5.64	$ 3.89	$ 5.38	$ 3.31	$ 4.65
Diluted Earnings Per Share	$ 5.61	$ 3.87	$ 5.35	$ 3.28	$ 4.61
Dividends Declared Per Share	$ 3.32	$ 3.12	$ 2.92	$ 2.68	$ 2.48
Weighted Average Shares Outstanding:					
Basic	871	883	901	916	940
Diluted	875	887	906	924	948

	As of December 31,				
	2017	2016	2015	2014	2013
Selected Balance Sheet Data:					
Cash and marketable securities	$ 4,069	$ 4,567	$ 4,726	$ 3,283	$ 5,245
Total assets	45,403	40,377	38,311	35,440	35,553
Long-term debt	20,278	12,394	11,316	9,856	10,824
Shareowners' equity	1,030	429	2,491	2,158	6,488

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

Overview

We produced solid growth and operating results in 2017 across all operating segments. In 2017, consolidated revenue increased 8.2% to $65.872 billion, up from $60.906 billion in 2016. Revenue for 2017 increased in all segments and major product categories, due to shipment growth, yield expansion and benefits recognized from our network investments and portfolio initiatives. While operating profits were positively impacted by these growth factors discussed above, they were partially offset by impacts from natural disasters, capacity constraints due to volume surges in the fourth quarter of 2017, operating costs associated with facility construction and the deployment of Saturday operations in our U.S. Domestic Package segment.

Operating profit for 2017 was up 37.7% to $7.529 billion, driven by strong performance in all segments and a $1.851 billion reduction in the pension mark-to-market charges.

Average daily package volume increased 4.9% in 2017. We reported 2017 net income of $4.910 billion and diluted earnings per share of $5.61, compared to 2016 net income of $3.431 billion and diluted earnings per share of $3.87.

Our consolidated results are presented in the table below:

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Revenue (in millions)	$ 65,872	$ 60,906	$ 58,363	8.2 %	4.4 %
Operating Expenses (in millions)	58,343	55,439	50,695	5.2 %	9.4 %
Operating Profit (in millions)	$ 7,529	$ 5,467	$ 7,668	37.7 %	(28.7)%
Operating Margin	11.4 %	9.0 %	13.1 %		
Average Daily Package Volume (in thousands)	20,030	19,090	18,324	4.9 %	4.2 %
Average Revenue Per Piece	$ 10.53	$ 10.30	$ 10.37	2.2 %	(0.7)%
Net Income (in millions)	$ 4,910	$ 3,431	$ 4,844	43.1 %	(29.2)%
Basic Earnings Per Share	$ 5.64	$ 3.89	$ 5.38	45.0 %	(27.7)%
Diluted Earnings Per Share	$ 5.61	$ 3.87	$ 5.35	45.0 %	(27.7)%

Items Affecting Comparability

The results and discussions that follow are reflective of how our executive management monitors the performance of our reporting segments. We supplement the reporting of our financial information determined under generally accepted accounting principles (“GAAP”) with certain non-GAAP financial measures, including "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, income tax expense and effective tax rate. These adjustments reflect the non-comparable items discussed below. We believe that these adjusted measures provide meaningful information to assist investors and analysts in understanding our financial results and assessing our prospects for future performance. We believe these adjusted financial measures are important indicators of our recurring results of operations because they exclude items that may not be indicative of, or are unrelated to, our underlying results of operations and provide a useful baseline for analyzing trends in our underlying businesses. Additionally, these adjusted financial measures are used internally by management for the determination of incentive compensation awards, business unit operating performance analysis and business unit resource allocation.

Non-GAAP financial measures should be considered in addition to, and not as an alternative for, our reported results prepared in accordance with GAAP. Our non-GAAP financial information does not represent a comprehensive basis of accounting. Therefore, our non-GAAP financial information may not be comparable to similarly titled measures reported by other companies.

We supplement the reporting of our revenue, revenue per piece and operating profit with similar non-GAAP measures that exclude the period-over-period impact of foreign currency exchange rate changes and hedging activities. We believe currency-neutral revenue, revenue per piece and operating profit information allows users of our financial statements to understand growth trends in our products and results. We evaluate the performance of our International Package and Supply Chain & Freight businesses on a currency-neutral basis.

Currency-neutral revenue, revenue per piece and operating profit are calculated by dividing current period reported U.S. dollar revenue, revenue per piece and operating profit by the current period average exchange rates to derive current period local currency revenue, revenue per piece and operating profit. The derived current period local currency revenue, revenue per piece and operating profit are then multiplied by the average foreign exchange rates used to translate the comparable results for each month in the prior year period (including the period over period impact of foreign currency revenue hedging activities). The difference between the current period reported U.S. dollar revenue, revenue per piece and operating profit and the derived current period U.S. dollar revenue, revenue per piece and operating profit is the period over period impact of currency fluctuations.

The year-over-year comparisons of our financial results are affected by the following items (in millions):

	Year Ended December 31,		
Non-GAAP Adjustments	**2017**	**2016**	**2015**
Operating Expenses:			
Defined Benefit Plans Mark-to-Market Charges	$ 800	$ 2,651	$ 118
Total Adjustments to Operating Expenses	800	2,651	118
Income Tax Benefit from the Mark-to-Market Charges	(193)	(978)	(39)
Income Tax Benefit from the Tax Cuts and Jobs Act and Other Non-U.S. Tax Law Changes	(258)	—	—
Total Adjustments to Net Income	$ 349	$ 1,673	$ 79

These items have been excluded from comparisons of "adjusted" compensation and benefits, operating expenses, operating profit, operating margin, income tax expense and effective tax rate in the discussion that follows. The income tax effects of the mark-to-market charges are calculated by multiplying the statutory tax rates applicable in each tax jurisdiction, including the U.S. federal jurisdiction and various U.S. state and non-U.S. jurisdictions, by the adjustments. The blended average of the applicable statutory tax rates in 2017, 2016 and 2015 were 24.1%, 36.9% and 33.1%, respectively.

Defined Benefit Plans Mark-to-Market Charges

We recognize changes in the fair value of plan assets and net actuarial gains and losses in excess of a 10% corridor for our pension and postretirement defined benefit plans immediately as part of net periodic benefit cost. We supplement the presentation of our operating profit and operating margin with "adjusted" measures that exclude the impact of the portion of net periodic benefit cost represented by the gains and losses recognized in excess of the 10% corridor and the related income tax effects.

The adjustments made to exclude these mark-to-market adjustments utilize the expected return on plan assets ($2.956, $2.580 and $2.567 billion for 2017, 2016 and 2015, respectively) and the discount rates used for determining net periodic benefit cost. The non-adjusted net periodic benefit cost reflects the actual return on plan assets ($4.811 billion, $1.846 billion and $110 million for 2017, 2016 and 2015, respectively) and the discount rates used for measuring the projected benefit obligation as summarized in the table below. We believe excluding these mark-to-market charges from our adjusted results provides important supplemental information that reflects the anticipated long-term cost of our defined benefit plans and provides a benchmark for historical defined benefit cost trends that may provide a useful comparison of year-to-year financial performance without considering the short-term impact of changes in market interest rates, equity prices and similar factors.

In 2017, we recognized pre-tax mark-to-market losses in compensation and benefits expense of $800 million on our pension and postretirement defined benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor. These charges impacted our U.S. Domestic Package segment ($637 million), International Package segment ($35 million) and Supply Chain & Freight segment ($128 million).

In 2016, we recognized pre-tax mark-to-market losses in compensation and benefits expense of $2.651 billion on our pension and postretirement defined benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor. These charges impacted our U.S. Domestic Package segment ($1.908 billion), International Package segment ($425 million) and Supply Chain & Freight segment ($318 million).

In 2015, we recognized pre-tax mark-to-market losses in compensation and benefits expense of $118 million on our pension and postretirement defined benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor. These charges impacted our U.S. Domestic Package segment ($62 million), International Package segment ($44 million) and Supply Chain & Freight segment ($12 million).

The table below indicates the amounts associated with each component of the pre-tax mark-to-market losses, as well as the weighted-average actuarial assumptions used to determine our net periodic benefit costs, for each year:

	Year Ended December 31,		
Components of mark-to-market gain (loss) (in millions):	**2017**	**2016**	**2015**
Discount rates	$ (2,288)	$ (1,953)	$ 1,624
Return on assets	1,525	(732)	(1,550)
Demographic and assumption changes	(37)	34	(133)
Reclassification of prior year unrecognized benefit cost	—	—	(59)
Total mark-to-market gain (loss)	$ (800)	$ (2,651)	$ (118)

	Year Ended December 31,		
Weighted-average actuarial assumptions used to determine net periodic benefit cost:	**2017**	**2016**	**2015**
Expected rate of return on plan assets	8.65%	8.65%	8.66%
Actual rate of return on plan assets	14.25%	6.06%	0.37%
Discount rate used for net periodic benefit cost	4.34%	4.81%	4.36%
Discount rate at measurement date	3.81%	4.34%	4.81%

The $800 million, $2.651 billion and $118 million pre-tax mark-to-market losses for the years ended December 31, 2017, 2016 and 2015, respectively, were comprised of the following components:

2017 - $800 million pre-tax mark-to-market loss:

- *Discount Rates* ($2.288 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.34% at December 31, 2016 to 3.81% at December 31, 2017, primarily due to both a decline in U.S. treasury yields and a decrease in credit spreads on AA-rated corporate bonds in 2017.

- *Return on Assets* ($1.525 billion pre-tax gain): In 2017, the actual 14.25% rate of return on plan assets exceeded our expected rate of return of 8.65%, primarily due to strong global equity and U.S. bond markets.

- *Demographic and Assumption Changes* ($37 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

2016 - $2.651 billion pre-tax mark-to-market loss:

- *Discount Rates* ($1.953 billion pre-tax loss): The weighted-average discount rate for our pension and postretirement medical plans decreased from 4.81% at December 31, 2015 to 4.34% at December 31, 2016, primarily due to a decrease in credit spreads on AA-rated corporate bonds in 2016.

- *Return on Assets* ($732 million pre-tax loss): In 2016, the actual 6.06% rate of return on plan assets fell short of our expected rate of return of 8.65%, primarily due to weak bond markets.

- *Demographic and Assumption Changes* ($34 million pre-tax gain): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

2015 - $118 million pre-tax mark-to-market loss:

- *Discount Rates* ($1.624 billion pre-tax gain): The weighted-average discount rate for our pension and postretirement medical plans increased from 4.36% at December 31, 2014 to 4.81% at December 31, 2015, primarily due to an increase in U.S. treasury yields and credit spreads on AA-rated corporate bonds in 2015.

- *Return on Assets* ($1.550 billion pre-tax loss): In 2015, the actual 0.37% rate of return on plan assets fell short of our expected rate of return of 8.66%, primarily due to weak global equity markets.

- *Demographic and Assumption Changes* ($133 million pre-tax loss): This represents the difference between actual and estimated participant data and demographic factors, including items such as healthcare cost trends, compensation rate increases and rates of termination, retirement and mortality.

- *Reclassification of Prior Year Unrecognized Benefit Cost* ($59 million pre-tax loss): Our mark-to-market accounting policy requires recognition of gains and losses in excess of a corridor equal to 10% of the plans' projected benefit obligations (or fair value of the plans' assets, if greater). The decrease in certain plans' projected benefit obligations resulted in a lower corridor, which required recognition of prior year unrecognized benefit costs for some of our plans.

Income Tax Benefit from the Tax Cuts and Jobs Act

We supplement the presentation of our income tax expense and effective tax rate with "adjusted" measures that exclude the impact of the income tax benefit from the Tax Cuts and Jobs Act (the "Tax Act") described in the "Income Tax Expense" section of Management's Discussion and Analysis and note 13 to the audited consolidated financial statements. We believe income tax expense and the effective tax rate excluding the tax benefit is useful in evaluating our ongoing operating performance for the current period to that of other periods presented. The estimates are based on our initial analysis and interpretations of the Tax Act.

Expense Allocations

Certain operating expenses are allocated between our reporting segments using activity-based costing methods. These activity-based costing methods require us to make estimates that impact the amount of each expense category that is attributed to each segment. Changes in these estimates will directly impact the amount of expense allocated to each segment, and therefore the operating profit of each reporting segment. Our allocation methodologies are refined periodically, as necessary, to reflect changes in our businesses. There were no significant changes in our expense allocation methodologies during 2017, 2016 or 2015.

U.S. Domestic Package Operations

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Average Daily Package Volume (in thousands):					
Next Day Air	1,460	1,379	1,316	5.9 %	4.8 %
Deferred	1,400	1,351	1,313	3.6 %	2.9 %
Ground	14,061	13,515	12,969	4.0 %	4.2 %
Total Avg. Daily Package Volume	16,921	16,245	15,598	4.2 %	4.1 %
Average Revenue Per Piece:					
Next Day Air	$ 19.11	$ 19.20	$ 19.66	(0.5)%	(2.3)%
Deferred	12.43	11.85	11.70	4.9 %	1.3 %
Ground	8.19	7.97	7.98	2.8 %	(0.1)%
Total Avg. Revenue Per Piece	$ 9.48	$ 9.25	$ 9.28	2.5 %	(0.3)%
Operating Days in Period	254	255	254		
Revenue (in millions):					
Next Day Air	$ 7,088	$ 6,752	$ 6,570	5.0 %	2.8 %
Deferred	4,421	4,082	3,903	8.3 %	4.6 %
Ground	29,255	27,467	26,274	6.5 %	4.5 %
Total Revenue	$ 40,764	$ 38,301	$ 36,747	6.4 %	4.2 %
Operating Expenses (in millions):					
Operating Expenses	$ 36,484	$ 35,284	$ 31,980	3.4 %	10.3 %
Defined Benefit Plans Mark-to-Market Charges	(637)	(1,908)	(62)		
Adjusted Operating Expenses	$ 35,847	$ 33,376	$ 31,918	7.4 %	4.6 %
Operating Profit (in millions) and Operating Margin:					
Operating Profit	$ 4,280	$ 3,017	$ 4,767	41.9 %	(36.7)%
Adjusted Operating Profit	$ 4,917	$ 4,925	$ 4,829	(0.2)%	2.0 %
Operating Margin	10.5%	7.9%	13.0%		
Adjusted Operating Margin	12.1%	12.9%	13.1%		

Revenue

The change in overall revenue was impacted by the following factors for the years ended December 31, 2017 and 2016, compared with the corresponding prior year periods:

	Volume	Rates / Product Mix	Fuel Surcharge	Total Revenue Change
Revenue Change Drivers:				
2017/ 2016	3.8%	1.7%	0.9 %	6.4%
2016/ 2015	4.6%	0.2%	(0.6)%	4.2%

Volume

2017 compared to 2016

Our overall volume increased across all products in 2017, largely due to continued growth in overall retail sales, of which e-commerce continues to represent a larger percentage of the total growth. Business-to-consumer shipments, which represented more than 50% of total U.S. Domestic Package volume, grew 9.3% for the year, which drove increases in both air and ground shipments. Business-to-business shipments decreased slightly in 2017 compared to 2016 largely due to declines in volume in professional services, as a result of increased digitization, and high tech industries.

Among our air products, volume increased in 2017 for our Next Day Air and Deferred services. Solid air volume growth continued for those products most aligned with business-to-consumer shipping, including our residential Next Day Air, Next Day Air Saver and Three Day Select package products, as consumers continue to demand faster options. This growth was slightly offset by a decline in Next Day Air letter volume, largely due to declines in the professional services industry as a result of continued growth in digitization.

The increase in ground volume in 2017 was driven by growth in residential ground and SurePost volume, which benefited from continued e-commerce demand. Business-to-business shipments decreased slightly due to adverse weather conditions in third quarter 2017 however this decrease was partially offset by an increase in our return shipping services.

2016 compared to 2015

Our total volume increased across all products in 2016, largely due to continued growth in e-commerce and overall retail sales and the impact of one additional operating day. Business-to-consumer shipments, which represented more than 48% of total U.S. Domestic Package volume, grew nearly 9% for the year and 11.5% in the fourth quarter, which drove increases in both air and ground shipments. Business-to-business volume remained flat in 2016 due to revenue management initiatives and the overall slowing of the industrial manufacturing sector, offset by increased volume from the retail industry, including the use of our solutions for omni-channel (including ship-from-store and ship-to-store models) and returns shipping.

Next Day Air volume increased 5.2% in 2016, due to strong growth in e-commerce. We also experienced increased volume for our deferred air services in 2016, particularly for those products most aligned with business-to-consumer shipping, such as our residential Second Day Air Package and Three Day Select products partially offset by decreases in our business-to-business deferred air volume.

The increase in ground volume in 2016 was driven by growth in residential ground and SurePost volume while business-to-business shipments remained flat. Accelerating growth in e-commerce drove demand for our SurePost service, with volume increasing 19% in 2016.

Rates and Product Mix

2017 compared to 2016

Overall revenue per piece increased 2.5% in 2017, and was impacted by changes in base rates, customer and product mix and fuel surcharge rates.

Revenue per piece for ground and air products was positively impacted by a base rate increase on December 26, 2016. UPS Ground rates and UPS Air services rates increased an average net 4.9%. Effective January 8, 2017, we changed the dimensional weight calculation for packages subject to UPS daily rates. On June 19, 2017, we announced a new peak charge applicable during selected weeks in November and December 2017 for U.S. Residential, Large Packages and packages Over Maximum Limits. The new charge is designed to enable UPS to continue to offset some of the additional expenses incurred during significant volume surges. Additionally on October 25, 2017, we announced an average 4.9% base rate increase effective December 24, 2017 for UPS Ground and UPS Air services.

In the first quarter of 2017, we began our expanded Saturday ground operations to several metropolitan areas in the U.S. As of December 2017, Saturday service is available in approximately 4,700 cities and towns in the U.S.

covering approximately 50% of the population. A Saturday pickup stop charge went into effect on May 1, 2017 and varies depending on the pickup service selected.

Revenue per piece for our Next Day Air services decreased in 2017 compared with 2016. The decrease in Next Day Air revenue per piece was primarily driven by a shift in product mix, as our lower yielding products experienced much larger volume growth than our higher yielding products. This shift was offset slightly by an increase in the average billable weight per piece. Revenue per piece of our deferred air services increased in 2017 compared with 2016. Deferred revenue per piece increased primarily due to an increase in average billable weight per piece, but was partially offset by an unfavorable shift in product mix. All products were positively impacted by higher fuel surcharge rates for 2017.

Ground revenue per piece increased in 2017, primarily due to base rate increases, higher fuel surcharge rates and an increase in average billable weight per piece. These factors were partially offset by changes in product mix, as we experienced faster volume growth in our SurePost product.

2016 compared to 2015

Overall revenue per piece decreased 0.3% in 2016, and was impacted by changes in base rates, customer and product mix and fuel surcharge rates.

Ground revenue per piece decreased in 2016, primarily due to customer and product mix changes, which adversely impacted revenue per piece as a greater portion of volume in 2016, relative to 2015, came from residential customers and lighter-weight shipments as SurePost volume surged. Additionally, lower fuel surcharge rates contributed to the decline. These drivers more than offset the rate actions taken since the fourth quarter of 2015.

Revenue per piece for Next Day Air products declined in 2016, while our deferred air products increased. All products were negatively impacted by lower fuel surcharge rates. The Next Day Air revenue per piece decline was caused by a shift in customer and product mix as well as an increase in lighter-weight packages. We experienced relatively stronger growth in our lighter-weight business-to-consumer shipments, particularly our Next Day Air Saver product, which have lower average yields than our heavier-weight commercial shipments. Customer mix also adversely impacted Next Day Air revenue per piece, due to faster volume growth among our larger customers, which have a lower average yield than our small and middle-market customers. Deferred revenue per piece increased primarily due to heavier-weight packages partially offset by product mix.

Revenue per piece for ground and air products was positively impacted by a base rate increase on December 28, 2015. UPS Ground rates and accessorial charges increased an average net 4.9%, while UPS Air services and accessorial charges increased an average net 5.2%. The surcharge increased for Over Maximum Packages and the index tables for the Ground and Air fuel surcharges were adjusted effective November 2, 2015. A charge for UPS's Third-Party Billing Service was implemented, effective January 4, 2016. Additionally, the dimensions of ground packages incurring the UPS Additional Handling charge were changed effective June 6, 2016.

Fuel Surcharges

UPS applies a fuel surcharge on our domestic air and ground services. The air fuel surcharge is based on the U.S. Department of Energy's ("DOE") Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the ground fuel surcharge is based on the DOE's On-Highway Diesel Fuel Price. Based on published rates, the average fuel surcharge rates for domestic air and ground products were as follows:

	Year Ended December 31,			% Point Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Next Day Air / Deferred	5.2%	3.6%	4.8%	1.6%	(1.2)%
Ground	5.6%	4.9%	5.5%	0.7%	(0.6)%

Effective February 6, 2017, the U.S. fuel surcharge rates are reset weekly instead of monthly. In addition, the price indices have moved from a two month to a two week lag.

Total domestic fuel surcharge revenue increased by $347 million in 2017 as a result of higher fuel surcharge rates caused by an increase in jet and diesel fuel prices, as well as an overall increase in package volume. In addition to the factors above, fuel surcharge revenue was positively impacted by changes to the fuel surcharge calculation, as rates and price indices are updated more frequently to better align with prevailing market rates. In 2016, total fuel surcharge revenue decreased by $219 million as a result of lower fuel surcharge rates caused by declining jet and diesel fuel prices, partially offset by the overall increase in package volume for the period.

Operating Expenses

2017 compared to 2016

Operating expenses for the period increased $1.2 billion, which included a $1.3 billion decrease in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted operating expenses for the segment increased $2.5 billion in 2017, primarily due to pickup and delivery costs (up $1.0 billion), the cost of operating our domestic integrated air and ground network (up $922 million), the costs of package sorting (up $246 million) and accessorials and indirect operating costs (up $279 million). These increases were driven primarily by overall volume growth in 2017. Adjusted operating expenses were impacted by several factors:

- We incurred higher employee compensation, largely resulting from volume growth, an increase in average daily union labor hours (up 6.5%), growth in the overall size of the workforce and an increase in wage rates.

- Employee benefit costs increased, largely due to increased employee healthcare, partially offset by a decrease in pension expense and workers' compensation expense.

- We incurred higher fuel expense in 2017 primarily due to higher fuel prices and increased volume which resulted in higher fuel usage (increase in aircraft block hours of 7.0% and package delivery miles driven of 4.1%).

- We incurred higher costs associated with outside contract carriers, primarily due to volume growth (including SurePost), higher fuel surcharges passed to us by carriers and general rate increases.

Total cost per piece decreased 0.3% in 2017 compared to 2016 and was primarily impacted by a 380 basis point decrease due to the defined benefit plan mark-to-market charge offset by the cost increases described previously. The increased expenses in 2017 were also driven by: capacity constraints due to volume surges in the fourth quarter of 2017, start-up costs of several investments underway to further expand and modernize our air and ground networks, and the costs of implementing Saturday operations. Costs were further impacted by rising fuel prices. In order to contain costs, we continually adjust our air and ground networks to better match higher volume levels. In addition, we continue to deploy and utilize technology to increase package sorting and delivery productivity.

2016 compared to 2015

Operating expenses for the period increased $3.3 billion, which included a $1.8 billion increase in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted operating expenses for the segment increased $1.5 billion in 2016, primarily due to pickup and delivery costs (up $814 million), the cost of operating our domestic integrated air and ground transportation network (up $282 million), the costs of package sorting (up $181 million) and accessorials and indirect operating costs (up $180 million). Adjusted operating expenses were impacted by several factors:

- We incurred higher employee compensation, largely resulting from an increase in average daily union labor hours (up 4.2%) and growth in the overall size of the workforce partially offset by lower wage rates.

- Employee benefit costs increased, largely due to increased employee healthcare, pension expense and workers' compensation expense.

- We incurred lower fuel expense in 2016 primarily due to lower fuel prices and an increase in average miles per gallon. This was partially offset by higher fuel usage (due to an increase in aircraft block hours and vehicle miles driven.)

- We incurred higher expenses for purchased transportation due to higher volume, partially offset by lower fuel surcharge rates passed to us from third-party carriers.

Total cost per piece increased 5.5% in 2016 compared to 2015 and was primarily impacted by a 540 basis point increase due to the defined benefit plan mark-to-market charge and the cost increases described previously. These increases were partially offset by the continued deployment of ORION, which has contained the growth of average daily vehicle miles driven, and the increased redirect of SurePost volume to optimize delivery density on UPS vehicles, which has reduced the delivery costs for business-to-consumer shipments.

Operating Profit and Margin

2017 compared to 2016

Operating profit increased $1.3 billion in 2017 compared with 2016, primarily due to a $1.3 billion decrease in mark-to-market pension charges to operating expense. Operating margin increased 260 basis points to 10.5%. Adjusted operating profit decreased $8 million in 2017 compared with 2016, while the adjusted operating margin decreased 80 basis points to 12.1%. Operating profit was negatively impacted by an increase in continued investments in new buildings and new strategic investments including deployment of Saturday operations. There was an adverse impact from higher purchased transportation costs due to volume surges in the fourth quarter 2017 and from fuel as expense increased at a faster pace than fuel surcharge revenue.

2016 compared to 2015

Operating profit decreased $1.8 billion in 2016 compared with 2015, primarily due to a $1.8 billion increase in mark-to-market pension charges to operating expense. Operating margin decreased 510 basis points to 7.9%. Adjusted operating profit increased $96 million in 2016 compared with 2015, while the adjusted operating margin decreased 20 basis points to 12.9%. Revenue growth from increased volume and enhanced productivity through the continued deployment of ORION technology resulted in higher operating profit, but was offset by an unfavorable shift in customer and product mix, especially in the fourth quarter. The net impact of fuel also negatively impacted operating profit as fuel surcharge revenue decreased faster than fuel expense.

International Package Operations

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Average Daily Package Volume (in thousands):					
Domestic	1,714	1,635	1,575	4.8 %	3.8 %
Export	1,395	1,210	1,151	15.3 %	5.1 %
Total Avg. Daily Package Volume	3,109	2,845	2,726	9.3 %	4.4 %
Average Revenue Per Piece:					
Domestic	$ 6.08	$ 5.85	$ 6.06	3.9 %	(3.5)%
Export	28.69	30.38	31.10	(5.6)%	(2.3)%
Total Avg. Revenue Per Piece	$ 16.22	$ 16.29	$ 16.63	(0.4)%	(2.0)%
Operating Days in Period	254	255	254		
Revenue (in millions):					
Domestic	$ 2,645	$ 2,441	$ 2,425	8.4 %	0.7 %
Export	10,167	9,374	9,092	8.5 %	3.1 %
Cargo & Other	526	535	632	(1.7)%	(15.3)%
Total Revenue	$ 13,338	$ 12,350	$ 12,149	8.0 %	1.7 %
Operating Expenses (in millions):					
Operating Expenses	$ 10,874	$ 10,306	$ 10,012	5.5 %	2.9 %
Defined Benefit Plan Mark-to-Market Charges	(35)	(425)	(44)		
Adjusted Operating Expenses	$ 10,839	$ 9,881	$ 9,968	9.7 %	(0.9)%
Operating Profit (in millions) and Operating Margin:					
Operating Profit	$ 2,464	$ 2,044	$ 2,137	20.5 %	(4.4)%
Adjusted Operating Profit	$ 2,499	$ 2,469	$ 2,181	1.2 %	13.2 %
Operating Margin	18.5 %	16.6 %	17.6 %		
Adjusted Operating Margin	18.7 %	20.0 %	18.0 %		
Currency Translation Benefit / (Cost)—(in millions)*:					
Revenue				$ (325)	$ (138)
Operating Expenses				(50)	146
Operating Profit				$ (375)	$ 8

* Net of currency hedging; amount represents the change compared to the prior year.

Revenue

The change in overall revenue was impacted by the following factors for the years ended December 31, 2017 and 2016, compared with the corresponding prior year periods:

	Volume	Rates / Product Mix	Fuel Surcharge	Currency	Total Revenue Change

Revenue Change Drivers:					
2017/ 2016	8.9%	(0.9%)	2.6 %	(2.6%)	8.0%
2016/ 2015	4.8%	(1.2%)	(0.8%)	(1.1%)	1.7%

Volume

2017 compared to 2016

Our overall average daily volume increased in 2017, largely due to continued strength in business-to-consumer volume, as well as strong demand from several sectors including retail, industrial manufacturing, high-tech and healthcare.

We continued to experience export volume growth in 2017. The growth was mainly driven by our European, Asian and U.S. operations, which experienced increases in volume to major trade lanes of the world. European export volume increased in 2017, with growth in all trade lanes. Asia export volume also increased in 2017, with particular strength in Asia-to-U.S., Asia-to-Americas and intra-Asia trade lanes. Export volume into the U.S. grew in all trade lanes, led by Europe and the Americas. Export volume growth was strong across all major products, with a continued shift towards our premium express products, such as Worldwide Express and Transborder Express services.

The increase in domestic growth in 2017 was primarily due to growth in Turkey, Germany, France, Italy and U.K.

2016 compared to 2015

Our overall average daily volume increased in 2016, largely due to continued strength in business-to-consumer volume, as well as strong demand from several sectors including retail, industrial manufacturing, high-tech and healthcare.

We continued to experience export volume growth in 2016. The growth was mainly driven by our European and Asian operations, which experienced increases in volume to all regions of the world. European export volume increased in 2016, with particular strength in the Europe-to-U.S. and intra-Europe trade lanes. Asia export volume also increased in 2016, with growth in all trade lanes. However, U.S. export volume declined largely due to the impact of the stronger U.S. Dollar. Export volume growth was distributed across all products led by our Worldwide Express product.

The increase in domestic volume in 2016 was primarily due to growth in Italy, France, Turkey and Mexico.

Rates and Product Mix

2017 compared to 2016

Total average revenue per piece decreased 0.4% in 2017, impacted by a 250 basis point reduction from currency and a shift in product mix. These factors were partially offset by an increase in fuel surcharge rates as well as an increase in base rates.

On December 26, 2016, we implemented an average 4.9% net increase in base and accessorial rates for international shipments originating in the United States. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic markets. Effective September 17, 2017, a peak surcharge was applied to any shipment originating from China or Hong Kong to the United States for certain service levels during the peak period. The surcharge was applied as a rate per pound based upon the billable weight of the shipment. Additionally, on October 25, 2017, we announced an average 4.9% net increase in base and accessorial rates for international shipping originating in the United States; changes became effective on December 24, 2017.

Export revenue per piece decreased 5.6% in 2017, impacted by a 320 basis point reduction from currency and product mix. This was partially offset by an increase in fuel surcharges, an increase in base rates and strong volume growth in premium products.

Domestic revenue per piece increased 3.9% in 2017, impacted by a 50 basis point increase from currency, increase in base rates and higher fuel surcharges.

2016 compared to 2015

Total average revenue per piece decreased 2.0% in 2016, impacted by a 110 basis point reduction from currency as well as lower fuel surcharge rates. These factors were partially offset by an increase in base rates, lower discounts and a shift in product mix as the growth in premium products continued to exceed the growth in our standard products.

On December 28, 2015, we implemented an average 5.2% net increase in base and accessorial rates for international shipments originating in the United States (Worldwide Express, Worldwide Saver, UPS Worldwide Expedited and UPS International Standard service). On November 2, 2015, the surcharge increased for Over Maximum Packages and the tables for Ground, Air and International fuel surcharges were adjusted. Rate changes for shipments originating outside the U.S. are made throughout the year and vary by geographic market.

Export revenue per piece decreased 2.3% in 2016, impacted by a 50 basis point reduction from currency as well as lower fuel surcharge rates. These factors were partially offset by an increase in base rates, lower discounts and favorable package weight and characteristics.

Domestic revenue per piece decreased 3.5% in 2016, impacted by a 380 basis point reduction from currency as well as lower fuel surcharge rates. These factors were partially offset by an increase in base rates.

Fuel Surcharges

We maintain fuel surcharges on our international air and ground services. The fuel surcharges for international air products originating inside or outside the United States are indexed to the DOE's Gulf Coast spot price for a gallon of kerosene-type jet fuel, while the fuel surcharges for ground products originating outside the United States are indexed to fuel prices in the international region or country where the shipment takes place.

Total international fuel surcharge revenue increased by $325 million in 2017, primarily due to volume increases, higher fuel prices and pricing changes made to base freight rates and to the fuel surcharge indices from a two month lag to a two week lag. Total international fuel surcharge revenue decreased by $119 million in 2016, primarily due to price reductions in the fuel surcharge indices; however, this was partially offset by an increase in volume and changes in mix.

Operating Expenses

2017 compared to 2016

Overall operating expenses increased by $568 million, which included a $390 million decrease in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted operating expenses for the segment increased $958 million in 2017 primarily due to increased volumes, higher fuel usage and currency fluctuations.

Operating expenses were impacted by changes in the cost of operating our international integrated air and ground network, which increased $418 million, as well as pickup and delivery costs, which increased $280 million. The increase in network costs was largely driven by volume growth in our Express products, which drove a 3.0% increase in aircraft block hours and higher fuel usage. Additionally, the increase in pickup and delivery costs is due to increased volume. Operating expenses were also impacted in 2017 by a $260 million increase in indirect overhead and package sorting costs and other costs.

2016 compared to 2015

Overall operating expenses increased by $294 million, which included a $381 million increase in mark-to-market pension charges. Excluding the impact of the defined benefit plan mark-to-market charges, adjusted operating expenses for the segment decreased $87 million in 2016 primarily due to currency exchange rate movements and lower fuel expense.

Operating expenses were impacted by changes in the cost of operating our international integrated air and ground network, which decreased $40 million, as well as pickup and delivery costs, which decreased $143 million. The decreases in network and pickup and delivery costs were largely due to the impact of currency exchange rate movements and lower fuel expense. Network cost reductions were somewhat offset by an increase in aircraft block hours (up 1.2% in 2016), driven by a 5.1% increase in international export volume and continuing air product service enhancements.

Operating expenses were also impacted in 2016 by a $96 million increase in indirect overhead, package sorting costs and other gains and losses. The total cost per piece for the segment decreased 1.8% in 2016.

Operating Profit and Margin

2017 compared to 2016

Operating profit increased $420 million in 2017 compared with 2016, which included a $390 million decrease in operating expenses due to mark-to-market pension adjustments. Operating margin increased 190 basis points to 18.5%. Adjusted operating profit increased by $30 million in 2017, while the adjusted operating margin decreased 130 basis points to 18.7%. Operating margin was affected by negative currency exchange movements due to volatility of both hedged and unhedged currencies. Included in adjusted operating profit is a $375 million decrease due to currency.

2016 compared to 2015

Operating profit decreased $93 million in 2016 compared with 2015, which included a $381 million increase in operating expenses due to mark-to-market pension adjustments. Operating margin decreased 100 basis points to 16.6%. Adjusted operating profit increased by $288 million in 2016, while the adjusted operating margin increased 200 basis points to 20.0%. Operating profit and margin were positively affected by several factors including base rate increases, modifications to the fuel surcharge indices and currency exchange rate movements (including currency hedging gains).

Supply Chain & Freight Operations

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Freight LTL Statistics:					
Revenue (in millions)	$ 2,596	$ 2,384	$ 2,479	8.9 %	(3.8)%
Revenue Per Hundredweight	$ 24.08	$ 23.44	$ 22.94	2.7 %	2.2 %
Shipments (in thousands)	10,203	9,954	10,433	2.5 %	(4.6)%
Shipments Per Day (in thousands)	40.5	39.3	41.2	3.1 %	(4.6)%
Gross Weight Hauled (in millions of lbs)	10,782	10,167	10,808	6.0 %	(5.9)%
Weight Per Shipment (in lbs)	1,057	1,021	1,036	3.5 %	(1.4)%
Operating Days in Period	252	253	253		
Revenue (in millions):					
Forwarding and Logistics	$ 7,981	$ 6,793	$ 5,900	17.5 %	15.1 %
Freight	2,998	2,736	2,881	9.6 %	(5.0)%
Other	791	726	686	9.0 %	5.8 %
Total Revenue	$ 11,770	$ 10,255	$ 9,467	14.8 %	8.3 %
Operating Expenses (in millions):					
Operating Expenses	$ 10,985	$ 9,849	$ 8,703	11.5 %	13.2 %
Defined Benefit Plans Mark-to-Market Charges	(128)	(318)	(12)		
Adjusted Operating Expenses	$ 10,857	$ 9,531	$ 8,691	13.9 %	9.7 %
Operating Profit (in millions) and Operating Margins:					
Operating Profit	$ 785	$ 406	$ 764	93.3 %	(46.9)%
Adjusted Operating Profit	$ 913	$ 724	$ 776	26.1 %	(6.7)%
Operating Margin	6.7 %	4.0 %	8.1 %		
Adjusted Operating Margin	7.8 %	7.1 %	8.2 %		
Currency Translation Benefit / (Cost)—(in millions)*:					
Revenue				$ 10	$ (56)
Operating Expenses				(12)	59
Operating Profit				$ (2)	$ 3

* Amount represents the change compared to the prior year.

In December 2016, we acquired Marken, a global provider of supply chain solutions to the life sciences industry and leader in clinical trials, material storage and distribution. Marken's financial results are included in the above table within Forwarding and Logistics from the date of the acquisition and have impacted the year-over-year comparability of revenue, operating expenses and operating profit for the years ended December 31, 2017 and 2016.

In August 2015, we acquired Coyote, a truckload freight brokerage company. Coyote's financial results are included in the above table within Forwarding and Logistics from the date of the acquisition, which has impacted the year-over-year comparability of revenue, operating expenses and operating profit for the years ended December 31, 2016 and 2015.

Revenue

2017 compared to 2016

Total revenue for the Supply Chain & Freight segment increased $1.515 billion in 2017 compared to 2016.

Forwarding and Logistics revenue increased $1.188 billion in 2017 compared with 2016, primarily due to increased truckload brokerage freight volume movement and tonnage increases in our international air freight and North American air freight forwarding businesses. The volume and tonnage increases were driven by improving overall market demand. Revenue for our logistics products increased in 2017 due to growth in mail services, healthcare, retail and aerospace solutions, offset by declines among our high tech customers. Additionally, the Marken acquisition on December 21, 2016 contributed to the increase in revenue. Revenue was positively impacted by currency exchange rate movements.

UPS Freight revenue increased $262 million in 2017 compared to 2016, driven by increases in shipments and weight per shipment. These increases were impacted by an overall improvement in market demand and customer mix. LTL revenue per hundredweight increased slightly as LTL base rate increases, averaging 4.9%, took effect September 19, 2016. Additionally, effective June 26, 2017, LTL base rates increased by an additional 4.9% for certain shipments in the U.S., Canada and Mexico. Fuel surcharge revenue also increased $70 million due to changes in overall LTL shipment volume and diesel fuel prices.

Revenue for the other businesses within Supply Chain & Freight increased $65 million in 2017 due to revenue growth at UPS Capital Corporation and UPS Customer Solutions, as well as service contracts with the U.S. Postal Service.

2016 compared to 2015

Total revenue for the Supply Chain & Freight segment increased $788 million in 2016 compared to 2015.

Forwarding and Logistics revenue increased $893 million in 2016 compared with 2015, primarily due to the Coyote acquisition midway through the third quarter of 2015, offset by a combination of volume and tonnage declines in our North American air freight and international air freight businesses (impacted by management focus to reduce lower-yielding accounts and softer market conditions). Additionally, revenue was adversely impacted by currency exchange rate movements and lower fuel surcharge rates (due to declining fuel prices). Revenue for our logistics products increased in 2016 as there was growth in our mail services and retail, aerospace, healthcare and automotive solutions.

UPS Freight revenue decreased $145 million in 2016 compared with 2015, driven by lower tonnage (down 5.9% from 2015) and a $73 million decrease in fuel surcharge revenue due to lower diesel fuel prices. The decline in shipments and the reduction in the weight per shipment were impacted by revenue management initiatives, an overall decline in market demand and customer mix. LTL revenue per hundredweight increased as LTL base rate increases averaging 4.9% took effect on October 26, 2015 and September 19, 2016.

Revenue for the other businesses within Supply Chain & Freight increased $40 million in 2016 due to revenue growth at UPS Capital Corporation, UPS Customer Solutions and The UPS Store.

Operating Expenses

2017 compared to 2016

Supply Chain & Freight operating expenses for the period increased $1.136 billion, which includes a $190 million decrease in mark-to-market pension charges.

Forwarding and Logistics operating expenses increased $927 million, largely due to increased purchased transportation expenses and the acquisition of Marken in 2016. This was offset by operating efficiencies, a decrease in the mark-to-market pension charges in 2017 compared to 2016 and the receipt of a $20 million favorable legal settlement in the second quarter of 2017. Purchased transportation expense increased by $949 million compared to 2016 due to increased truckload brokerage freight movement, the acquisition of Marken in 2016, and the resulting increased fuel surcharges passed to us from outside transportation providers. Increased tonnage and third-party air carrier procurement rates in our North American and international air freight forwarding businesses, and increased volume and rates for mail services, also contributed to increased purchased transportation expenses.

UPS Freight operating expenses increased $196 million in 2017 compared with 2016. The increase in operating expense was largely due to costs associated with operating our linehaul network ($120 million) and increases in pickup and delivery costs ($79 million). The network costs and pickup and delivery expenses were driven by higher fuel cost and higher expense for outside transportation carriers (largely due to LTL volume growth and fuel surcharges passed to us by outside carriers). Total cost per LTL shipment increased 4.7% in 2017 compared to 2016. Operating expenses related to our casualty self-insurance reserves also increased in 2017 compared with 2016.

Other expenses for the other businesses within Supply Chain & Freight increased $13 million in 2017 compared with 2016 primarily due to UPS Capital, UPS Customer Solutions and service contracts with the U.S. Postal Service, slightly offset by decreases in The UPS Store.

2016 compared to 2015

Supply Chain & Freight operating expenses for the period increased $1.146 billion, which included a $306 million increase in mark-to-market pension charges. Forwarding and Logistics operating expenses increased $910 million, largely due to the acquisition of Coyote during the third quarter of 2015 and the increase in mark-to-market pension adjustment, partially offset by the impact of currency exchange rate movements and lower fuel expense. Purchased transportation expense increased by $862 million compared to 2015 largely due to the acquisition of Coyote. These increases were partially offset by a combination of lower volume and tonnage in our North American air freight and international air freight forwarding businesses, lower buy rates due to softer market conditions and the impact of currency exchange rates.

UPS Freight operating expenses decreased $103 million in 2016 compared with 2015, primarily as a result of decreases in our network costs ($58 million) and pickup and delivery costs ($34 million), offset in part by the increased mark-to-market pension charges. The declines in network costs and pickup and delivery expenses were driven by a reduction in fuel expense and expense for outside transportation carriers (due to lower LTL volume and fuel surcharges passed to us by outside carriers). Total cost per LTL shipment increased by 2.7% compared with 2015 due to operating expenses declining at a faster rate than the reduction in tonnage and shipments.

Other expenses for the other businesses within Supply Chain & Freight increased $33 million in 2016 compared with 2015 primarily due to UPS Capital, UPS Customer Solutions and The UPS Store.

Operating Profit and Margin

2017 compared to 2016

Supply Chain & Freight operating profit increased $379 million in 2017 compared with 2016, which includes a $190 million decrease in the mark-to-market pension charges. Operating margin increased 270 basis points to 6.7%, while the adjusted operating margin increased 70 basis points to 7.8%.

Operating profit for Forwarding and Logistics increased $261 million in 2017 compared with 2016. Operating profit and margins for the North American air freight business increased in 2017 due to an increase in volume, slightly offset by higher transportation expenses. Operating profit and margins in our international air freight forwarding business increased due to volume increases and higher revenue per kilo, slightly offset by higher rates at which we procure capacity from third-party air carriers. Operating profit for the logistics units improved from 2017 compared to 2016, due to strong performance in the U.S. as well as within our mail services. Additionally, the Marken acquisition in 2016 contributed to the increase in operating profit.

UPS Freight operating profit increased $66 million in 2017 compared with 2016, as increased volume and prices were partially offset by increased purchased transportation costs.

The combined operating profit for all of our other businesses in this segment increased $52 million in 2017, primarily due to higher operating profit at UPS Capital, UPS Customer Solutions and The UPS Store, as well as service contracts with the U.S. Postal Service.

2016 compared to 2015

Supply Chain & Freight operating profit decreased $358 million in 2016 compared with 2015, which includes a $306 million increase in the mark-to-market pension adjustments. Operating margin decreased 410 basis points to 4.0%, while the adjusted operating margin decreased 110 basis points to 7.1%.

Operating profit for Forwarding and Logistics, which includes Coyote, decreased $17 million in 2016 compared with 2015. Operating results for the North American air freight and international air freight forwarding businesses declined, as buy and sell spreads for capacity decreased. Profitability in ocean freight slightly declined due to margin compression from soft market conditions. Operating profit for the logistics unit increased slightly in 2016 compared to 2015.

Operating profit for the freight unit decreased $42 million in 2016 compared with 2015, as a decline in tonnage and increase in pension costs more than offset the increased LTL revenue per hundredweight realized during the year.

The combined operating profit for all of our other businesses in this segment increased $7 million in 2016, primarily due to higher operating profit at UPS Capital, UPS Customer Solutions and The UPS Store.

Operating Expenses

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Operating Expenses (in millions):					
Compensation and Benefits:	$ 34,588	$ 34,770	$ 31,028	(0.5)%	12.1 %
Defined Benefit Plans Mark-to-Market Charges	(800)	(2,651)	(118)		
Adjusted Compensation and Benefits	33,788	32,119	30,910	5.2 %	3.9 %
Repairs and Maintenance	1,600	1,538	1,400	4.0 %	9.9 %
Depreciation and Amortization	2,282	2,224	2,084	2.6 %	6.7 %
Purchased Transportation	10,989	9,129	8,043	20.4 %	13.5 %
Fuel	2,690	2,118	2,482	27.0 %	(14.7)%
Other Occupancy	1,155	1,037	1,022	11.4 %	1.5 %
Other Expenses	5,039	4,623	4,636	9.0 %	(0.3)%
Total Operating Expenses	$ 58,343	$ 55,439	$ 50,695	5.2 %	9.4 %
Adjusted Total Operating Expenses	$ 57,543	$ 52,788	$ 50,577	9.0 %	4.4 %
Currency Translation Cost / (Benefit)*				$ 62	$ (205)

* Amount represents the change compared to the prior year.

Compensation and Benefits

2017 compared to 2016

Total compensation and benefits decreased $182 million in 2017 compared to 2016. Excluding the impact of the defined benefit plans mark-to-market charges, adjusted compensation and benefits expense increased $1.669 billion in 2017.

Employee payroll costs increased $1.295 billion in 2017 compared with 2016, largely due to higher U.S. domestic hourly and management compensation costs. Total compensation costs increased 6.5%, while consolidated average daily volume growth was 4.9%. U.S. domestic compensation costs for hourly employees increased largely due to fourth quarter 2017 seasonal staffing increases resulting from a 5.4% volume growth, contractual union wage increases, headcount increases, wage rate adjustments for part time workers and a 6.5% increase in average daily union labor hours. Compensation costs for management employees increased primarily due to merit salary increases and growth in the overall size of the workforce.

Benefits expense decreased $1.477 billion in 2017 compared to 2016, primarily due to the following factors:

- Pension costs decreased $1.869 billion in 2017 compared to 2016, primarily due to a $1.851 billion decrease in defined benefit plans mark-to-market charges. Additionally, expenses decreased due to higher asset returns in company sponsored plans as a result of discretionary contributions. This decrease was offset by additional expense for multiemployer pension plans, which were impacted by contractual contribution rate increases and an overall increase in size of workforce.

- Health and welfare costs increased $229 million in 2017, largely due to increased contributions to multiemployer plans resulting from contractual contribution rate increases and an overall increase in the size of the workforce.

- Vacation, holiday, excused absence, payroll tax and other expenses increased $226 million in 2017 due to salary increases and growth in the overall size of the workforce.

- Workers' compensation expense decreased $63 million in 2017 as we experienced more favorable actuarial adjustments. This decrease was partially offset by increases in work hours, medical trends and wage increases. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported workers' compensation claims, as well as estimates of claims that have been incurred but not reported, and take into account a number of factors, including our history of claim losses, payroll growth and the impact of safety improvement initiatives.

2016 compared to 2015

Total compensation and benefits increased $3.742 billion in 2016 compared to 2015. Excluding the impact of the defined benefit plans mark-to-market charges, adjusted compensation and benefits expense increased $1.209 billion in 2016.

Employee payroll costs increased $609 million in 2016 compared with 2015, largely due to higher U.S. domestic hourly and management compensation costs and the acquisition of Coyote during the third quarter of 2015. Total compensation costs increased 3.2%, while consolidated average daily volume growth was 4.2%. U.S. domestic compensation costs for hourly employees increased largely due to increased headcount, contractual union wage increases and a 4.2% increase in average daily union labor hours. Compensation costs for management employees increased primarily due to merit salary increases and growth in the overall size of the workforce, partially offset by lower incentive compensation.

Benefits expense increased $3.133 billion in 2016 compared to 2015, primarily due to increased pension costs, health and welfare costs, workers' compensation expenses, vacation, holiday and excused absence expenses and payroll taxes. These factors are discussed further as follows:

- Pension costs increased $2.634 billion in 2016 compared to 2015, primarily due to $2.533 billion in defined benefit plans mark-to-market charges. Additionally, expenses increased for multiemployer pension plans due to increased contribution rates and headcount.

- Health and welfare costs increased $277 million in 2016, largely due to increased contributions to multiemployer plans resulting from contractual contribution rate increases and an overall increase in the size of the workforce.

- Vacation, holiday, excused absence and payroll tax expense increased $125 million in 2016, due to salary increases and growth in the overall size of the workforce.

- Workers' compensation expense increased $96 million in 2016. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported workers' compensation claims, as well as estimates of claims that have been incurred but not reported, and take into account a number of factors, including our history of claim losses, payroll growth and the impact of safety improvement initiatives. In 2015, we experienced more favorable actuarial adjustments, resulting in increased expense in 2016.

Repairs and Maintenance

2017 compared to 2016

The $62 million increase in repairs and maintenance expense in 2017 was primarily due to repairs and maintenance of our transportation equipment resulting from growth in the size of our vehicle fleet and routine repairs to buildings and facilities.

2016 compared to 2015

The $138 million increase in repairs and maintenance expense in 2016 was primarily due to an increase in airframe and aircraft engine maintenance resulting from increased air volume and increased vehicle maintenance costs in our global package and freight operations, primarily due to the growth in the size of our vehicle fleet.

Depreciation and Amortization

2017 compared to 2016

Depreciation and amortization expense increased $58 million in 2017 compared with 2016, primarily due to the following factors: (1) depreciation expense on vehicles increased due to an overall increase in the size of our vehicle fleet in our U.S. Domestic Package and UPS Freight operations, (2) depreciation expense for buildings and facilities increased due to the opening of new facilities and facility automation and capacity expansion projects and (3) amortization expense of intangible assets increased in conjunction with the Marken acquisition. These factors were largely offset by a decrease in amortization expense related to longer lived internally developed capitalized software.

2016 compared to 2015

Depreciation and amortization expense increased $140 million in 2016 compared with 2015, primarily due to the following factors: (1) depreciation expense for buildings and facilities increased due to leasehold improvements and purchases of new equipment; (2) increase in amortization expense largely due to new internally developed capitalized software, as well as intangible assets resulting from business acquisitions and (3) depreciation expense on vehicles increased due to the replacement of older, fully-depreciated vehicles, technology upgrades on new vehicles and an overall increase in the size of our vehicle fleet in our U.S. Domestic Package and UPS Freight operations.

Purchased Transportation

2017 compared to 2016

The $1.860 billion increase in purchased transportation expense charged to us by third-party air, rail, ocean and truck carriers in 2017 was primarily driven by the following factors:

- Expense for our forwarding and logistics business increased $949 million in 2017, primarily due to increased truckload brokerage freight loads per day and the resulting increased fuel surcharges passed to us from outside transportation providers; increased volume and rates for mail services and increased tonnage in our North American and international air freight forwarding businesses. Additionally, purchased transportation expense increased due to the acquisition of Marken in December 2016.

- U.S. Domestic Package expense increased $421 million in 2017, primarily due to increased volume (including SurePost), higher rates and higher fuel surcharges passed to us from outside contract carriers.

- International Package expense increased $270 million in 2017, primarily due to the increased usage of third-party carriers (due to higher volume); higher fuel surcharges passed to us from outside transportation providers and an unfavorable impact of currency exchange rate movements.

- UPS Freight expense increased $163 million in 2017, due to an increase in LTL shipments and higher fuel surcharges passed to us from outside transportation providers.

2016 compared to 2015

The $1.086 billion increase in purchased transportation expense charged to us by third-party air, ocean and truck carriers in 2016 was driven by several factors:

- Expense for our forwarding and logistics business increased $840 million in 2016, primarily due to the acquisition of Coyote and increased volume and rates for mail services; these items were partially offset by a combination of decreased volume and tonnage in our North American air freight and international air freight forwarding business, lower buy rates in international air freight due to softer market conditions and the impact of foreign currency exchange rates.

- U.S. Domestic Package expense increased $130 million in 2016, primarily due to increased volume and rates, partially offset by lower fuel surcharges passed to us from rail carriers and outside contract carriers.

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International Package expense increased $112 million in 2016, primarily due to increased usage of third-party carriers; this was partially offset by the impact of currency exchange rate movements as well as lower fuel surcharges passed to us from outside transportation providers.

- UPS Freight expense decreased $18 million in 2016, largely due to decreased LTL shipments and the resulting decreased use of, and lower fuel surcharges passed to us from, outside transportation carriers.

Fuel

2017 compared to 2016

The $572 million increase in fuel expense in 2017 was primarily due to higher jet fuel, diesel and unleaded gasoline prices, which increased fuel expense by $419 million. Additionally, increased alternative fuel costs and fuel consumption increased expense by $170 million primarily due to volume increases, which resulted in higher total aircraft block hours and Domestic Package delivery miles driven. These increases were partially offset by increased fuel efficiency.

2016 compared to 2015

The $364 million decrease in fuel expense in 2016 was primarily due to lower jet fuel, diesel and unleaded gasoline prices, which decreased fuel expense by $461 million. The lower fuel prices were partially offset by increased fuel consumption, primarily due to increases in total aircraft block hours and Domestic Package delivery stops (due to higher volume), which increased expense by $97 million and lower alternative fuel and tax credits.

Other Occupancy

2017 compared to 2016

The $118 million increase in other occupancy expense in 2017 was largely due to higher facility rent expense driven by new facilities, higher utilities and property taxes at our operating facilities.

2016 compared to 2015

The $15 million increase in other occupancy expense in 2016 was largely due to higher facility rent expense, partially offset by lower utilities and snow removal costs at our operating facilities.

Other Expenses

2017 compared to 2016

The $416 million increase in other expenses in 2017 was caused by a number of factors:

- Auto liability insurance expense increased $75 million due to increased miles driven, medical trend rates and severity experience trends.

- Transportation equipment rental increased $60 million driven by growth in package volume.

The remaining $280 million increase is comprised of increases in several other expense categories, including outside professional services, merchandise protection, computer and plant supplies and air cargo handling, partially offset by a decrease in advertising expense.

2016 compared to 2015

The $13 million decrease in other expenses in 2016 was largely due to a decrease in overall auto liability insurance, offset by an increase in outside professional services.

Investment Income and Interest Expense

The following table sets forth investment income and interest expense for the years ended December 31, 2017, 2016 and 2015 (in millions):

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Investment Income and Other	$ 72	$ 50	$ 15	44.0%	NA
Interest Expense	$ (453)	$ (381)	$ (341)	18.9%	11.7%

Investment Income and Other

2017 compared to 2016

The growth in investment income and other in 2017 as compared to 2016 was primarily due to higher interest income from invested assets and the continued decrease in losses from fair value adjustments on real estate partnerships partially offset by foreign currency exchange rate movements.

2016 compared to 2015

The growth in investment income and other in 2016 as compared to 2015 was primarily due to a decrease in losses from fair value adjustments on real estate partnerships, higher interest income and unrealized gains on investments and a benefit from foreign currency exchange rate movements.

Interest Expense

2017 compared to 2016

Interest expense increased in 2017 as compared to 2016 primarily due to the issuance of long-term CAD Senior Notes, Euro Senior Notes and USD Senior Notes and higher effective interest rates on senior notes.

2016 compared to 2015

Interest expense increased in 2016 as compared to 2015 primarily due to an increase in average outstanding commercial paper balances, an increase in long-term debt and higher effective interest rates on senior notes.

Income Tax Expense

The following table sets forth income tax expense and our effective tax rate for the years ended December 31, 2017, 2016 and 2015 (in millions):

	Year Ended December 31,			% Change	
	2017	2016	2015	2017/ 2016	2016/ 2015
Income Tax Expense:	$ 2,238	$ 1,705	$ 2,498	31.3 %	(31.7 %)
Income Tax Impact of:					
Defined Benefit Plans Mark-to-Market Charge	193	978	39		
Income Tax Benefit from the Tax Cuts and Jobs Act and Other Non-U.S. Tax Law Changes	258	—	—		
Adjusted Income Tax Expense	$ 2,689	$ 2,683	$ 2,537	0.2 %	5.8 %
Effective Tax Rate	31.3 %	33.2 %	34.0 %		
Adjusted Effective Tax Rate	33.8 %	34.5 %	34.0 %		

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions we operate in and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year but may not be consistent from year to year.

Our effective tax rate decreased to 31.3% in 2017, compared with 33.2% in 2016 and 34.0% in 2015, primarily due to the effects of the following discrete tax items and recurring factors:

Tax Cuts and Jobs Act

On December 22, 2017, the United States enacted into law the Tax Act. The Tax Act makes broad and complex changes to the U.S. tax code, including a permanent corporate rate reduction to 21% and a transition to a territorial international system effective in 2018. Going forward, we expect a lower future effective tax rate than we have reported in recent years. Applying the lower corporate tax rate will lower our overall income tax expense, which will impact net income and cash flows. Benefits from the lower tax rate will allow us to fund strategic initiatives for our customers, employees and shareowners. The Tax Act also includes provisions that affect 2017, including: (1) requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries (“Transition Tax”) that is payable over eight years; (2) requiring a remeasurement of all U.S. deferred tax assets and liabilities to the newly enacted corporate tax rate of 21% and (3) providing for additional first-year depreciation that allows full expensing of qualified property placed into service after September 27, 2017.

In late December 2017, the SEC staff issued SAB 118, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under U.S. GAAP. If a company’s accounting for certain income tax effects of the Tax Act is incomplete, but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. Accordingly, we have recorded provisional estimates related to our Transition Tax liability, our change in indefinite reinvestment assertion for certain foreign subsidiaries and the remeasurement of our U.S. net deferred tax liabilities.

To calculate the amount of the Transition Tax, we must determine, in addition to other factors, the amount of post-1986 earnings and profits (“E&P”) of the foreign subsidiaries as well as the amount of non-U.S. income taxes paid on such earnings. We are able to make a reasonable estimate of the Transition Tax and recorded a provisional liability of $310 million; however, there are certain factors that could impact our provisional estimate.

First, several of our foreign subsidiaries have a fiscal year-end, and E&P for these subsidiaries cannot be precisely calculated until their fiscal years conclude during 2018. Second, we continue to gather additional information needed to precisely estimate the impact of the Transition Tax on our U.S. state and local tax liabilities given the complexity of the relevant state laws. Finally, we expect additional regulatory guidance and technical clarifications from the U.S. Department of the Treasury and Internal Revenue Service within the next 12 months that could change our provisional estimate of the Transition Tax.

As the U.S. has moved to a territorial system, we have also changed our indefinite reinvestment assertion with respect to the earnings of certain foreign subsidiaries. As a result, we have recorded a provisional deferred tax liability and corresponding increase to deferred tax expense of $24 million. There are certain factors, discussed above with regard to the Transition Tax, which could also impact our provisional estimate for the change in indefinite reinvestment assertion. For all other foreign subsidiaries, we continue to assert that these earnings are indefinitely reinvested. We will continue to evaluate our indefinite reinvestment assertion for all foreign subsidiaries in light of the Tax Act, and our provisional estimate is subject to change.

For our net U.S. deferred tax liabilities, we have recorded a provisional decrease of $606 million with a corresponding reduction to deferred tax expense of $606 million for the year ended December 31, 2017. While we are able to make a reasonable estimate of the impact of the reduction in the corporate rate, it may be affected by other analyses related to the Tax Act, including, but not limited to, completing the analysis of our 2017 capital expenditures that qualify for full expensing and the state tax effect of adjustments made to federal temporary differences.

Other 2017 Discrete Items

In the fourth quarter of 2017, we recognized an income tax benefit of $193 million related to pre-tax mark-to-market losses of $800 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average statutory tax rate than the 2017 U.S. federal statutory tax rate due to future tax rate changes enacted by the Tax Act and differences between U.S. and foreign statutory rates, which was partially offset by the effect of U.S. state and local taxes.

In the fourth quarter of 2017, tax law changes were enacted in certain non-U.S. jurisdictions in which we operate. As a result, we have recorded a decrease to our foreign net deferred tax assets of $14 million with a corresponding net increase to deferred tax expense of $14 million for the year ended December 31, 2017.

In the first quarter of 2017, we adopted a new accounting standard that requires the recognition of excess tax benefits related to share-based compensation in income tax expense, which resulted in tax benefits for the year ended December 31, 2017 of $71 million and reduced our effective tax rate by 1.0%.

2016 Discrete Items

In the fourth quarter of 2016, we recognized an income tax benefit of $978 million related to pre-tax mark-to-market losses of $2,651,000,000.000 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average statutory tax rate than the U.S. federal statutory tax rate because it included the effect of U.S. state and local taxes.

2015 Discrete Items

During the third quarter of 2015 and after the filing of our annual federal tax returns, we reconciled our deferred tax balances and identified adjustments to be made with respect to prior years' deferred tax balances. The adjustments resulted in a reduction of income tax expense of $66 million.

In connection with our acquisition of Coyote Logistics in 2015, we distributed $500 million of cash held by a Canadian subsidiary to its U.S. parent during the fourth quarter of 2015. As a result of the distribution, we recorded additional net income tax expense of $28 million.

In the fourth quarter of 2015, we recognized an income tax benefit of $39 million related to pre-tax mark-to-market losses of $118 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average statutory tax rate than our U.S. federal statutory tax rate because it was due, in part, to non-U.S. benefit plans.

Other favorable rate impacting items in 2015 include: resolution of several U.S. state and local tax matters; the extension of favorable U.S. federal tax provisions associated with the Protecting Americans from Tax Hikes Act of 2015 related to research and development tax credits and work opportunity tax credits; and the execution of two bilateral advance pricing agreements. These agreements established intercompany transfer pricing arrangements between the U.S. and certain non-U.S. jurisdictions related to our small package operations for tax years 2010 through 2019.

As described in the *Items Affecting Comparability* section, certain items have been excluded from comparisons of "adjusted" income taxes in the discussion that follows.

Our adjusted effective tax rate decreased to 33.8% in 2017 from 34.5% in 2016 primarily due to favorable discrete tax adjustments related to recognition of excess tax benefits related to share-based compensation in income tax expense.

Our adjusted effective tax rate increased to 34.5% in 2016 from 34.0% in 2015 primarily due to a decrease in favorable discrete tax adjustments relative to 2015 partially offset by favorable changes in the proportion of our taxable income in certain U.S. and non-U.S. jurisdictions relative to total pre-tax income.

Liquidity and Capital Resources

As of December 31, 2017, we had $4.069 billion in cash, cash equivalents and marketable securities. We believe that our current cash position, access to the long-term debt capital markets and cash flow generated from operations should be adequate not only for operating requirements but also to enable us to complete our capital expenditure programs and to fund dividend payments, share repurchases and long-term debt payments through the next several years. In addition, we have funds available from our commercial paper program and the ability to obtain alternative sources of financing. We regularly evaluate opportunities to optimize our capital structure, including through issuances of debt to refinance existing debt and to fund ongoing cash needs.

Cash Flows From Operating Activities

The following is a summary of the significant sources (uses) of cash from operating activities (amounts in millions):

	2017	2016	2015
Net Income	$ 4,910	$ 3,431	$ 4,844
Non-cash operating activities(1)	5,776	6,444	4,122
Pension and postretirement plan contributions (UPS-sponsored plans)	(7,794)	(2,668)	(1,229)
Hedge margin receivables and payables	(732)	(142)	170
Income tax receivables and payables	(550)	(505)	(6)
Changes in working capital and other non-current assets and liabilities	(178)	(62)	(418)
Other operating activities	47	(25)	(53)
Net cash from operating activities	$ 1,479	$ 6,473	$ 7,430

(1) Represents depreciation and amortization, gains and losses on derivative transactions and foreign exchange, deferred income taxes, provisions for uncollectible accounts, pension and postretirement benefit expense, stock compensation expense and other non-cash items.

Cash from operating activities remained strong throughout 2015 to 2017. Most of the variability in operating cash flows during the 2015 to 2017 time period relates to the funding of our company-sponsored pension and postretirement benefit plans (and related cash tax deductions). Except for discretionary or accelerated fundings of our plans, contributions to our company-sponsored pension plans have largely varied based on whether any minimum funding requirements are present for individual pension plans.

- We made discretionary contributions to our three primary company-sponsored U.S. pension plans totaling $7.291, $2.461 and $1.030 billion in 2017, 2016 and 2015, respectively.

- The remaining contributions from 2015 to 2017 were largely due to contributions to our international pension plans and U.S. postretirement medical benefit plans.

Apart from the transactions described above, operating cash flow was impacted by changes in our working capital position, payments for income taxes and changes in hedge margin payables and receivables. Cash payments for income taxes were $1.559, $2.064 and $1.913 billion for 2017, 2016 and 2015, respectively, and were primarily impacted by the timing of current tax deductions. The net hedge margin collateral (paid)/received from derivative counterparties was $(732), $(142) and $170 million during 2017, 2016 and 2015, respectively, due to settlements and changes in the fair value of the derivative contracts used in our currency and interest rate hedging programs.

As of December 31, 2017, the total of our worldwide holdings of cash, cash equivalents and marketable securities were $4.069 billion, of which approximately $1.800 billion was held by foreign subsidiaries. The amount of cash, cash equivalents and marketable securities held by our U.S. and foreign subsidiaries fluctuates throughout the year due to a variety of factors, including the timing of cash receipts and disbursements in the normal course of business. Cash provided by operating activities in the U.S. continues to be our primary source of funds to finance domestic operating needs, capital expenditures, share repurchases and dividend payments to shareowners. As a result of the Tax Act, all cash, cash equivalents and marketable securities held by foreign subsidiaries are generally available for distribution to the U.S. without any U.S. federal income taxes. Any such distributions may be subject to foreign withholding and U.S. state taxes. When amounts earned by foreign subsidiaries are expected to be indefinitely reinvested, no accrual for taxes is provided.

Cash Flows From Investing Activities

Our primary sources (uses) of cash for investing activities were as follows (amounts in millions):

	2017	2016	2015
Net cash used in investing activities	$ (4,975)	$ (2,566)	$ (5,309)
Capital Expenditures:			
Buildings, facilities and plant equipment	$ (2,954)	$ (1,316)	$ (996)
Aircraft and parts	(789)	(350)	(27)
Vehicles	(924)	(864)	(936)
Information technology	(560)	(435)	(420)
Total Capital Expenditures:	$ (5,227)	$ (2,965)	$ (2,379)
Capital Expenditures as a % of Revenue	7.9%	4.9%	4.1%
Other Investing Activities:			
Proceeds from disposals of property, plant and equipment	$ 24	$ 88	$ 26
Net decrease in finance receivables	$ 5	$ 9	$ 5
Net (purchases), sales of marketable securities	$ 356	$ 908	$ (1,027)
Cash paid for business acquisitions	$ (134)	$ (547)	$ (1,904)
Other investing activities	$ 1	$ (59)	$ (30)

We have commitments for the purchase of aircraft, vehicles, equipment and real estate to provide for the replacement of existing capacity and anticipated future growth. We generally fund our capital expenditures with our cash from operations. Future capital spending for anticipated growth and replacement assets will depend on a variety of factors, including economic and industry conditions. We anticipate that our capital expenditures for 2018 will be approximately $6.5 to $7.0 billion.

Capital expenditures on buildings, facilities and plant equipment increased in 2017 compared to the 2015 to 2016 periods in our U.S. and international package businesses, largely due to several facility automation and capacity expansion projects. Capital spending on aircraft increased in 2017 compared to the 2015 to 2016 periods due to contract deposits on open aircraft orders and final payments for new Boeing 747-8F cargo aircraft and previously owned Boeing 767-300 cargo aircraft. Capital spending on vehicles increased in 2017 in our U.S. and international package businesses, largely due to growth in our business and the timing of vehicle replacements. Capital spending on information technology increased in 2017 compared to the 2015 to 2016 periods due to further development of our smart logistics network, technology enhancements and capitalized software projects.

The proceeds from the disposal of property, plant and equipment in the 2015 to 2017 periods were largely due to vehicle retirements in 2017, insurance recoveries in 2016 and real estate sales in 2015. The net decline in finance receivables in 2017 was primarily due to growth in our cargo finance products, partially offset by loan principal paydowns in our business credit portfolio. The net change in finance receivables in the 2016 and 2015 periods was primarily due to customer paydowns and loan sales activity, primarily in our commercial lending, asset-based lending and leasing portfolios. The purchases and sales of marketable securities are largely determined by liquidity needs and the periodic rebalancing of investment types and will fluctuate from period to period.

Cash paid for business acquisitions in the 2015 to 2017 periods was primarily related to the acquisitions of Poltraf Sp. z.o.o., Parcel Pro, Inc. and Coyote in 2015; Marken in 2016 and Freightex, Nightline and STTAS in 2017.

Other investing activities are impacted by changes in our non-current investments and restricted cash balances, capital contributions into certain investment partnerships and various other items. In 2017, 2016 and 2015, we increased the non-current investments and restricted cash balance associated with our self-insurance requirements by $4, $3 and $0 million, respectively.

Cash Flows From Financing Activities

Our primary sources (uses) of cash for financing activities were as follows (amounts in millions, except per share data):

	2017	2016	2015
Net cash used in financing activities	$ 3,287	$ (3,140)	$ (1,565)
Share Repurchases:			
Cash expended for shares repurchased	$ (1,813)	$ (2,678)	$ (2,702)
Number of shares repurchased	(16.1)	(25.4)	(26.8)
Shares outstanding at year-end	859	868	886
Percent reduction in shares outstanding	(1.0)%	(2.0)%	(2.1)%
Dividends:			
Dividends declared per share	$ 3.32	$ 3.12	$ 2.92
Cash expended for dividend payments	$ (2,771)	$ (2,643)	$ (2,525)
Borrowings:			
Net borrowings (repayments) of debt principal	$ 7,827	$ 2,034	$ 3,588
Other Financing Activities:			
Cash received for common stock issuances	$ 247	$ 245	$ 249
Other financing activities	$ (203)	$ (98)	$ (175)
Capitalization:			
Total debt outstanding at year-end	$ 24,289	$ 16,075	$ 14,334
Total shareowners' equity at year-end	1,030	429	2,491
Total capitalization	$ 25,319	$ 16,504	$ 16,825

For the years ended December 31, 2017, 2016 and 2015, we repurchased a total of 16.1, 25.2 and 26.8 million shares of class A and class B common stock for $1.816, $2.680 and $2.711 billion, respectively ($1.813, $2.678 and $2.702 billion in repurchases for 2017, 2016 and 2015, respectively, are reported on the cash flow statement due to the timing of settlements). During the first quarter of 2016, we also exercised a capped call option that we entered in 2015 for which we received 0.2 million UPS class B shares. The $25 million premium payment for this capped call option reduced shareowners' equity in 2015.

In May 2016, the Board of Directors approved a share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. The share repurchase authorization has no expiration date. As of December 31, 2017, we had $4.339 billion of this share repurchase authorization remaining.

Share repurchases may take the form of accelerated share repurchases, open market purchases, or other such methods as we deem appropriate. The timing of our share repurchases will depend upon market conditions. Unless terminated earlier by the resolution of our Board, the program will expire when we have purchased all shares authorized for repurchase under the program. We anticipate repurchasing approximately $1.0 billion of shares in 2018.

The declaration of dividends is subject to the discretion of the Board of Directors and will depend on various factors, including our net income, financial condition, cash requirements, future prospects and other relevant factors. We expect to continue the practice of paying regular cash dividends. In February 2018, we increased our quarterly dividend payment from $0.83 to $0.91 per share, a 10% increase.

The following is a summary of debt issuances as of December 31, 2017, 2016 and 2015 (in millions):

	Principal Amount in USD	
2017		
Fixed-rate senior notes:		
2.050% senior notes	$	700
2.350% senior notes		600
2.500% senior notes		1,000
2.800% senior notes		500
3.050% senior notes		1,000
3.750% senior notes		1,150
Floating-rate senior notes (multiple issuances)		1,461
Euro senior notes:		
0.375% senior notes (€700)		815
1.500% senior notes (€500)		582
Canadian senior notes:		
2.125% senior notes (C$750)		547
Total	$	8,355

	Principal Amount in USD	
2016		
Fixed-rate senior notes:		
2.400% senior notes	$	500
3.400% senior notes		500
Floating-rate senior notes (multiple issuances)		226
Euro senior notes:		
1.000% senior notes (€500)		549
Total	$	1,775

	Principal Amount in USD	
2015		
Facility notes and bonds	$	100
Floating-rate senior notes (multiple issuances)		144
Euro senior notes:		
1.625% senior notes (€700)		765
Floating-rate senior notes (€500)		547
Total	$	1,556

The remaining debt issuances for the 2015 to 2017 periods consisted primarily of commercial paper.

Repayment of debt in 2017 consisted primarily of the maturity of our $375 million fixed-rate senior notes that matured on October 1, 2017. In 2016, there were no repayments of fixed-rate senior notes or floating-rate senior notes. Repayments of debt in 2015 consisted primarily of the maturity of our $100 million facility bonds associated with our Philadelphia, Pennsylvania airport facilities. The remaining repayments of debt during the 2015 through 2017 time period included paydowns of commercial paper and scheduled principal payments on our capitalized lease obligations. We consider the overall fixed and floating interest rate mix of our portfolio and the related overall cost of borrowing when planning for future issuances and non-scheduled repayments of debt.

The amount of commercial paper outstanding fluctuates throughout the year based on daily liquidity needs. The following is a summary of our commercial paper program (amount in millions):

2017	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 2,458	$ 2,458	$ 2,163	$ 2,163	0.88 %
EUR	€ 622	$ 745	€ 941	$ 1,062	(0.39)%
Total		$ 3,203			

2016	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 2,406	$ 2,406	$ 1,838	$ 1,838	0.44 %
EUR	€ 801	$ 844	€ 776	$ 817	(0.28)%
GBP	£ —	$ —	£ 94	$ 116	0.50 %
Total		$ 3,250			

2015	Functional currency outstanding balance at year-end	Outstanding balance at year-end ($)	Average balance outstanding	Average balance outstanding ($)	Average interest rate
USD	$ 2,279	$ 2,279	$ 2,159	$ 2,159	0.13 %
EUR	€ 310	$ 339	€ 10	$ 11	(0.09)%
GBP	£ 234	$ 347	£ 241	$ 368	0.50 %
Total		$ 2,965			

The variation in cash received from common stock issuances was primarily due to the level of stock option exercises by employees in the 2015 through 2017 period.

The cash outflows in other financing activities were impacted by several factors, primarily the repurchase of shares to satisfy tax withholding obligations on vested employee stock awards of $247, $167 and $217 million for 2017, 2016 and 2015, respectively. Net cash inflows (outflows) from the premium payments and settlements of capped call options for the purchase of UPS class B shares were $54 million in both 2017 and 2016, and $(17) million for 2015.

Sources of Credit

See note 8 to the audited consolidated financial statements for a discussion of our available credit and debt covenants.

Guarantees and Other Off-Balance Sheet Arrangements

We do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, which we believe could have a material impact on financial condition or liquidity.

Contractual Commitments

We have contractual obligations and commitments in the form of capital leases, operating leases, debt obligations, purchase commitments and certain other liabilities. We intend to satisfy these obligations through the use of cash flow from operations. The following table summarizes the expected cash outflow to satisfy our contractual obligations and commitments as of December 31, 2017 (in millions):

Commitment Type	2018	2019	2020	2021	2022	After 2022	Total
Capital Leases	$ 81	$ 79	$ 69	$ 49	$ 45	$ 500	$ 823
Operating Leases	398	305	239	186	138	371	1,637
Debt Principal	3,960	1,009	1,024	2,551	2,000	13,342	23,886
Debt Interest	578	544	510	475	433	5,604	8,144
Purchase Commitments (1)	3,789	2,462	2,428	1,926	323	13	10,941
Tax Act Repatriation Liability	23	25	25	25	25	187	310
Pension Funding	—	—	—	—	—	—	—
Other Liabilities	5	—	—	—	—	—	5
Total	$ 8,834	$ 4,424	$ 4,295	$ 5,212	$ 2,964	$ 20,017	$ 45,746

(1) Purchase commitments include our announcement on February 1, 2018 for 14 new Boeing 747-8 freighters and four new Boeing 767 aircraft.

Our capital lease obligations relate primarily to leases on aircraft. Capital leases, operating leases and purchase commitments, as well as our debt principal obligations, are discussed further in note 8 to our consolidated financial statements. The amount of interest on our debt was calculated as the contractual interest payments due on our fixed-rate debt, in addition to interest on variable rate debt that was calculated based on interest rates as of December 31, 2017. The calculations of debt interest take into account the effect of interest rate swap agreements. For debt denominated in a foreign currency, the U.S. Dollar equivalent principal amount of the debt at the end of the year was used as the basis to calculate future interest payments.

Purchase commitments represent contractual agreements to purchase assets, goods or services that are legally binding, including contracts for aircraft, construction of new or expanded facilities and orders for technology equipment and vehicles. As of December 31, 2017, we had firm commitments to purchase 14 new Boeing 747-8F cargo aircraft. The 14 aircraft are to be delivered between 2017 and 2020. On February 1, 2018, we announced an order for 14 additional Boeing 747-8 freighters previously under option and four new Boeing 767 aircraft to be delivered between 2019 and 2022.

On December 22, 2017, the United States enacted into law the Tax Act requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries. Companies may elect to pay the tax over eight years based on an installment schedule outlined in the Tax Act. We intend to make this election and have reflected our estimated transition tax due by year as a contractual obligation.

There are no anticipated required minimum cash contributions to our qualified U.S. pension plans (these plans are discussed further in note 4 to the audited consolidated financial statements). The amount of any minimum funding requirement, as applicable, for these plans could change significantly in future periods, depending on many factors, including future plan asset returns, discount rates and changes to pension plan funding regulations. A decline in discount rates or a sustained significant decline in the world equity or bond markets could result in our domestic pension plans being subject to significantly higher minimum funding requirements. Actual contributions made in future years could materially differ and consequently required minimum contributions beyond 2020 cannot be reasonably estimated.

As discussed in note 5 to the audited consolidated financial statements, we are not currently subject to any minimum contributions or surcharges with respect to the multiemployer pension and health and welfare plans in which we participate. Contribution rates to these multiemployer pension and health and welfare plans are established through the collective bargaining process. As we are not subject to any minimum contribution levels, we have not included any amounts in the contractual commitments table with respect to these multiemployer plans.

The contractual payments due for “other liabilities” primarily include commitment payments related to our investment in certain partnerships.

The table above does not include approximately $212 million of liabilities for uncertain tax positions because we are uncertain if or when such amounts will ultimately be settled in cash. Uncertain tax positions are further discussed in note 13 to the consolidated financial statements.

As of December 31, 2017, we had outstanding letters of credit totaling approximately $1.084 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2017, we had $932 million of surety bonds written. As of December 31, 2017, we had unfunded loan commitments totaling $137 million associated with UPS Capital.

We believe that funds from operations and borrowing programs will provide adequate sources of liquidity and capital resources to meet our expected long-term needs for the operation of our business, including anticipated capital expenditures, for the foreseeable future.

Contingencies

See note 4 to the audited consolidated financial statements for a discussion of pension related matters and note 9 for a discussion of judicial proceedings and other matters arising from the conduct of our business activities.

Collective Bargaining Agreements

Status of Collective Bargaining Agreements

As of December 31, 2017, we had approximately 280,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements run through July 31, 2018.

We have approximately 2,700 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which runs through September 1, 2021.

Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727, which became amendable November 1, 2013. We are currently in negotiations with Teamsters Local 2727. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers (“IAM”) that will expire on July 31, 2019.

Multiemployer Benefit Plans

We contribute to a number of multiemployer defined benefit and health and welfare plans under terms of collective bargaining agreements that cover our union represented employees. Our current collective bargaining agreements set forth the annual contribution increases allotted to the plans that we participate in, and we are in compliance with these contribution rates. These limitations will remain in effect throughout the terms of the existing collective bargaining agreements.

New Accounting Pronouncements

Recently Adopted Accounting Standards

See note 1 to the audited consolidated financial statements for a discussion of recently adopted accounting standards.

Accounting Standards Issued But Not Yet Effective

See note 1 to the audited consolidated financial statements for a discussion of accounting standards issued, but not yet effective.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our consolidated financial statements, which are prepared in accordance with accounting principles generally accepted in the United States of America. As indicated in note 1 to our consolidated financial statements, the amounts of assets, liabilities, revenue and expenses reported in our financial statements are affected by estimates and judgments that are necessary to comply with generally accepted accounting principles. We base our estimates on prior experience and other assumptions that we consider reasonable to our circumstances. Actual results could differ from our estimates, which would affect the related amounts reported in our consolidated financial statements. While estimates and judgments are applied in arriving at many reported amounts, we believe that the following matters may involve a higher degree of judgment and complexity.

Contingencies

As discussed in note 9 to our consolidated financial statements, we are involved in various legal proceedings and contingencies. The events that may impact our contingent liabilities are often unique and generally are not predictable. At the time a contingency is identified, we consider all relevant facts as part of our evaluation. We record a liability for a loss when the loss is probable of occurring and reasonably estimable. Events may arise that were not anticipated and the outcome of a contingency may result in a loss to us that differs from our previously estimated liability. These factors could result in a material difference between estimated and actual operating results. Contingent losses that are probable and estimable, excluding those related to income taxes and self-insurance which are discussed further below, were not material to our financial position or results of operations as of, and for the year ended, December 31, 2017. In addition, we have certain contingent liabilities that have not been recognized as of December 31, 2017, because a loss is not reasonably estimable.

Goodwill and Intangible Impairment

We perform impairment testing of goodwill for each of our reporting units on an annual basis. In our U.S. Domestic Package and International Package reporting segments, we have the following reporting units: Europe, Asia, Americas and ISMEA (Indian Subcontinent, Middle East and Africa). In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote Logistics. During the third quarter of 2017, we changed the measurement date of our annual goodwill impairment testing from October 1st to July 1st. This change better aligns the timing of the goodwill impairment test with our long-term business planning process. The change was not material to our consolidated financial statements as it did not result in the delay, acceleration or avoidance of an impairment charge. Our annual goodwill impairment testing date is July 1st for each reporting unit owned at the testing date. In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit's goodwill with the carrying value of that goodwill.

We primarily determine the fair value of our reporting units using a discounted cash flow model ("DCF model") and supplement this with observable valuation multiples for comparable companies, as appropriate. The completion of the DCF model requires that we make a number of significant assumptions to produce an estimate of future cash flows. These assumptions include projections of future revenue, costs, capital expenditures and working capital changes. In addition, we make assumptions about the estimated cost of capital and other relevant variables, as required, in estimating the fair value of our reporting units. The projections that we use in our DCF model are updated annually and will change over time based on the historical performance and changing business conditions for each of our reporting units. The determination of whether goodwill is impaired involves a significant level of judgment in these assumptions, and changes in our business strategy, government regulations, or economic or market conditions could significantly impact these judgments. We routinely monitor market conditions and other factors to determine if interim impairment tests are necessary. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations.

None of the reporting units incurred any goodwill impairment charges in 2017, 2016 or 2015. Changes in our forecasts could cause carrying values of our reporting units to exceed their fair values in future periods, potentially resulting in a goodwill impairment charge. During the year, management monitored the actual performance of the business relative to the fair value assumptions used during our annual goodwill impairment test. For the periods presented, no triggering events were identified that required an interim impairment test. Based on most recent tests, the fair value of all our reporting units substantially exceed their carrying value.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2017 are considered to be indefinite-lived intangibles, and therefore are not amortized. Impairment tests for indefinite-lived intangibles are performed on an annual basis. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method for the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value. This valuation approach requires that we make a number of assumptions to estimate fair value. These assumptions include projections of future revenues, market royalty rates, tax rates, discount rates and other relevant variables. The projections we use in the model are updated annually and will change over time based on the historical performance and changing business conditions.

All of our remaining recorded intangible assets are deemed to be finite-lived intangibles, and are thus amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that indicates that the carrying value of the intangible may not be recoverable based on the undiscounted future cash flows of the intangible. If the carrying amount of the intangible is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on a DCF model. If impairment indicators are present in future periods, the resulting impairment charges could have a material impact on our results of operations. There were no impairments of any indefinite-lived or finite-lived intangible assets in 2017, 2016 or 2015.

Self-Insurance Accruals

We self-insure costs associated with workers’ compensation claims, automotive liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. Recorded balances are based on reserve levels, which incorporate historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of such reserves. We believe our estimated reserves for such claims are adequate, but actual experience in claim frequency and/or severity could materially differ from our estimates and affect our results of operations.

Workers’ compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve the claims. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs and the results of related litigation. Furthermore, claims may emerge in future years for events that occurred in a prior year at a rate that differs from previous actuarial projections. Changes in state legislation with respect to workers' compensation can affect the adequacy of our self-insurance accruals. All of these factors can result in revisions to prior actuarial projections and produce a material difference between estimated and actual operating results. Prior to 2017, outside actuarial studies were performed semi-annually and we used the studies to estimate the liability in intervening quarters. Beginning in 2017, outside actuarial studies are now performed quarterly as we believe this provides us with better quarterly estimates of our outstanding workers' compensation liability.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation. Actual experience may differ from these estimates and, therefore, produce a material difference between estimated and actual operating results.

Pension and Postretirement Medical Benefits

Our pension and other postretirement benefit costs are calculated using various actuarial assumptions and methodologies. These assumptions include discount rates, healthcare cost trend rates, inflation, compensation increase rates, expected returns on plan assets, mortality rates and other factors. The assumptions utilized in recording the obligations under our plans represent our best estimates, and we believe that they are reasonable, based on information as to historical experience and performance as well as other factors that might cause future expectations to differ from past trends.

Differences in actual experience or changes in assumptions may affect our pension and other postretirement obligations and future expense. The primary factors contributing to actuarial gains and losses each year are (1) changes in the discount rate used to value pension and postretirement benefit obligations as of the measurement date, (2) differences between the expected and the actual return on plan assets, (3) changes in demographic assumptions including mortality, (4) participant experience different from demographic assumptions and (5) changes in coordinating benefits with plans not sponsored by UPS.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense (herein referred to as "ongoing net periodic benefit cost"), primarily service and interest costs and the expected return on plan assets, are reported on a quarterly basis.

The following sensitivity analysis shows the impact of a 25 basis point change in the assumed discount rate, return on assets, and healthcare cost trend rate for our pension and postretirement benefit plans, and the resulting increase (decrease) on our obligations and expense as of, and for the year ended, December 31, 2017 (in millions).

Pension Plans	**25 Basis Point Increase**	**25 Basis Point Decrease**
Discount Rate:		
Effect on ongoing net periodic benefit cost	$ (49)	$ 50
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(616)	1,492
Effect on projected benefit obligation	(1,883)	2,007
Return on Assets:		
Effect on ongoing net periodic benefit cost[(1)]	(84)	84
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor[(2)]	(37)	37
Postretirement Medical Plans		
Discount Rate:		
Effect on ongoing net periodic benefit cost	3	(3)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	(11)	13
Effect on accumulated postretirement benefit obligation	(62)	73
Healthcare Cost Trend Rate:		
Effect on ongoing net periodic benefit cost	1	(1)
Effect on net periodic benefit cost for amounts recognized outside the 10% corridor	10	(10)
Effect on accumulated postretirement benefit obligation	16	(17)

(1) Amount calculated based on 25 basis point increase / decrease in the expected return on assets.

(2)

Amount calculated based on 25 basis point increase / decrease in the actual return on assets.

Pension Backstop

UPS was a contributing employer to the Central States Pension Fund ("CSPF") until 2007 when we withdrew from the plan and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters ("IBT"), UPS agreed to provide coordinating benefits in the UPS/IBT Full Time Employee Pension Plan ("UPS/IBT Plan") for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 ("the UPS Transfer Group") in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF.

In December 2014, Congress passed the Multiemployer Pension Reform Act ("MPRA") which for the first time ever allowed multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury under the MPRA. The CSPF plan proposed to reduce retirement benefits to the CSPF participants, including the UPS Transfer Group. We vigorously challenged the proposed benefit reduction plan because we believed that it did not comply with the law and the CSPF failed to comply with its contractual obligation to obtain our consent to reduce benefits to the UPS Transfer Group under the terms of the withdrawal agreement with the CSPF. On May 6, 2016, the U.S. Department of the Treasury rejected the proposed plan submitted by the CSPF, stating that it failed to satisfy a number of requirements set forth in the MPRA.

The CSPF has asserted that it will become insolvent in 2025, which could lead to the reduction of retirement benefits. Although there are numerous factors that could affect the CSPF's funding status, if the CSPF were to become insolvent as they have projected, UPS may be required to provide coordinating benefits, thereby increasing the current projected benefit obligation for the UPS/IBT Plan by approximately $4 billion. The CSPF has said that it believes a legislative solution to its funding status is necessary, and we expect that the CSPF will continue to explore options to avoid insolvency.

The potential obligation to pay coordinating benefits from the UPS/IBT Plan is subject to a number of significant uncertainties, including actions that may be taken by the CSPF, the federal government or others. These actions include whether the CSPF will submit a revised pension benefit reduction plan or otherwise seek federal government assistance, the extent to which benefits are paid by the Pension Benefit Guaranty Corporation, our ability to successfully defend our legal positions as well as the effect of discount rates, CSPF asset returns and various other actuarial assumptions.

We account for this potential obligation under Accounting Standards Codification Topic 715- Compensation-Retirement Benefits (“ASC 715”). Under ASC 715 we are required to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely solution to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities. Our best estimate as of the measurement date of December 31, 2017, does not incorporate this solution. However, if a future change in law resulted in an obligation to provide coordinating benefits under the UPS/IBT Plan, it may be a significant event, and may require us to remeasure the plan assets and projected benefit obligation of the UPS/IBT Plan at the date the law is enacted.

Our best estimate of the next most likely outcome to resolve the CSPF’s solvency concerns is that the CSPF will submit another benefit suspension application under the MPRA to forestall insolvency without reducing benefits to the UPS Transfer Group. If the CSPF attempts to reduce benefits for the UPS Transfer Group under a MPRA filing, we would be in a strong legal position to prevent that from occurring given that these benefits cannot be reduced without our consent and such a reduction, without first exhausting reductions to other groups in the CSPF, would be contrary to the statute. Accordingly, our best estimate as of the measurement date of December 31, 2017, is that there is no liability to be recognized for additional coordinating benefits of the UPS/IBT Plan. However, the projected benefit obligation could materially increase as the uncertainties are resolved. We will continue to assess the impact of these uncertainties on the projected benefit obligation of the UPS/IBT Plan in accordance with ASC 715.

Depreciation, Residual Value and Impairment of Fixed Assets

As of December 31, 2017, we had $22.118 billion of net fixed assets, the most significant category of which is aircraft. In accounting for fixed assets, we make estimates about the expected useful lives and the expected residual values of the assets, and the potential for impairment based on the fair values of the assets and the cash flows generated by these assets.

In estimating the lives and expected residual values of aircraft, we have relied upon actual experience with the same or similar aircraft types. Subsequent revisions to these estimates could be caused by changes to our maintenance program, changes in the utilization of the aircraft, governmental regulations on aging aircraft and changing market prices of new and used aircraft of the same or similar types. We periodically evaluate these estimates and assumptions, and adjust the estimates and assumptions as necessary. Adjustments to the expected lives and residual values are accounted for on a prospective basis through depreciation expense. In estimating cash flows, we project future volume levels for our different air express products in all geographic regions in which we do business. Adverse changes in these volume forecasts, or a shortfall of our actual volume compared with our projections, could result in our current aircraft capacity exceeding current or projected demand. This situation could lead to an excess of a particular aircraft, resulting in an aircraft impairment charge or a reduction of the expected life of an aircraft (thus resulting in increased depreciation expense).

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on the undiscounted future cash flows of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified. The circumstances that would indicate potential impairment may include, but are not limited to, a significant change in the extent to which an asset is utilized and operating or cash flow losses associated with the use of the asset.

There were no impairment charges on our property, plant and equipment during 2017, 2016 and 2015.

Fair Value Measurements

In the normal course of business, we hold and issue financial instruments that contain elements of market risk, including derivatives, marketable securities, finance receivables, pension assets, other investments and debt. Certain of these financial instruments are required to be recorded at fair value, principally derivatives, marketable securities, pension assets and certain other investments. Fair values are based on listed market prices, when such prices are available. To the extent that listed market prices are not available, fair value is determined based on other relevant factors, including dealer price quotations. Certain financial instruments, including over-the-counter derivative instruments, are valued using pricing models that consider, among other factors, contractual and market prices, correlations, time value, credit spreads and yield curve volatility factors. Changes in the fixed income, foreign exchange and commodity markets will impact our estimates of fair value in the future, potentially affecting our results of operations. A quantitative sensitivity analysis of our exposure to changes in commodity prices, foreign currency exchange rates and interest rates is presented in the "Quantitative and Qualitative Disclosures about Market Risk" section of this report.

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, technology and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Income Taxes

We make certain estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of income by legal entity and jurisdiction, tax credits, benefits, and deductions, and in the calculation of deferred tax assets and liabilities, which arise from differences in the timing of recognition of revenue and expense for tax and financial statement purposes, as well as tax, interest and penalties related to uncertain tax positions. Significant changes to these estimates may result in an increase or decrease to our tax provision in a subsequent period.

We assess the likelihood that we will be able to recover our deferred tax assets. If recovery is not likely, we must increase our provision for taxes by recording a valuation allowance against the deferred tax assets that we estimate will not ultimately be recoverable. We believe that we will ultimately recover a substantial majority of the deferred tax assets recorded on our consolidated balance sheets. However, should there be a change in our ability to recover our deferred tax assets, our tax provision would increase in the period in which we determined that the recovery was not likely.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex tax regulations. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit, and new audit activity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

See note 13 to the audited consolidated financial statements for a discussion of impacts of the Tax Act.

Item 7A. *Quantitative and Qualitative Disclosures about Market Risk*

We are exposed to market risk from changes in certain commodity prices, foreign currency exchange rates and interest rates. All of these market risks arise in the normal course of business, as we do not engage in speculative trading activities. In order to manage the risk arising from these exposures, we utilize a variety of commodity, foreign exchange and interest rate forward contracts, options and swaps. A discussion of our accounting policies for derivative instruments and further disclosures are provided in note 15 to the consolidated financial statements.

Commodity Price Risk

We are exposed to changes in the prices of refined fuels, principally jet-A, diesel and unleaded gasoline, as well as changes in the price of natural gas. Currently, the fuel surcharges that we apply to our domestic and international package and LTL services are the primary means of reducing the risk of adverse fuel price changes. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. Additionally, we periodically use a combination of option, forward and futures contracts to provide partial protection from changing fuel and energy prices. As of December 31, 2017 and 2016, however, we had no commodity contracts outstanding.

Foreign Currency Exchange Risk

We have foreign currency risks related to our revenue, operating expenses and financing transactions in currencies other than the local currencies in which we operate. We are exposed to currency risk from the potential changes in functional currency values of our foreign currency-denominated assets, liabilities and cash flows. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We use forwards as well as a combination of purchased and written options to hedge forecasted cash flow currency exposures. These derivative instruments generally cover forecasted foreign currency exposures for periods of 12 to 48 months. We also utilize forward contracts to hedge portions of our anticipated cash settlements of intercompany transactions subject to foreign currency remeasurement.

Interest Rate Risk

We have issued debt instruments, including debt associated with capital leases, that accrue expense at fixed and floating rates of interest. We use a combination of interest rate swaps as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment and maturity dates of the swaps match the terms of the associated debt. We also utilize forward starting swaps and similar instruments to lock in all or a portion of the borrowing cost of anticipated debt issuances. Our floating-rate debt and interest rate swaps subject us to risk resulting from changes in short-term (primarily LIBOR) interest rates.

We also are subject to interest rate risk with respect to our pension and postretirement benefit obligations, as changes in interest rates will effectively increase or decrease our liabilities associated with these benefit plans, which also results in changes to the amount of pension and postretirement benefit expense recognized in future periods.

We have investments in debt securities, as well as cash-equivalent instruments, some of which accrue income at variable rates of interest. Additionally, we hold a portfolio of finance receivables that accrue income at fixed and floating rates of interest.

Sensitivity Analysis

The following analysis provides quantitative information regarding our exposure to foreign currency exchange risk, interest rate risk and equity price risk embedded in our existing financial instruments. We utilize valuation models to evaluate the sensitivity of the fair value of financial instruments with exposure to market risk that assume instantaneous, parallel shifts in exchange rates, interest rate yield curves and commodity and equity prices. For options and instruments with non-linear returns, models appropriate to the instrument are utilized to determine the impact of market shifts.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that exchange rates change in a parallel fashion and that interest rates change instantaneously. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is our best estimate of the impact of the specified interest rate scenarios, these estimates should not be viewed as forecasts. We adjust the fixed and floating interest rate mix of our interest rate sensitive assets and liabilities in response to changes in market conditions. Additionally, changes in the fair value of foreign currency derivatives and commodity derivatives are offset by changes in the cash flows of the underlying hedged foreign currency and commodity transactions.

	Shock-Test Result As of December 31,	
(in millions)	**2017**	**2016**
Change in Fair Value:		
Currency Derivatives[1]	$ (447)	$ (437)
Change in Annual Interest Expense:		
Variable Rate Debt[2]	$ 51	$ 49
Interest Rate Derivatives[2]	$ 55	$ 58
Change in Annual Interest Income:		
Marketable Securities[3]	$ 2	$ —

(1) The potential change in fair value from a hypothetical 10% weakening of the U.S. Dollar against local currency exchange rates across all maturities.

(2) The potential change in annual interest expense resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate debt and swap instruments (excluding hedges of anticipated debt issuances).

(3) The potential change in interest income resulting from a hypothetical 100 basis point increase in short-term interest rates, applied to our variable rate investment holdings.

The sensitivity of our pension and postretirement benefit obligations to changes in interest rates is quantified in “Critical Accounting Policies and Estimates”. The sensitivity in the fair value and interest income of our finance receivables due to changes in interest rates was not material as of December 31, 2017 and 2016.

Item 8. ***Financial Statements and Supplementary Data***

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Report of Independent Registered Public Accounting Firm

Board of Directors and Shareowners
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of income, comprehensive income, and cash flows for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 21, 2018, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2018

We have served as the Company's auditor since 1969.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
(In millions)

	December 31, 2017	December 31, 2016
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 3,320	$ 3,476
Marketable securities	749	1,091
Accounts receivable, net	8,773	7,695
Current income taxes receivable	1,573	633
Other current assets	1,133	954
Total Current Assets	15,548	13,849
Property, Plant and Equipment, Net	22,118	18,800
Goodwill	3,872	3,757
Intangible Assets, Net	1,964	1,758
Investments and Restricted Cash	483	476
Deferred Income Tax Assets	265	591
Other Non-Current Assets	1,153	1,146
Total Assets	$ 45,403	$ 40,377
LIABILITIES AND SHAREOWNERS' EQUITY		
Current Liabilities:		
Current maturities of long-term debt and commercial paper	$ 4,011	$ 3,681
Accounts payable	3,872	3,042
Accrued wages and withholdings	2,521	2,317
Hedge margin liabilities	17	575
Self-insurance reserves	705	670
Accrued group welfare and retirement plan contributions	677	598
Other current liabilities	905	847
Total Current Liabilities	12,708	11,730
Long-Term Debt	20,278	12,394
Pension and Postretirement Benefit Obligations	7,061	12,694
Deferred Income Tax Liabilities	757	112
Self-Insurance Reserves	1,765	1,794
Other Non-Current Liabilities	1,804	1,224
Shareowners' Equity:		
Class A common stock (173 and 180 shares issued in 2017 and 2016)	2	2
Class B common stock (687 and 689 shares issued in 2017 and 2016)	7	7
Additional paid-in capital	—	—
Retained earnings	5,858	4,879
Accumulated other comprehensive loss	(4,867)	(4,483)
Deferred compensation obligations	37	45
Less: Treasury stock (1 share in 2017 and 2016)	(37)	(45)
Total Equity for Controlling Interests	1,000	405
Noncontrolling Interests	30	24

Total Shareowners' Equity	1,030	429
Total Liabilities and Shareowners' Equity	$ 45,403	$ 40,377

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES

STATEMENTS OF CONSOLIDATED INCOME

(In millions, except per share amounts)

	Years Ended December 31,		
	2017	2016	2015
Revenue	$ 65,872	$ 60,906	$ 58,363
Operating Expenses:			
Compensation and benefits	34,588	34,770	31,028
Repairs and maintenance	1,600	1,538	1,400
Depreciation and amortization	2,282	2,224	2,084
Purchased transportation	10,989	9,129	8,043
Fuel	2,690	2,118	2,482
Other occupancy	1,155	1,037	1,022
Other expenses	5,039	4,623	4,636
Total Operating Expenses	58,343	55,439	50,695
Operating Profit	7,529	5,467	7,668
Other Income and (Expense):			
Investment income and other	72	50	15
Interest expense	(453)	(381)	(341)
Total Other Income and (Expense)	(381)	(331)	(326)
Income Before Income Taxes	7,148	5,136	7,342
Income Tax Expense	2,238	1,705	2,498
Net Income	$ 4,910	$ 3,431	$ 4,844
Basic Earnings Per Share	$ 5.64	$ 3.89	$ 5.38
Diluted Earnings Per Share	$ 5.61	$ 3.87	$ 5.35

STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)

(In millions)

	Years Ended December 31,		
	2017	2016	2015
Net Income	$ 4,910	$ 3,431	$ 4,844
Change in foreign currency translation adjustment, net of tax	86	(119)	(440)
Change in unrealized gain (loss) on marketable securities, net of tax	(1)	—	(1)
Change in unrealized gain (loss) on cash flow hedges, net of tax	(321)	(112)	6
Change in unrecognized pension and postretirement benefit costs, net of tax	(148)	(712)	489
Comprehensive Income (Loss)	$ 4,526	$ 2,488	$ 4,898

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
STATEMENTS OF CONSOLIDATED CASH FLOWS
(In millions)

	Years Ended December 31,		
	2017	2016	2015
Cash Flows From Operating Activities:			
Net income	$ 4,910	$ 3,431	$ 4,844
Adjustments to reconcile net income to net cash from operating activities:			
Depreciation and amortization	2,282	2,224	2,084
Pension and postretirement benefit expense	1,643	3,725	1,189
Pension and postretirement benefit contributions	(7,794)	(2,668)	(1,229)
Self-insurance reserves	—	(21)	(80)
Deferred tax expense	1,230	123	540
Stock compensation expense	584	591	574
Other (gains) losses	37	(198)	(185)
Changes in assets and liabilities, net of effect of acquisitions:			
Accounts receivable	(1,022)	(704)	(452)
Other assets	(982)	(14)	414
Accounts payable	592	461	(147)
Accrued wages and withholdings	193	109	(63)
Other liabilities	(241)	(561)	(6)
Other operating activities	47	(25)	(53)
Net cash from operating activities	1,479	6,473	7,430
Cash Flows From Investing Activities:			
Capital expenditures	(5,227)	(2,965)	(2,379)
Proceeds from disposals of property, plant and equipment	24	88	26
Purchases of marketable securities	(1,634)	(4,816)	(7,415)
Sales and maturities of marketable securities	1,990	5,724	6,388
Net decrease in finance receivables	5	9	5
Cash paid for business acquisitions	(134)	(547)	(1,904)
Other investing activities	1	(59)	(30)
Net cash used in investing activities	(4,975)	(2,566)	(5,309)
Cash Flows From Financing Activities:			
Net change in short-term debt	(250)	(88)	2,529
Proceeds from long-term borrowings	12,016	5,927	3,783
Repayments of long-term borrowings	(3,939)	(3,805)	(2,724)
Purchases of common stock	(1,813)	(2,678)	(2,702)
Issuances of common stock	247	245	249
Dividends	(2,771)	(2,643)	(2,525)
Other financing activities	(203)	(98)	(175)
Net cash from (used in) financing activities	3,287	(3,140)	(1,565)
Effect Of Exchange Rate Changes On Cash And Cash Equivalents	53	(21)	(117)
Net Increase (Decrease) In Cash And Cash Equivalents	(156)	746	439
Cash And Cash Equivalents:			

Beginning of period	3,476	2,730	2,291
End of period	$ 3,320	$ 3,476	$ 2,730
Cash Paid During The Period For:			
Interest (net of amount capitalized)	$ 428	$ 373	$ 345
Income taxes (net of refunds and overpayments)	$ 1,559	$ 2,064	$ 1,913

See notes to consolidated financial statements.

UNITED PARCEL SERVICE, INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF ACCOUNTING POLICIES

Basis of Financial Statements and Business Activities

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP"), and include the accounts of United Parcel Service, Inc., and all of its consolidated subsidiaries (collectively "UPS" or the "Company"). All intercompany balances and transactions have been eliminated.

UPS concentrates its operations in the field of transportation services, primarily domestic and international letter and package delivery. Through our Supply Chain & Freight subsidiaries, we are also a global provider of specialized transportation, logistics and financial services.

Use of Estimates

The preparation of our consolidated financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingencies. Estimates have been prepared on the basis of the most current and best information, and actual results could differ materially from those estimates.

Revenue Recognition

U.S. Domestic and International Package Operations—Revenue is recognized upon delivery of a letter or package.

Forwarding and Logistics—Freight forwarding revenue and the expense related to the transportation of freight are recognized at the time the services are completed. Truckload freight brokerage revenue and related transportation costs are recognized upon delivery of the shipment by a third-party carrier. Logistics and distribution revenue is recognized upon performance of the service provided. Customs brokerage revenue is recognized upon completing documents necessary for customs entry purposes.

UPS Freight—Revenue is recognized upon delivery of a less-than-truckload ("LTL") or truckload ("TL") shipment.

In our transportation businesses, we utilize independent contractors and third-party carriers in the performance of some transportation services. In situations where we act as principal party to the transaction, we recognize revenue on a gross basis; in circumstances where we act as an agent, we recognize revenue net of the cost of the purchased transportation.

Financial Services—Income on loans and direct finance leases is recognized on the effective interest method. Accrual of interest income is suspended at the earlier of the time at which collection of an account becomes doubtful or the account becomes 90 days delinquent. Income on operating leases is recognized on the straight-line method over the terms of the underlying leases.

Cash and Cash Equivalents

Cash and cash equivalents consist of highly liquid investments that are readily convertible into cash. We consider securities with maturities of three months or less, when purchased, to be cash equivalents. The carrying amount of these securities approximates fair value because of the short-term maturity of these instruments.

Investments

Marketable securities are either classified as trading or available-for-sale securities and are carried at fair value. Unrealized gains and losses on trading securities are reported as investment income and other on the statements of consolidated income. Unrealized gains and losses on available-for-sale securities are reported as accumulated other comprehensive income ("AOCI"), a separate component of shareowners' equity. The amortized cost of debt securities is adjusted for amortization of premiums and accretion of discounts to maturity. Such amortization and accretion is included in investment income and other, along with interest and dividends. The cost of securities sold is based on the specific identification method; realized gains and losses resulting from such sales are included in investment income and other.

We periodically review our available-for-sale investments for indications of other-than-temporary impairment considering many factors, including the extent and duration to which a security's fair value has been less than its cost, overall economic and market conditions and the financial condition and specific prospects for the issuer. Impairment of available-for-sale securities results in a charge to income when a market decline below cost is other-than-temporary.

Accounts Receivable

Losses on accounts receivable are recognized when they are incurred, which requires us to make our best estimate of the probable losses inherent in our customer receivables at each balance sheet date. These estimates require consideration of historical loss experience, adjusted for current conditions, trends in customer payment frequency and judgments about the probable effects of relevant observable data, including present economic conditions and the financial health of specific customers and market sectors. Our risk management process includes standards and policies for reviewing major account exposures and concentrations of risk.

Our total allowance for doubtful accounts as of December 31, 2017 and 2016 was $104 and $102 million, respectively. Our total provision for doubtful accounts charged to expense during the years ended December 31, 2017, 2016 and 2015 was $133, $116 and $121 million, respectively.

Inventories

Fuel and other materials and supplies inventories are recognized as inventory when purchased, and then charged to expense when used in our operations. Jet fuel, diesel and unleaded gasoline inventories are valued at the lower of average cost or market. Total inventories were $404 and $342 million as of December 31, 2017 and 2016, respectively, and are included in "other current assets" on the consolidated balance sheets.

Property, Plant and Equipment

Property, plant and equipment are carried at cost. Depreciation and amortization are provided by the straight-line method over the estimated useful lives of the assets, which are as follows: Vehicles—3 to 15 years; Aircraft—12 to 30 years; Buildings—20 to 40 years; Leasehold Improvements—lesser of asset useful life or lease term; Plant Equipment—3 to 20 years; Technology Equipment—3 to 5 years. The costs of major airframe and engine overhauls, as well as routine maintenance and repairs, are charged to expense as incurred.

Interest incurred during the construction period of certain property, plant and equipment is capitalized until the underlying assets are placed in service, at which time amortization of the capitalized interest begins, straight-line, over the estimated useful lives of the related assets. Capitalized interest was $49, $14 and $13 million for 2017, 2016, and 2015, respectively.

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset may not be recoverable based on the undiscounted future cash flows of the asset. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows, or external appraisals, as appropriate. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified.

Goodwill and Intangible Assets

Costs of purchased businesses in excess of net identifiable assets acquired (goodwill), and indefinite-lived intangible assets are tested for impairment at least annually, unless changes in circumstances indicate an impairment may have occurred sooner. We are required to test goodwill on a "reporting unit" basis. A reporting unit is the operating segment unless, for businesses within that operating segment, discrete financial information is prepared and regularly reviewed by management, in which case such a component business is the reporting unit.

During the third quarter of 2017, we changed the measurement date of our annual goodwill impairment test from October 1st to July 1st. This change better aligns the timing of the goodwill impairment test with our long-term business planning process. The change was not material to our consolidated financial statements as it did not result in the delay, acceleration or avoidance of an impairment charge.

In assessing goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. We consider several factors, including macroeconomic conditions, industry and market conditions, overall financial performance of the reporting unit, changes in management, strategy or customers and relevant reporting unit-specific events such as a change in the carrying amount of net assets, a more likely than not expectation of selling or disposing all, or a portion, of a reporting unit, and the testing for recoverability of a significant asset group within a reporting unit. If this qualitative assessment results in a conclusion that it is more likely than not that the fair value of a reporting unit exceeds the carrying value, then no further testing is performed for that reporting unit.

If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. If the carrying amount of a reporting unit exceeds its calculated fair value, then the second step is performed, and an impairment charge is recognized for the amount, if any, by which the carrying amount of goodwill exceeds its implied fair value. We primarily determine the fair value of our reporting units using a discounted cash flow model and supplement this with observable valuation multiples for comparable companies, as appropriate.

A trade name with a carrying value of $200 million and licenses with a carrying value of $5 million as of December 31, 2017 are considered to be indefinite-lived intangibles, and therefore are not amortized. Indefinite-lived intangible assets are reviewed for impairment at least annually. We determined that the income approach, specifically the relief from royalty method, is the most appropriate valuation method to estimate the fair value of the trade name. The estimated fair value of the trade name is compared to the carrying value of the asset. If the carrying value of the trade name exceeds its estimated fair value, an impairment charge is recognized for the amount by which the carrying amount of the asset exceeds its fair value.

Finite-lived intangible assets, including trademarks, licenses, patents, customer lists, non-compete agreements and franchise rights are amortized on a straight-line basis over the estimated useful lives of the assets, which range from 2 to 22 years. Capitalized software is generally amortized over 7 years.

Self-Insurance Accruals

We self-insure costs associated with workers' compensation claims, automotive liability, health and welfare and general business liabilities, up to certain limits. Insurance reserves are established for estimates of the loss that we will ultimately incur on reported claims, as well as estimates of claims that have been incurred but not yet reported. Recorded balances are based on reserve levels, which incorporate historical loss experience and judgments about the present and expected levels of cost per claim. Trends in actual experience are a significant factor in the determination of such reserves.

Workers' compensation, automobile liability and general liability insurance claims may take several years to completely settle. Consequently, actuarial estimates are required to project the ultimate cost that will be incurred to fully resolve the claims. A number of factors can affect the actual cost of a claim, including the length of time the claim remains open, trends in healthcare costs and the results of related litigation. Furthermore, claims may emerge in future years for events that occurred in a prior year at a rate that differs from previous actuarial projections. Changes in state legislation with respect to workers' compensation can affect the adequacy of our self-insurance accruals. All of these factors can result in revisions to prior actuarial projections and produce a material difference between estimated and actual operating results. Prior to 2017, outside actuarial studies were performed semi-annually and we used the studies to estimate the liability in intervening quarters. Beginning in 2017, outside actuarial studies are now performed quarterly as we believe this provides us with better quarterly estimates of our outstanding workers' compensation liability.

We sponsor a number of health and welfare insurance plans for our employees. These liabilities and related expenses are based on estimates of the number of employees and eligible dependents covered under the plans, anticipated medical usage by participants and overall trends in medical costs and inflation.

Pension and Postretirement Benefits

We incur certain employment-related expenses associated with pension and postretirement medical benefits. These pension and postretirement medical benefit costs for company-sponsored benefit plans are calculated using various actuarial assumptions and methodologies, including discount rates, expected returns on plan assets, healthcare cost trend rates, inflation, compensation increase rates, mortality rates and coordination of benefits with plans not sponsored by UPS. Actuarial assumptions are reviewed on an annual basis, unless circumstances require an interim remeasurement for any of our plans.

We recognize changes in the fair value of plan assets and net actuarial gains or losses in excess of a corridor (defined as 10% of the greater of the fair value of plan assets or the plans' projected benefit obligations) in pension expense annually at December 31st each year. The remaining components of pension expense, primarily service and interest costs and the expected return on plan assets, are recorded on a quarterly basis.

Effective July 1, 2016, the UPS Retirement Plan was closed to new non-union participants. For eligible employees hired after July 1, 2016, UPS contributes annually to a defined contribution plan. We recognize expense for the required contribution quarterly, and we recognize a liability for any contributions due and unpaid (included in “other current liabilities”).

During June 2017, we amended the UPS Retirement Plan and Excess Coordinating Plans to cease accrual of additional benefits for future service for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations compensation for the affected pension plans as of June 30, 2017 to recognize the impact of this change.

We participate in a number of trustee-managed multiemployer pension and health and welfare plans for employees covered under collective bargaining agreements. Our contributions to these plans are determined in accordance with the respective collective bargaining agreements. We recognize expense for the contractually required contribution for each period, and we recognize a liability for any contributions due and unpaid (included in “other current liabilities”).

Income Taxes

Income taxes are accounted for on an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. In estimating future tax consequences, we generally consider all expected future events other than proposed changes in the tax law or rates. Valuation allowances are provided if it is more likely than not that a deferred tax asset will not be realized.

We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. Once it is determined that the position meets the recognition threshold, the second step requires us to estimate and measure the largest amount of tax benefit that is more likely than not to be realized upon ultimate settlement. The difference between the amount of recognizable tax benefit and the total amount of tax benefit from positions filed or to be filed with the tax authorities is recorded as a liability for uncertain tax benefits. It is inherently difficult and subjective to estimate such amounts, as we have to determine the probability of various possible outcomes. We reevaluate uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit and new audit atctivity. Such a change in recognition or measurement could result in the recognition of a tax benefit or an additional charge to the tax provision.

In January 2018, the FASB released guidance on the accounting for tax on the global intangible low-taxed income ("GILTI") provisions of the Tax Cuts and Jobs Act (the "Tax Act"). The GILTI provisions impose a tax on foreign income in excess of a deemed return on tangible assets of foreign corporations. The guidance indicates that either accounting for deferred taxes related to GILTI inclusions or treating any taxes on GILTI inclusions as period costs are both acceptable methods subject to an accounting policy election. We elect to treat any potential GILTI inclusions as period costs.

Foreign Currency Translation and Remeasurement

We translate the results of operations of our foreign subsidiaries using average exchange rates during each period, whereas balance sheet accounts are translated using exchange rates at the end of each period. Balance sheet currency translation adjustments are recorded in AOCI. Pre-tax foreign currency transaction gains from remeasurement, net of hedging, included in other operating expenses, investment income and interest expense were $3, $5 and $7 million in 2017, 2016 and 2015, respectively.

Stock-Based Compensation

All share-based awards to employees are measured based on their fair values and expensed over the period during which an employee is required to provide service in exchange for the award (the vesting period), less estimated forfeitures. We issue employee share-based awards under the UPS Incentive Compensation Plan that are subject to specific vesting conditions; including service conditions, where the awards cliff vest or vest ratably over a three or five year period (the "nominal vesting period") or at the date the employee retires (as defined by the plan), if earlier. Compensation cost is generally recognized immediately for awards granted to retirement-eligible employees, or over the period from the grant date to the date retirement eligibility is achieved, if that is expected to occur during the nominal vesting period. We estimate forfeiture rates based on historical rates of forfeitures for awards with similar characteristics, historical rates of employee turnover and the nature and terms of the vesting conditions of the awards. We reevaluate our forfeiture rates on an annual basis.

Fair Value Measurements

Our financial assets and liabilities measured at fair value on a recurring basis have been categorized based upon a fair value hierarchy. Level 1 inputs utilize quoted prices in active markets for identical assets or liabilities. Level 2 inputs are based on other observable market data, such as quoted prices for similar assets and liabilities, and inputs other than quoted prices that are observable, such as interest rates and yield curves. Level 3 inputs are developed from unobservable data reflecting our own assumptions, and include situations where there is little or no market activity for the asset or liability.

Certain non-financial assets and liabilities are measured at fair value on a nonrecurring basis, including property, plant, and equipment, goodwill and intangible assets. These assets are not measured at fair value on a recurring basis; however, they are subject to fair value adjustments in certain circumstances, such as when there is evidence of an impairment. A general description of the valuation methodologies used for assets and liabilities measured at fair value, including the general classification of such assets and liabilities pursuant to the valuation hierarchy, is included in each footnote with fair value measurements present.

We allocate the fair value of purchase consideration to the tangible assets acquired, liabilities assumed and intangible assets acquired based on their estimated fair values. The excess of the fair value of purchase consideration over the fair values of these identifiable assets and liabilities is recorded as goodwill. Such valuations require management to make significant estimates and assumptions, especially with respect to intangible assets. Significant estimates in valuing certain intangible assets include, but are not limited to, future expected cash flows from acquired customers, acquired technology and trade names from a market participant perspective, useful lives and discount rates. Management's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates. During the measurement period, which is one year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Upon the conclusion of the measurement period, any subsequent adjustments are recorded to earnings.

Derivative Instruments

All financial derivative instruments are recorded on our consolidated balance sheets at fair value. Derivatives not designated as hedges must be adjusted to fair value through income. If a derivative is designated as a hedge, changes in its fair value that are considered to be effective, as defined, either (depending on the nature of the hedge) offset the change in fair value of the hedged assets, liabilities or firm commitments through income, or are recorded in AOCI until the hedged item is recorded in income. Any portion of a change in a hedge's fair value that is considered to be ineffective, or is excluded from the measurement of effectiveness, is recorded immediately in income.

Adoption of New Accounting Standards

In March 2016, the Financial Accounting Standards Board ("FASB") issued an accounting standards update that simplifies the income tax accounting and cash flow presentation related to share-based compensation by requiring the recognition of all excess tax benefits and deficiencies directly on the income statement and classification as cash flows from operating activities on the statement of cash flows. This new guidance became effective for us in the first quarter of 2017 and we adopted the statements of consolidated cash flows presentation on a prospective basis. The impact to income tax expense in 2017 in the statements of consolidated income was a benefit of $71 million. Additionally, we have elected to continue estimating forfeitures expected to occur to determine the amount of compensation cost to be recognized each period.

In September 2015, the FASB issued an accounting standards update that simplifies the accounting for measurement-period adjustments related to business combinations. This update removes the requirement to retrospectively apply adjustments made to estimated amounts recognized in a business combination. This update permits the purchaser to adjust the estimated amounts in the reporting period in which the adjustment amounts are determined. This new guidance would have become effective for us in the first quarter of 2016; however, we elected to early adopt this standard in the third quarter of 2015. This accounting standards update did not have a material impact on our consolidated financial position or results of operations.

Accounting Standards Issued But Not Yet Effective

In February 2018, the FASB issued an accounting standards update that allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the Tax Act. The guidance will generally be applied either in the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the Tax Act is recognized. The update becomes effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption.

In August 2017, the FASB issued an accounting standards update to enhance recognition of the economic results of hedging activities in the financial statements. In addition, this update makes certain targeted improvements to simplify the application of the hedge accounting guidance and increase transparency regarding the scope and results of hedging activities. The guidance will generally be applied prospectively and becomes effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In May 2017, the FASB issued an accounting standards update to provide clarity and reduce complexity on when to apply modification accounting to existing share-based payment awards. The guidance will be applied prospectively. We adopted this standard on January 1, 2018. This accounting standards update does not have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2017, the FASB issued an accounting standards update to require the premium on callable debt securities to be amortized to the earliest call date. The amortization period for callable debt securities purchased at a discount would not be impacted by the proposed update. Under current GAAP, premiums on callable debt securities are generally amortized over the contractual life of the security. Only in cases when an entity has a large number of similar securities is it allowed to consider estimates of principal prepayments. Amortization of the premium over the contractual life of the instrument can result in losses being recorded for the unamortized premium if the issuer exercises the call feature prior to maturity. The standard will be effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In March 2017, the FASB issued an accounting standards update to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost. The update requires employers to report the current service cost component in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of net benefit cost are required to be presented separately from service cost and outside of income from operations. In accordance with the update, only the service cost component will be eligible for capitalization. The guidance in this update will be applied retrospectively for the presentation of service cost and other components of net benefit cost, and prospectively for the capitalization of the service cost component in assets. We adopted this standard on January 1, 2018. As a result of this update, the net amount of interest cost, prior service cost, expected return on plan assets and the actuarial gain (loss) in excess of the 10% corridor will be presented as other income (expense). For the years ended December 31, 2017, 2016 and 2015, non-service cost components amounted to an $11 million expense, a $2.236 billion expense, and a $420 million benefit, respectively, which were recognized in "Compensation and benefits" on the statements of consolidated income. After adoption, the non-service cost components will be recognized in "Other Income and (Expense)" on the statements of consolidated income.

In January 2017, the FASB issued an accounting standards update to simplify the accounting for goodwill impairment. The update removes Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. A goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The standard will be effective for us in the first quarter of 2020, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption but do not expect this accounting standards update to have a material impact on our consolidated financial position, results of operations or cash flows.

In November 2016, the FASB issued an accounting standards update that is intended to reduce diversity in practice by adding or clarifying guidance on classification and presentation of changes in restricted cash on the statement of cash flows. The guidance in this update will be applied retrospectively. We adopted this standard on January 1, 2018. As a result of this update, restricted cash will be included within cash and cash equivalents on our statements of consolidated cash flows. As of December 31, 2017 and 2016, we had $449 and $445 million, respectively, in investments and restricted cash primarily associated with our self-insurance requirements.

In August 2016, the FASB issued an accounting standards update that addresses the classification and presentation of specific cash flow issues that currently result in diverse practices. The guidance also clarifies how the predominance principle should be applied when cash receipts and cash payments have aspects of more than one class of cash flows. The guidance will be applied retrospectively. We adopted this standard on January 1, 2018. We have evaluated the impact of this standard on our statements of consolidated cash flows, and have determined that this standard does not have a material impact.

In February 2016, the FASB issued an accounting standards update that requires lessees to recognize a right-of-use asset and lease liability on the balance sheet for all leases with terms beyond twelve months. Although the distinction between operating and finance leases will continue to exist under the new standard, the recognition and measurement of expenses and cash flows will not change significantly from the current treatment. This new guidance requires modified retrospective application and becomes effective for us in the first quarter of 2019, but early adoption is permitted. We are currently evaluating this update to determine the full impact of its adoption on our consolidated financial position, results of operations, cash flows and related disclosures, as well as the impact of adoption on policies, practices and systems. As of December 31, 2017, we have $1.637 billion of future minimum operating lease commitments that are not currently recognized on our consolidated balance sheet (see note 8). Therefore, we expect material changes to our consolidated balance sheets.

In January 2016, the FASB issued an accounting standards update which addresses certain aspects of the recognition, measurement, presentation and disclosure of financial instruments. We adopted this standard on January 1, 2018. This accounting standards update does not have a material impact on our consolidated financial position, results of operations or cash flows.

In May 2014, the FASB issued an accounting standards update that changes the revenue recognition for companies that enter into contracts with customers to transfer goods or services. The standard is a comprehensive new revenue recognition model that requires revenue to be recognized in a manner depicting the transfer of goods or services to a customer at an amount that reflects the consideration expected to be received in exchange for those goods or services. The FASB has also issued a number of updates to this standard. We adopted the standard on January 1, 2018. Companies may use either a full retrospective or a modified retrospective approach to adopt this standard. We adopted the standard using a full retrospective approach.

We have determined that revenue recognition will be accelerated for the transportation businesses as the standard requires revenue to be recognized as control is transferred to the customer over time rather than upon delivery. We have determined that the impact of this change to the statements of consolidated income is not material.

The standard also requires us to evaluate whether our businesses promise to transfer services to the customer itself (as a principal) or to arrange for services to be provided by another party (as an agent). To make that determination, the standard uses a control model rather than the risks-and-rewards model in current GAAP. Based on our evaluation of the control model, we determined that certain Supply Chain & Freight businesses act as the principal rather than the agent within their revenue arrangements. This change will require the affected businesses to report transportation revenue gross of associated purchased transportation costs rather than net of such amounts within the statements of consolidated income. This change will result in reclassifications of approximately $709 and $720 million from contra-revenue to operating expenses on the statements of consolidated income for the periods ended December 31, 2017 and 2016, respectively.

In addition to completing our review of contracts and quantifying the impacts on the consolidated financial statements, we have analyzed our internal control over financial reporting framework and determined that there will be new controls added around contract inception and contract modifications, as well as periodic reviews of material contracts. In addition, we have reviewed the impacts of this standard on our footnote disclosures for periods subsequent to January 1, 2018. We have determined that the adoption of this standard will result in several additional disclosures, including but not limited to additional information around our performance obligations, the timing of revenue recognition, remaining performance obligations at period end, contract assets and liabilities and significant judgments made that impact the amount and timing of revenue from our contracts with customers.

NOTE 2. CASH AND INVESTMENTS

The following is a summary of marketable securities classified as trading and available-for-sale at December 31, 2017 and 2016 (in millions):

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2017				
Current trading marketable securities:				
Corporate debt securities	$ 75	$ —	$ —	$ 75
Carbon credit investments(1)	77	16	—	93
Total trading marketable securities	152	16	—	168
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	286	—	(3)	283
Mortgage and asset-backed debt securities	86	—	—	86
Corporate debt securities	201	1	(1)	201
Equity securities	2	—	—	2
Non-U.S. government debt securities	9	—	—	9
Total available-for-sale marketable securities	584	1	(4)	581
Total current marketable securities	$ 736	$ 17	$ (4)	$ 749

	Cost	Unrealized Gains	Unrealized Losses	Estimated Fair Value
2016				
Current trading marketable securities:				
Corporate debt securities	$ 427	$ —	$ —	$ 427
Carbon credit investments(1)	80	10	—	90
Total trading marketable securities	507	10	—	517
Current available-for-sale marketable securities:				
U.S. government and agency debt securities	314	—	(2)	312
Mortgage and asset-backed debt securities	90	1	—	91
Corporate debt securities	167	—	(1)	166
Equity securities	2	—	—	2
Non-U.S. government debt securities	3	—	—	3
Total available-for-sale marketable securities	576	1	(3)	574
Total current marketable securities	$ 1,083	$ 11	$ (3)	$ 1,091

(1) These investments are hedged with forward contracts that are not designated in hedging relationships. See note 15 for offsetting statement of consolidated income impact.

Total current marketable securities that were pledged as collateral for our self-insurance requirements had an estimated fair value of $579 and $572 million at December 31, 2017 and 2016, respectively.

The gross realized gains on sales of available-for-sale securities totaled $0, $1 and $1 million in 2017, 2016, and 2015, respectively. The gross realized losses on sales of available-for-sale securities totaled $2, $1 and $1 million in 2017, 2016, and 2015, respectively.

There were no material impairment losses recognized on marketable securities during 2017, 2016 or 2015.

Investment Other-Than-Temporary Impairments

We have concluded that no material other-than-temporary impairment losses existed as of December 31, 2017. In making this determination, we considered the financial condition and prospects of the issuer, the magnitude of the losses compared with the investments' cost, the probability that we will be unable to collect all amounts due according to the contractual terms of the security, the credit rating of the security and our ability and intent to hold these investments until the anticipated recovery in market value occurs.

Unrealized Losses

The following table presents the age of gross unrealized losses and fair value by investment category for all securities in a loss position as of December 31, 2017 (in millions):

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. government and agency debt securities	$ 183	$ (2)	$ 90	$ (1)	$ 273	$ (3)
Mortgage and asset-backed debt securities	36	—	25	—	61	—
Corporate debt securities	101	(1)	70	—	171	(1)
Non-U.S. government debt securities	8	—	—	—	8	—
Total marketable securities	$ 328	$ (3)	$ 185	$ (1)	$ 513	$ (4)

The unrealized losses for the corporate debt securities and U.S. government and agency debt securities are primarily due to changes in market interest rates. We have both the intent and ability to hold the securities contained in the previous table for a time necessary to recover the cost basis.

Maturity Information

The amortized cost and estimated fair value of marketable securities at December 31, 2017, by contractual maturity, are shown below (in millions). Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations without prepayment penalties.

	Cost	Estimated Fair Value
Due in one year or less	$ 112	$ 112
Due after one year through three years	453	449
Due after three years through five years	21	21
Due after five years	73	74
	659	656
Equity and carbon credit investment securities	77	93
	$ 736	$ 749

Non-Current Investments and Restricted Cash

Investments and Restricted Cash are primarily associated with our self-insurance requirements. We entered into an escrow agreement with an insurance carrier to guarantee our self-insurance obligations. This agreement requires us to provide collateral to the insurance carrier, which is invested in money market funds and corporate and municipal bonds. Collateral provided is reflected in "other investing activities" in the statements of consolidated cash flows. At December 31, 2017 and 2016, we had $449 and $445 million in self-insurance investments and restricted cash, respectively.

We held a $19 and $18 million investment in a variable life insurance policy to fund benefits for the UPS Excess Coordinating Benefit Plan at December 31, 2017 and 2016, respectively. The quarterly change in investment fair value is recognized in "investment income and other" on the statements of consolidated income. Additionally, we held escrowed cash related to the acquisition and disposition of certain assets, primarily real estate, of $15 and $13 million at December 31, 2017 and 2016, respectively.

The amounts described above are classified as “investments and restricted cash” in the consolidated balance sheets.

Fair Value Measurements

Marketable securities utilizing Level 1 inputs include active exchange-traded equity securities and equity index funds, and most U.S. Government debt securities, as these securities all have quoted prices in active markets. Marketable securities utilizing Level 2 inputs include asset-backed securities, corporate bonds and municipal bonds. These securities are valued using market corroborated pricing, matrix pricing or other models that utilize observable inputs such as yield curves.

We maintain holdings in certain investment partnerships that are measured at fair value utilizing Level 3 inputs (classified as “other non-current investments” in the tables below, and as “other non-current assets” in the consolidated balance sheets). These partnership holdings do not have quoted prices, nor can they be valued using inputs based on observable market data. These investments are valued internally using a discounted cash flow model with two significant inputs: (1) the after-tax cash flow projections for each partnership, and (2) a risk-adjusted discount rate consistent with the duration of the expected cash flows for each partnership. The weighted-average discount rates used to value these investments were 7.56% and 8.06% as of December 31, 2017 and 2016, respectively. These inputs and the resulting fair values are updated on a quarterly basis.

The following table presents information about our investments measured at fair value on a recurring basis as of December 31, 2017 and 2016, and indicates the fair value hierarchy of the valuation techniques utilized to determine such fair value (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2017				
Marketable securities:				
U.S. government and agency debt securities	$ 283	$ —	$ —	$ 283
Mortgage and asset-backed debt securities	—	86	—	86
Corporate debt securities	—	276	—	276
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	9	—	9
Carbon credit investments	93	—	—	93
Total marketable securities	376	373	—	749
Other non-current investments	19	—	6	25
Total	$ 395	$ 373	$ 6	$ 774

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2016				
Marketable securities:				
U.S. government and agency debt securities	$ 312	$ —	$ —	$ 312
Mortgage and asset-backed debt securities	—	91	—	91
Corporate debt securities	—	593	—	593
Equity securities	—	2	—	2
Non-U.S. government debt securities	—	3	—	3
Carbon credit investments	90	—	—	90
Total marketable securities	402	689	—	1,091
Other non-current investments	18	—	13	31
Total	$ 420	$ 689	$ 13	$ 1,122

The following table presents the changes in the above Level 3 instruments measured on a recurring basis for the years ended December 31, 2017 and 2016 (in millions).

	Marketable Securities	Other Investments	Total
Balance on January 1, 2016	$ —	$ 32	$ 32
Transfers into (out of) Level 3	—	—	—
Net realized and unrealized gains (losses):			
Included in earnings (in investment income)	—	(19)	(19)
Included in accumulated other comprehensive income (pre-tax)	—	—	—
Purchases	—	—	—
Settlements	—	—	—
Balance on December 31, 2016	$ —	$ 13	$ 13
Transfers into (out of) Level 3	—	—	—
Net realized and unrealized gains (losses):			
Included in earnings (in investment income)	—	(7)	(7)
Included in accumulated other comprehensive income (pre-tax)	—	—	—
Purchases	—	—	—
Settlements	—	—	—
Balance on December 31, 2017	$ —	$ 6	$ 6

NOTE 3. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including both owned assets as well as assets subject to capital leases, consists of the following as of December 31, 2017 and 2016 (in millions):

	2017	2016
Vehicles	$ 9,365	$ 8,638
Aircraft	16,248	15,653
Land	1,582	1,397
Buildings	4,035	3,439
Building and leasehold improvements	3,934	3,612
Plant equipment	9,387	8,430
Technology equipment	1,907	1,741
Equipment under operating leases	29	29
Construction-in-progress	2,239	735
	48,726	43,674
Less: Accumulated depreciation and amortization	(26,608)	(24,874)
	$ 22,118	$ 18,800

We continually monitor our aircraft fleet utilization in light of current and projected volume levels, aircraft fuel prices and other factors. Additionally, we monitor our other property, plant and equipment categories for any indicators that the carrying value of the assets may not be recoverable. No impairment charges on property, plant and equipment were recorded in 2017, 2016 or 2015.

NOTE 4. COMPANY-SPONSORED EMPLOYEE BENEFIT PLANS

We sponsor various retirement and pension plans, including defined benefit and defined contribution plans which cover our employees worldwide.

U.S. Pension Benefits

In the U.S. we maintain the following single-employer defined benefit pension plans: the UPS Retirement Plan, the UPS Pension Plan, the UPS/IBT Full-Time Employee Pension Plan and the UPS Excess Coordinating Benefit Plan, a non-qualified plan.

The UPS Retirement Plan is noncontributory and includes substantially all eligible employees of participating domestic subsidiaries who are not members of a collective bargaining unit, as well as certain employees covered by a collective bargaining agreement. This plan generally provides for retirement benefits based on average compensation levels earned by employees prior to retirement. Benefits payable under this plan are subject to maximum compensation limits and the annual benefit limits for a tax-qualified defined benefit plan as prescribed by the Internal Revenue Service ("IRS").

The UPS Pension Plan is noncontributory and includes certain eligible employees of participating domestic subsidiaries and members of collective bargaining units that elect to participate in the plan. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS/IBT Full-Time Employee Pension Plan is noncontributory and includes employees that were previously members of the Central States Pension Fund, a multiemployer pension plan, in addition to other eligible employees who are covered under certain collective bargaining agreements. This plan generally provides for retirement benefits based on service credits earned by employees prior to retirement.

The UPS Excess Coordinating Benefit Plan is a non-qualified plan that provides benefits to certain participants in the UPS Retirement Plan for amounts that exceed the benefit limits described above.

In the year ended December 31, 2017, we amended the UPS Retirement Plan and the UPS Excess Coordinating Benefit Plan to cease accruals of additional benefits for future service and compensation for non-union participants effective January 1, 2023. We remeasured plan assets and pension benefit obligations for the affected pension plans as of June 30, 2017, resulting in a net actuarial gain of $569 million. This reflected a curtailment gain of $1.525 billion resulting from the benefit plan changes that was partially offset by net actuarial losses of $956 million, driven by a reduction of approximately 32 basis points in the discount rate compared to December 31, 2016, offset by actual asset returns approximately 275 basis points above our expected return as of the remeasurement date. The net curtailment gain reduced the actuarial loss recorded in "Accumulated other comprehensive loss" in the equity section of the consolidated balance sheet. As actuarial losses were within the corridor (defined as 10% of the greater of the fair value of plan assets and the plan's projected benefit obligation), there was no impact to the statement of consolidated income as a result of this remeasurement.

The UPS Retirement Plan was closed to new non-union participants effective July 1, 2016. The Company amended the UPS 401(k) Savings Plan so that employees who previously would have been eligible for participation in the UPS Retirement Plan receive, in addition to current benefits under the UPS 401(k) Savings Plan, a UPS Retirement Contribution. For employees eligible to receive the Retirement Contribution, UPS will contribute 3% to 8% of eligible pay to the UPS 401(k) Savings Plan based on years of vesting service and business unit. Contributions will be made annually in cash to the accounts of participants who are employed on December 31st of each calendar year.

During the fourth quarter of 2016, certain former U.S. employees were offered the option to receive a one-time payment of their vested pension benefit. Approximately 22,000 participants accepted this option, accelerating $685 million in benefit payments during 2016 while reducing the number of participants who are due future payments from U.S. pension plans. As the cost of these settlements did not exceed the plans' service cost and interest cost for the year, the impact of the settlement was not recognized in earnings.

International Pension Benefits

We also sponsor various defined benefit plans covering certain of our international employees. The majority of our international obligations are for defined benefit plans in Canada and the United Kingdom. In addition, many of our international employees are covered by government-sponsored retirement and pension plans. We are not directly responsible for providing benefits to participants of government-sponsored plans.

U.S. Postretirement Medical Benefits

We also sponsor postretirement medical plans in the U.S. that provide healthcare benefits to our retirees who meet certain eligibility requirements and who are not otherwise covered by multiemployer plans. Generally, this includes employees with at least 10 years of service who have reached age 55 and employees who are eligible for postretirement medical benefits from a Company-sponsored plan pursuant to collective bargaining agreements. We have the right to modify or terminate certain of these plans. These benefits have been provided to certain retirees on a noncontributory basis; however, in many cases, retirees are required to contribute all or a portion of the total cost of the coverage.

Defined Contribution Plans

We also sponsor several defined contribution plans for all employees not covered under collective bargaining agreements, and for certain employees covered under collective bargaining agreements. The Company matches, in shares of UPS common stock or cash, a portion of the participating employees' contributions. Matching contributions charged to expense were $119, $111 and $104 million for 2017, 2016 and 2015, respectively.

Effective June 23, 2017, the Company amended the UPS 401(k) Savings Plan so that non-union employees who currently participate in the UPS Retirement Plan will, in addition to current benefits under the UPS 401(k) Savings Plan, earn a UPS Retirement Contribution beginning January 1, 2023. UPS will contribute 5% to 8% of eligible compensation to the UPS 401(k) Savings Plan based on years of vesting service. The amendment also provides for transition contributions for certain participants. There was no impact to the statement of consolidated income for the year ended December 31, 2017 as a result of this change.

As noted above, effective July 1, 2016, the UPS 401(k) Savings Plan was amended so that newly hired employees who previously would have been eligible for participation in the UPS Retirement Plan began receiving a UPS Retirement Contribution. Contributions associated with this amendment charged to expense were $23 and $4 million for 2017 and 2016 respectively.

Contributions are also made to defined contribution money purchase plans under certain collective bargaining agreements. Amounts charged to expense were $91, $82 and $83 million for 2017, 2016 and 2015, respectively.

Net Periodic Benefit Cost

Information about net periodic benefit cost for the company-sponsored pension and postretirement defined benefit plans is as follows (in millions):

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Net Periodic Benefit Cost:									
Service cost	$ 1,543	$ 1,412	$ 1,527	$ 29	$ 28	$ 34	$ 60	$ 49	$ 48
Interest cost	1,813	1,828	1,694	112	124	117	40	41	44
Expected return on assets	(2,883)	(2,516)	(2,489)	(7)	(6)	(17)	(66)	(58)	(61)
Amortization of prior service cost	192	166	168	7	5	5	1	1	1
Actuarial (gain) loss	729	2,520	70	53	17	17	18	114	31
Curtailment and settlement loss	—	—	—	—	—	—	2	—	—
Net periodic benefit cost	$ 1,394	$ 3,410	$ 970	$ 194	$ 168	$ 156	$ 55	$ 147	$ 63

Actuarial Assumptions

The table below provides the weighted-average actuarial assumptions used to determine the net periodic benefit cost.

	U.S. Pension Benefits			U.S. Postretirement Medical Benefits			International Pension Benefits		
	2017	2016	2015	2017	2016	2015	2017	2016	2015
Discount rate	4.41%	4.86%	4.40%	4.23%	4.79%	4.18%	2.75%	3.51%	3.56%
Rate of compensation increase	4.27%	4.29%	4.29%	N/A	N/A	N/A	3.17%	3.04%	3.08%
Expected return on assets	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	5.65%	5.73%	6.03%

The table below provides the weighted-average actuarial assumptions used to determine the benefit obligations of our plans.

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2017	2016	2017	2016	2017	2016
Discount rate	3.84%	4.41%	3.82%	4.23%	2.78%	2.75%
Rate of compensation increase	4.25%	4.27%	N/A	N/A	3.23%	3.17%

A discount rate is used to determine the present value of our future benefit obligations. To determine the discount rate for our U.S. pension and postretirement benefit plans, we use a bond matching approach to select specific bonds that would satisfy our projected benefit payments. We believe the bond matching approach reflects the process we would employ to settle our pension and postretirement benefit obligations. For our international plans, the discount rate is determined by matching the expected cash flows of a sample plan of similar duration to a yield curve based on long-term, high quality fixed income debt instruments available as of the measurement date. These assumptions are updated each measurement date, which is typically annually.

As of December 31, 2017, the impact of each basis point change in the discount rate on the projected benefit obligation of the pension and postretirement medical benefit plans is as follows (in millions):

	Increase (Decrease) in the Projected Benefit Obligation	
	Pension Benefits	Postretirement Medical Benefits
One basis point increase in discount rate	$ (75)	$ (2)
One basis point decrease in discount rate	$ 80	$ 3

The Society of Actuaries ("SOA") published mortality tables and improvement scales are used in developing the best estimate of mortality for U.S. plans. In October 2016, the SOA published an updated improvement scale which reduced expected mortality improvements from previously published scales. Based on our perspective of future longevity, we updated the mortality assumptions to incorporate this updated scale for purposes of measuring pension and other postretirement benefit obligations.

Assumptions for the expected return on plan assets are used to determine a component of net periodic benefit cost for the fiscal year. The assumption for our U.S. plans is developed using a long-term projection of returns for each asset class. Our asset allocation targets are reviewed and, if necessary, updated taking into consideration plan changes, funded status and actual performance. The expected return for each asset class is a function of passive, long-term capital market assumptions and excess returns generated from active management. The capital market assumptions used are provided by independent investment advisors, while excess return assumptions are supported by historical performance, fund mandates and investment expectations.

For plans outside the U.S., consideration is given to local market expectations of long-term returns. Strategic asset allocations are determined by plan based on the nature of liabilities and considering the demographic composition of the plan participants.

Actuarial Assumptions - Central States Pension Fund

UPS was a contributing employer to the Central States Pension Fund (“CSPF”) until 2007 when we withdrew from the plan and fully funded our allocable share of unfunded vested benefits by paying a $6.1 billion withdrawal liability. Under a collective bargaining agreement with the International Brotherhood of Teamsters (“IBT”), UPS agreed to provide coordinating benefits in the UPS/IBT Full-Time Employee Pension Plan (“UPS/IBT Plan”) for UPS participants whose last employer was UPS and who had not retired as of January 1, 2008 (“the UPS Transfer Group”) in the event that benefits are lawfully reduced by the CSPF in the future consistent with the terms of our withdrawal agreement with the CSPF.

In December 2014, Congress passed the Multiemployer Pension Reform Act (“MPRA”), which for the first time ever allowed multiemployer pension plans to reduce benefit payments to retirees, subject to specific guidelines in the statute and government approval. In September 2015, the CSPF submitted a proposed pension benefit reduction plan to the U.S. Department of the Treasury under the MPRA. The CSPF plan proposed to reduce retirement benefits to the CSPF participants, including the UPS Transfer Group. We vigorously challenged the proposed benefit reduction plan because we believed that it did not comply with the law and that the CSPF failed to comply with its contractual obligation to obtain our consent to reduce benefits to the UPS Transfer Group under the terms of the withdrawal agreement with the CSPF. On May 6, 2016, the U.S. Department of the Treasury rejected the proposed plan submitted by the CSPF, stating that it failed to satisfy a number of requirements set forth in the MPRA.

The CSPF has asserted that it will become insolvent in 2025, which could lead to the reduction of retirement benefits. Although there are numerous factors that could affect the CSPF’s funding status, if the CSPF were to become insolvent as they have projected, UPS may be required to provide coordinating benefits, thereby increasing the current projected benefit obligation for the UPS/IBT Plan by approximately $4 billion. The CSPF has said that it believes a legislative solution to its funding status is necessary, and we expect that the CSPF will continue to explore options to avoid insolvency.

The potential obligation to pay coordinating benefits from the UPS/IBT Plan is subject to a number of significant uncertainties, including actions that may be taken by the CSPF, the federal government or others. These actions include whether the CSPF will submit a revised pension benefit reduction plan or otherwise seek federal government assistance, the extent to which benefits are paid by the Pension Benefit Guaranty Corporation, our ability to successfully defend our legal positions as well as the effect of discount rates, CSPF asset returns and various other actuarial assumptions.

We account for this potential obligation under Accounting Standards Codification Topic 715- Compensation-Retirement Benefits (“ASC 715”). Under ASC 715 we are required to provide a best estimate of various actuarial assumptions, including the eventual outcome of this matter, in measuring our pension benefit obligation at the December 31st measurement date. While we currently believe the most likely solution to this matter and the broader systemic problems facing multiemployer pension plans is intervention by the federal government, ASC 715 does not permit anticipation of changes in law in making a best estimate of pension liabilities. Our best estimate as of the measurement date of December 31, 2017, does not incorporate this solution. However, if a future change in law resulted in an obligation to provide coordinating benefits under the UPS/IBT Plan, it may be a significant event, and may require us to remeasure the plan assets and projected benefit obligation of the UPS/IBT Plan at the date the law is enacted.

Our best estimate of the next most likely outcome to resolve the CSPF's solvency concerns is that the CSPF will submit another benefit suspension application under the MPRA to forestall insolvency without reducing benefits to the UPS Transfer Group. If the CSPF attempts to reduce benefits for the UPS Transfer Group under a MPRA filing, we would be in a strong legal position to prevent that from occurring given that these benefits cannot be reduced without our consent and such a reduction, without first exhausting reductions to other groups in the CSPF, would be contrary to the statute. Accordingly, our best estimate as of the measurement date of December 31, 2017, is that there is no liability to be recognized for additional coordinating benefits of the UPS/IBT Plan. However, the projected benefit obligation could materially increase as the uncertainties are resolved. We will continue to assess the impact of these uncertainties on the projected benefit obligation of the UPS/IBT Plan in accordance with ASC 715.

Other Actuarial Assumptions

Healthcare cost trends are used to project future postretirement medical benefits payable from our plans. For year-end 2017 U.S. plan obligations, future postretirement medical benefit costs were forecasted assuming an initial annual rate of increase of 6.5%, decreasing to 4.5% by the year 2022 and with consistent annual increases at that ultimate level thereafter.

Assumed healthcare cost trends can have a significant effect on the amounts reported for our postretirement medical plans. A one percent change in assumed healthcare cost trend rates would have had the following effects on 2017 results (in millions):

	1% Increase	1% Decrease
Effect on total of service cost and interest cost	$ 3	$ (3)
Effect on postretirement benefit obligation	$ 65	$ (71)

Funded Status

The following table discloses the funded status of our plans and the amounts recognized in our consolidated balance sheets as of December 31st (in millions):

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2017	2016	2017	2016	2017	2016
Funded Status:						
Fair value of plan assets	$ 41,932	$ 31,215	$ 183	$ 15	$ 1,333	$ 1,092
Benefit obligation	(45,847)	(41,069)	(2,792)	(2,730)	(1,651)	(1,425)
Funded status recognized at December 31	$ (3,915)	$ (9,854)	$ (2,609)	$ (2,715)	$ (318)	$ (333)
Funded Status Recognized in our Balance Sheet:						
Other non-current assets	$ 284	$ —	$ —	$ —	$ 35	$ 28
Other current liabilities	(18)	(17)	(77)	(216)	(5)	(3)
Pension and postretirement benefit obligations	(4,181)	(9,837)	(2,532)	(2,499)	(348)	(358)
Net liability at December 31	$ (3,915)	$ (9,854)	$ (2,609)	$ (2,715)	$ (318)	$ (333)
Amounts Recognized in AOCI:						
Unrecognized net prior service cost	$ (880)	$ (1,074)	$ (29)	$ (36)	$ (2)	$ (3)
Unrecognized net actuarial gain (loss)	(4,277)	(4,107)	(195)	(80)	(126)	(150)
Gross unrecognized cost at December 31	(5,157)	(5,181)	(224)	(116)	(128)	(153)
Deferred tax assets (liabilities) at December 31	1,840	1,948	69	44	31	37
Net unrecognized cost at December 31	$ (3,317)	$ (3,233)	$ (155)	$ (72)	$ (97)	$ (116)

The accumulated benefit obligation for our pension plans as of the measurement dates in 2017 and 2016 was $45.776 and $39.488 billion, respectively.

Benefit payments under the pension plans include $22 million paid from employer assets in 2017 and in 2016. Benefit payments (net of participant contributions) under the postretirement medical benefit plans include $93 and $98 million paid from employer assets in 2017 and 2016, respectively. Such benefit payments from employer assets are also categorized as employer contributions.

At December 31, 2017 and 2016, the projected benefit obligation, the accumulated benefit obligation and the fair value of plan assets for pension plans with benefit obligations in excess of plan assets were as follows (in millions):

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets		Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	
	2017	2016	2017	2016
U.S. Pension Benefits:				
Projected benefit obligation	$ 37,113	$ 41,069	$ 37,113	$ 41,069
Accumulated benefit obligation	35,538	38,194	35,538	38,194
Fair value of plan assets	32,914	31,215	32,914	31,215
International Pension Benefits:				
Projected benefit obligation	$ 1,138	$ 1,370	$ 647	$ 1,365
Accumulated benefit obligation	992	1,238	549	1,234
Fair value of plan assets	798	1,020	342	1,016

The accumulated postretirement benefit obligation exceeds plan assets for all of our U.S. postretirement medical benefit plans.

Benefit Obligations and Fair Value of Plan Assets

The following table provides a reconciliation of the changes in the plans' benefit obligations and fair value of plan assets as of the respective measurement dates in each year (in millions).

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2017	2016	2017	2016	2017	2016
Benefit Obligations:						
Projected benefit obligation at beginning of year	$ 41,069	$ 36,846	$ 2,730	$ 2,673	$ 1,425	$ 1,219
Service cost	1,543	1,412	29	28	60	49
Interest cost	1,813	1,828	112	124	40	41
Gross benefits paid	(1,309)	(1,885)	(264)	(264)	(32)	(28)
Plan participants' contributions	—	—	26	27	3	3
Plan amendments(1)	—	285	—	15	—	—
Actuarial (gain)/loss	4,256	2,583	159	126	26	208
Foreign currency exchange rate changes	—	—	—	—	129	(67)
Curtailments and settlements	(1,525)	—	—	—	(3)	(3)
Other	—	—	—	1	3	3
Projected benefit obligation at end of year	$ 45,847	$ 41,069	$ 2,792	$ 2,730	$ 1,651	$ 1,425

(1) Resulting from a new labor contract with the Independent Pilots Association.

	U.S. Pension Benefits		U.S. Postretirement Medical Benefits		International Pension Benefits	
	2017	2016	2017	2016	2017	2016
Fair Value of Plan Assets:						
Fair value of plan assets at beginning of year	$ 31,215	$ 28,887	$ 15	$ 130	$ 1,092	$ 1,014
Actual return on plan assets	4,717	1,735	(2)	3	96	108
Employer contributions	7,309	2,478	408	119	77	71
Plan participants' contributions	—	—	26	27	3	3
Gross benefits paid	(1,309)	(1,885)	(264)	(264)	(32)	(28)
Foreign currency exchange rate changes	—	—	—	—	100	(73)
Curtailments and settlements	—	—	—	—	(3)	(3)
Fair value of plan assets at end of year	$ 41,932	$ 31,215	$ 183	$ 15	$ 1,333	$ 1,092

Pension and Postretirement Plan Assets

Under the governance of plan trustees, the investment committee establishes investment guidelines and strategies and regularly monitors the performance of investments and investment managers. The investment guidelines address items such as establishing appropriate governance provisions; defining investment objectives; determining strategic asset allocation; monitoring and reporting the investments on a regular basis; appointing/dismissing investment managers, custodians, consultants and advisors; risk management; determining/defining the mandates for investment managers; rebalancing of assets and determining investment restrictions/prohibited investments.

Pension assets are invested in accordance with applicable laws and regulations. The primary long-term investment objectives for pension assets are to: (1) provide for a reasonable amount of long-term growth of capital given prudent levels of risk exposure while minimizing permanent loss of capital; (2) generate investment results that meet or exceed the long-term rate of return assumption for the plans and (3) match the duration of the liabilities and assets of the plans to reduce the need for large employer contributions in the future. In furtherance of these objectives, investment managers are engaged to actively manage assets within the guidelines and strategies set forth by the Investment Committee. Active managers are monitored regularly and their performance is compared to applicable benchmarks.

Fair Value Measurements

Pension assets utilizing Level 1 inputs include equity investments, corporate debt instruments and U.S. government securities. Fair values were determined by closing prices for those securities traded on national stock exchanges, while securities traded in the over-the-counter market and listed securities for which no sale was reported on the valuation date are valued at the mean between the last reported bid and asked prices.

Level 2 assets include certain bonds that are valued based on yields currently available on comparable securities of other issues with similar credit ratings; mortgage-backed securities that are valued based on cash flow and yield models using acceptable modeling and pricing conventions; and certain investments that are pooled with other investments in a commingled fund. We value our investments in commingled funds by taking the percentage ownership of the underlying assets, each of which has a readily determinable fair value.

Fair value estimates for certain investments are based on unobservable inputs that are not corroborated by observable market data and are thus classified as Level 3.

Investments that do not have a readily determinable fair value, and which provide a net asset value ("NAV" or its equivalent) developed consistent with FASB measurement principles, are valued using NAV as a practical expedient. These investments are not classified in Levels 1, 2, or 3 of the fair value hierarchy, but are included in the totals in the tables shown below. These investments include hedge funds, risk parity funds, real estate investments, private debt and private equity funds. Investments in hedge funds are valued using reported NAVs as of December 31st. These assets are primarily invested in a portfolio of diversified, direct investments and funds of hedge funds. Real estate investments, private debt and private equity funds are valued using fair values per the most recent partnership audited financial reports, adjusted, as appropriate, for any lag between the date of the financial reports and December 31st. The fair values may, due to the inherent uncertainty of valuation for those alternative investments, differ significantly from the values that would have been used had a ready market for the alternative investments existed, and any differences could be material. These investments are described further below:

- Hedge Funds: Plan assets are invested in hedge funds that pursue multiple strategies to diversify risk and reduce volatility. Most of these hedge funds allow redemptions either quarterly or semi-annually after a two to three month notice period, while others allow for redemption after only a brief notification period with no restriction on redemption frequency. No unfunded commitments existed with respect to hedge funds as of December 31, 2017.

- Risk Parity Funds: Plan assets are invested in risk parity strategies in order to provide diversification and balance risk/return objectives. These strategies reflect a multi-asset class balanced risk approach generally consisting of equity, interest rates, credit and commodities. These funds allow for monthly redemptions with only a brief notification period. No unfunded commitments existed with respect to risk parity funds as of December 31, 2017.

- Real Estate, Private Debt and Private Equity Funds: Plan assets are invested in limited partnership interests in various private equity, private debt and real estate funds. Limited provision exists for the redemption of these interests by the limited partners that invest in these funds until the end of the term of the partnerships, typically ranging between 10 and 15 years from the date of inception. An active secondary market exists for similar partnership interests, although no particular value (discount or premium) can be guaranteed. At December 31, 2017, unfunded commitments to such limited partnerships totaling approximately $2.546 billion are expected to be contributed over the remaining investment period, typically ranging between three and six years.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2017 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets(1)	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents(2)	$ 5,725	$ 5,292	$ 433	$ —	13.6 %	0-5
Equity Securities:						
U.S. Large Cap	5,924	3,121	2,803	—		
U.S. Small Cap	591	421	170	—		
Emerging Markets	2,101	1,669	432	—		
Global Equity	2,817	2,400	417	—		
International Equity	4,791	2,950	1,841	—		
Total Equity Securities	16,224	10,561	5,663	—	38.5	35-55
Fixed Income Securities:						
U.S. Government Securities	7,695	7,323	372	—		
Corporate Bonds	3,865	—	3,857	8		
Global Bonds	53	—	53	—		
Municipal Bonds	21	—	21	—		
Total Fixed Income Securities	11,634	7,323	4,303	8	27.6	25-35
Other Investments:						
Hedge Funds	2,910	—	1,031	—	6.9	5-15
Private Equity	2,107	—	—	—	5.0	1-10
Private Debt	953	—	237	—	2.3	1-10
Real Estate	2,031	157	139	—	4.8	1-10
Structured Products(3)	172	—	172	—	0.4	0-5
Risk Parity Funds	359	—	—		0.9	1-10
Total U.S. Plan Assets	$ 42,115	$ 23,333	$ 11,978	$ 8	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 78	$ 43	$ 35		5.8	0-10
Equity Securities:						
Local Markets Equity	213	—	213			
U.S. Equity	30	—	30			
Emerging Markets	38	38	—			
International / Global Equity	356	166	190			
Total Equity Securities	637	204	433	—	47.7	30-60
Fixed Income Securities:						
Local Government Bonds	103	25	78			
Corporate Bonds	198	59	139			
Total Fixed Income Securities	301	84	217	—	22.6	25-50
Other Investments:						
Real Estate	124	—	79		9.3	5-10
Other	193	—	184		14.6	0-20

Total International Plan Assets	$ 1,333	$ 331	$ 948	$ —	100.0 %
Total Plan Assets	$ 43,448	$ 23,664	$ 12,926	$ 8	

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

(2) Includes $5 billion in contributions made in December 2017 that had not yet been invested according to the targeted allocation.

(3) Represents mortgage and asset-backed securities.

The fair values of U.S. and international pension and postretirement benefit plan assets by asset category as of December 31, 2016 are presented below (in millions), as well as the percentage that each category comprises of our total plan assets and the respective target allocations.

	Total Assets(1)	Level 1	Level 2	Level 3	Percentage of Plan Assets	Target Allocation
Asset Category (U.S. Plans):						
Cash and cash equivalents	$ 304	$ 102	$ 202	$ —	1.0 %	0-5
Equity Securities:						
U.S. Large Cap	4,883	2,327	2,556	—		
U.S. Small Cap	542	393	149	—		
Emerging Markets	1,396	1,236	160	—		
Global Equity	2,603	2,555	48	—		
International Equity	3,026	2,197	829	—		
Total Equity Securities	12,450	8,708	3,742	—	39.9	35-55
Fixed Income Securities:						
U.S. Government Securities	6,173	5,821	352	—		
Corporate Bonds	4,492	—	4,492	—		
Global Bonds	161	—	59	—		
Municipal Bonds	24	—	24	—		
Total Fixed Income Securities	10,850	5,821	4,927	—	34.6	25-35
Other Investments:						
Hedge Funds	2,867	—	763	—	9.2	5-15
Private Equity	1,716	—	—	—	5.5	1-10
Private Debt	496	—	—	—	1.6	1-10
Real Estate	1,734	122	144	—	5.6	1-10
Structured Products(2)	492	—	492	—	1.6	0-5
Risk Parity Funds	321	—	—	—	1.0	1-10
Total U.S. Plan Assets	$ 31,230	$ 14,753	$ 10,270	$ —	100.0 %	
Asset Category (International Plans):						
Cash and cash equivalents	$ 54	$ 37	$ 17	—	4.9	0-15
Equity Securities:						
Local Markets Equity	188	—	188	—		
U.S. Equity	20	—	20	—		
Emerging Markets	26	26	—	—		
International / Global Equity	288	141	147	—		
Total Equity Securities	522	167	355	—	47.7	50-65
Fixed Income Securities:						
Local Government Bonds	84	22	62	—		
Corporate Bonds	158	51	107	—		
Total Fixed Income Securities	242	73	169	—	22.2	15-35
Other Investments:						
Real Estate	93	—	57	—	8.5	0-17
Other	181	—	175	—	16.7	0-20
Total International Plan Assets	$ 1,092	$ 277	$ 773	$ —	100.0 %	

Total Plan Assets	$ 32,322	$ 15,030	$ 11,043	$ —	

(1) Certain investments that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy but are included in the category totals.

(2) Represents mortgage and asset-backed securities.

The following table presents the changes in the Level 3 instruments measured on a recurring basis for the years ended December 31, 2017 and 2016 (in millions).

	Corporate Bonds	Other	Total
Balance on January 1, 2016	$ 6	$ 49	$ 55
Actual Return on Assets:			
Assets Held at End of Year	—	—	—
Assets Sold During the Year	—	(49)	(49)
Purchases	—	—	—
Sales	(6)	—	(6)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2016	$ —	$ —	$ —
Actual Return on Assets:			
Assets Held at End of Year	—	—	—
Assets Sold During the Year	—	—	—
Purchases	9	—	9
Sales	(1)	—	(1)
Transfers Into (Out of) Level 3	—	—	—
Balance on December 31, 2017	$ 8	$ —	$ 8

There were no UPS class A or B shares of common stock directly held in plan assets as of December 31, 2017 or December 31, 2016.

Accumulated Other Comprehensive Income

The estimated amounts of prior service cost in AOCI expected to be amortized and recognized as a component of net periodic benefit cost in 2018 are as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Prior service cost	$ 193	$ 7	$ 1

Expected Cash Flows

Information about expected cash flows for the pension and postretirement benefit plans is as follows (in millions):

	U.S. Pension Benefits	U.S. Postretirement Medical Benefits	International Pension Benefits
Expected Employer Contributions:			
2018 to plan trusts	$ —	$ —	$ 75
2018 to plan participants	19	78	5
Expected Benefit Payments:			
2018	$ 1,294	$ 237	$ 24
2019	1,418	239	27
2020	1,551	237	30
2021	1,691	231	36
2022	1,836	222	41
2023 - 2027	11,358	967	286

Our funding policy for U.S. plans is to contribute amounts annually that are at least equal to the amounts required by applicable laws and regulations, or to directly fund payments to plan participants, as applicable. International plans will be funded in accordance with local regulations. Additional discretionary contributions may be made when deemed appropriate to meet the long-term obligations of the plans. Expected benefit payments for pensions will be primarily paid from plan trusts. Expected benefit payments for postretirement medical benefits will be paid from plan trusts and corporate assets.

NOTE 5. MULTIEMPLOYER EMPLOYEE BENEFIT PLANS

We contribute to a number of multiemployer defined benefit plans under the terms of collective bargaining agreements that cover our union-represented employees. These plans generally provide for retirement, death and/or termination benefits for eligible employees within the applicable collective bargaining units, based on specific eligibility/participation requirements, vesting periods and benefit formulas. The risks of participating in these multiemployer plans are different from single-employer plans in the following aspects:

- Assets contributed to a multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If we negotiate to cease participating in a multiemployer plan, we may be required to pay that plan an amount based on our allocable share of its underfunded status, referred to as a "withdrawal liability". However, cessation of participation in a multiemployer plan and subsequent payment of any withdrawal liability is subject to the collective bargaining process.
- If any of the multiemployer pension plans in which we participate enter critical status, and our contributions are not sufficient to satisfy any rehabilitation plan funding schedule, we could be required under the Pension Protection Act of 2006 to make additional surcharge contributions to the multiemployer pension plan in the amount of five to ten percent of the existing contributions required by our labor agreement. Such surcharges would cease upon the ratification of a new collective bargaining agreement, and could not recur unless a plan re-entered critical status at a later date.

The discussion that follows sets forth the financial impact on our results of operations and cash flows for the years ended December 31, 2017, 2016 and 2015, from our participation in multiemployer benefit plans. As part of the overall collective bargaining process for wage and benefit levels, we have agreed to contribute certain amounts to the multiemployer benefit plans during the contract period. The multiemployer benefit plans set benefit levels and are responsible for benefit delivery to participants. Future contribution amounts to multiemployer benefit plans are determined only through collective bargaining, and we have no additional legal or constructive obligation to increase contributions beyond the agreed-upon amounts (except potential surcharges under the Pension Protection Act of 2006 as described above).

The number of employees covered by our multiemployer pension plans has remained consistent over the past three years, and there have been no significant changes that affect the comparability of 2017, 2016 and 2015 contributions. We recognize expense for the contractually-required contribution for each period, and we recognize a liability for any contributions due and unpaid at the end of a reporting period.

Status of Collective Bargaining Agreements

As of December 31, 2017, we had approximately 280,000 employees employed under a national master agreement and various supplemental agreements with local unions affiliated with the Teamsters. These agreements run through July 31, 2018. We have approximately 2,700 pilots who are employed under a collective bargaining agreement with the Independent Pilots Association ("IPA"), which runs through September 1, 2021. Our airline mechanics are covered by a collective bargaining agreement with Teamsters Local 2727, which became amendable November 1, 2013. We are currently in negotiations with Teamsters Local 2727. In addition, approximately 3,100 of our auto and maintenance mechanics who are not employed under agreements with the Teamsters are employed under collective bargaining agreements with the International Association of Machinists and Aerospace Workers (“IAM”) that will expire on July 31, 2019.

Multiemployer Pension Plans

The following table outlines our participation in multiemployer pension plans for the periods ended December 31, 2017, 2016 and 2015, and sets forth our calendar year contributions and accruals for each plan. The “EIN/Pension Plan Number” column provides the Employer Identification Number (“EIN”) and the three-digit plan number. The most recent Pension Protection Act zone status available in 2017 and 2016 relates to the plans’ two most recent fiscal year-ends. The zone status is based on information that we received from the plans’ administrators and is certified by each plan’s actuary. Plans certified in the red zone are generally less than 65% funded, plans certified in the orange zone are both less than 80% funded and have an accumulated funding deficiency or are expected to have a deficiency in any of the next six plan years, plans certified in the yellow zone are less than 80% funded, and plans certified in the green zone are at least 80% funded. The “FIP/RP Status Pending/Implemented” column indicates whether a financial improvement plan (“FIP”) for yellow/orange zone plans, or a rehabilitation plan (“RP”) for red zone plans, is either pending or has been implemented. As of December 31, 2017, all plans that have either a FIP or RP requirement have had the respective plan implemented.

Our collectively-bargained contributions satisfy the requirements of all implemented FIPs and RPs and do not currently require the payment of any surcharges. In addition, minimum contributions outside of the agreed upon contractual rates are not required. For the plans detailed in the following table, the expiration date of the associated collective bargaining agreements is July 31, 2018, with the exception of the Automotive Industries Pension Plan and the IAM National Pension Fund / National Pension Plan which both have a July 31, 2019 expiration date. For all plans detailed in the following table, we provided more than
5% of the total plan contributions from all employers for 2017, 2016 and 2015 (as disclosed in the annual filing with the Department of Labor for each respective plan).

Certain plans have been aggregated in the "all other multiemployer pension plans" line in the following table, as the contributions to each of these individual plans are not material.

Pension Fund	EIN / Pension Plan Number	Pension Protection Act Zone Status 2017	Pension Protection Act Zone Status 2016	FIP / RP Status Pending / Implemented	(in millions) UPS Contributions and Accruals 2017	2016	2015	Surcharge Imposed
Alaska Teamster-Employer Pension Plan	92-6003463-024	Red	Red	Yes/Implemented	$ 5	$ 5	$ 5	No
Automotive Industries Pension Plan	94-1133245-001	Red	Red	Yes/Implemented	5	4	4	No
Central Pennsylvania Teamsters Defined Benefit Plan	23-6262789-001	Green	Green	No	40	38	36	No
Eastern Shore Teamsters Pension Fund	52-0904953-001	Green	Green	No	5	5	4	No
Employer-Teamsters Local Nos. 175 & 505 Pension Trust Fund	55-6021850-001	Red	Red	Yes/Implemented	12	11	11	No
Hagerstown Motor Carriers and Teamsters Pension Fund	52-6045424-001	Red	Red	Yes/Implemented	8	7	7	No
I.A.M. National Pension Fund / National Pension Plan	51-6031295-002	Green	Green	No	35	31	29	No
International Brotherhood of Teamsters Union Local No. 710 Pension Fund	36-2377656-001	Green	Green	No	118	107	106	No
Local 705, International Brotherhood of Teamsters Pension Plan	36-6492502-001	Yellow	Red	Yes/Implemented	93	88	91	No
Local 804 I.B.T. & Local 447 I.A.M. —UPS Multiemployer Retirement Plan	51-6117726-001	Yellow	Red	Yes/Implemented	110	103	97	No
Milwaukee Drivers Pension Trust Fund	39-6045229-001	Green	Green	No	38	36	35	No
New England Teamsters & Trucking Industry Pension Fund	04-6372430-001	Red	Red	Yes/Implemented	114	114	110	No
New York State Teamsters Conference Pension and Retirement Fund	16-6063585-074	Red	Red	Yes/Implemented	100	91	86	No
Teamster Pension Fund of Philadelphia and Vicinity	23-1511735-001	Yellow	Yellow	Yes/Implemented	60	56	53	No
Teamsters Joint Council No. 83 of Virginia Pension Fund	54-6097996-001	Green	Yellow	No	64	61	57	No
Teamsters Local 639—Employers Pension Trust	53-0237142-001	Green	Green	No	55	51	48	No
Teamsters Negotiated Pension Plan	43-6196083-001	Green	Green	No	32	31	30	No
Truck Drivers and Helpers Local Union No. 355 Retirement Pension Plan	52-6043608-001	Green	Yellow	No	20	19	17	No
United Parcel Service, Inc.—Local 177, I.B.T. Multiemployer Retirement Plan	13-1426500-419	Red	Red	Yes/Implemented	88	83	83	No
Western Conference of Teamsters Pension Plan	91-6145047-001	Green	Green	No	772	694	646	No
Western Pennsylvania Teamsters and Employers Pension Fund	25-6029946-001	Red	Red	Yes/Implemented	30	28	26	No
All Other Multiemployer Pension Plans					66	56	42	
				Total Contributions	$ 1,870	$ 1,719	$ 1,623	

Agreement with the New England Teamsters and Trucking Industry Pension Fund

In 2012, we reached an agreement with the New England Teamsters and Trucking Industry Pension Fund ("NETTI Fund"), a multiemployer pension plan in which UPS is a participant, to restructure the pension liabilities for approximately 10,200 UPS employees represented by the Teamsters. As of December 31, 2017 and 2016, we had $859 and $866 million, respectively, recognized in "other non-current liabilities" on our consolidated balance sheets representing the remaining balance of the NETTI Fund withdrawal liability. Based on the borrowing rates currently available to the Company for long-term financing of a similar maturity, the fair value of the NETTI Fund withdrawal liability as of December 31, 2017 and 2016 was $921 and $861 million. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of this liability.

Multiemployer Health and Welfare Plans

We also contribute to several multiemployer health and welfare plans that cover both active and retired employees. Healthcare benefits are provided to participants who meet certain eligibility requirements as covered under the applicable collective bargaining unit. The following table sets forth our calendar year plan contributions and accruals. Certain plans have been aggregated in the "all other multiemployer health and welfare plans" line in the table, as the contributions to each of these individual plans are not material.

	(in millions) UPS Contributions and Accruals		
Health and Welfare Fund	**2017**	**2016**	**2015**
Central States, South East & South West Areas Health and Welfare Fund	$ 2,366	$ 2,268	$ 2,081
Teamsters Western Region & Local 177 Health Care Plan	605	571	515
Health & Welfare Insurance Fund Teamsters Local 653	7	6	6
Bay Area Delivery Drivers	37	35	34
Central Pennsylvania Teamsters Health & Pension Fund	27	25	23
Delta Health Systems—East Bay Drayage Drivers	29	27	27
Employer—Teamster Local Nos. 175 & 505	11	11	10
Joint Council #83 Health & Welfare Fund	37	33	28
Local 191 Teamsters Health Fund	13	12	11
Local 401 Teamsters Health & Welfare Fund	9	8	7
Local 804 Welfare Trust Fund	84	79	75
Milwaukee Drivers Pension Trust Fund—Milwaukee Drivers Health and Welfare Trust Fund	38	36	34
Montana Teamster Employers Trust	8	8	7
New York State Teamsters Health & Hospital Fund	59	56	53
North Coast Benefit Trust	11	8	8
Northern California General Teamsters (DELTA)	132	116	108
Northern New England Benefit Trust	50	47	42
Oregon / Teamster Employers Trust	38	34	31
Teamsters 170 Health & Welfare Fund	17	16	15
Teamsters Benefit Trust	46	43	36
Teamsters Local 251 Health & Insurance Plan	15	14	13
Teamsters Local 404 Health & Insurance Plan	8	7	7
Teamsters Local 638 Health Fund	43	40	39
Teamsters Local 639—Employers Health & Pension Trust Funds	27	27	26
Teamsters Local 671 Health Services & Insurance Plan	17	17	15
Teamsters Union 25 Health Services & Insurance Plan	52	50	46
Teamsters Union Local 677 Health Services & Insurance Plan	11	10	10
Truck Drivers and Helpers Local 355 Baltimore Area Health & Welfare Fund	16	16	15
Utah-Idaho Teamsters Security Fund	29	26	25
Washington Teamsters Welfare Trust	52	47	44
All Other Multiemployer Health and Welfare Plans	78	68	95
Total Contributions	$ 3,972	$ 3,761	$ 3,486

NOTE 6. GOODWILL AND INTANGIBLE ASSETS

The following table indicates the allocation of goodwill by segment (in millions):

	U.S. Domestic Package	International Package	Supply Chain & Freight	Consolidated
Balance on January 1, 2016	$ 715	$ 425	$ 2,279	$ 3,419
Acquired	—	—	359	359
Currency / Other	—	(18)	(3)	(21)
Balance on December 31, 2016	$ 715	$ 407	$ 2,635	$ 3,757
Acquired	—	18	54	72
Currency / Other	—	10	33	43
Balance on December 31, 2017	$ 715	$ 435	$ 2,722	$ 3,872

2017 Goodwill Activity

The goodwill acquired in the Supply Chain & Freight segment is primarily related to our January 2017 acquisition of Freightex Ltd. ("Freightex") and our November 2017 acquisition of STTAS Global Holdings, Inc ("Sandler & Travis Trade Advisory Services" or "STTAS"). The remaining goodwill acquired in the Supply Chain & Freight segment was related to other, smaller acquisitions immaterial to our consolidated financial position or results of operations.

The goodwill acquired in the International Package segment is related to our June 2017 acquisition of Eirpost Group Unlimited Company ("Nightline").

The remaining change in goodwill for both the Supply Chain & Freight and the International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

2016 Goodwill Activity

The goodwill acquired in the Supply Chain & Freight segment was related to our December 2016 acquisition of Maze 1 Limited ("Marken").

The remaining change in goodwill for both the Supply Chain & Freight and the International Package segments was due to immaterial purchase accounting adjustments and the impact of changes in the value of the U.S. Dollar on the translation of non-U.S. Dollar goodwill balances.

The estimates of the fair value of assets acquired and liabilities assumed are subject to change based on the completion of purchase accounting. The purchase price allocation for acquired companies can be modified for up to one year from the date of acquisition. See note 7 for further discussion of these acquisitions.

Goodwill Impairment and Annual Assessment Date Change

During the third quarter of 2017, we changed the measurement date of our annual goodwill impairment test from October 1st to July 1st. This change better aligns the timing of the goodwill impairment test with our long-term business planning process. The change was not material to our consolidated financial statements as it did not result in the delay, acceleration or avoidance of an impairment charge.

We completed our annual goodwill impairment valuation, as of July 1st, on a reporting unit basis which we own at the testing date. For the periods presented, no triggering events were identified that required an interim impairment test.

U.S. Domestic Package is our largest reporting segment. In our International Package reporting segment, we have the following reporting units: Europe, Asia, Americas and ISMEA (Indian Subcontinent, Middle East and

Africa). In our Supply Chain & Freight segment we have the following reporting units: Forwarding, Logistics, UPS Mail Innovations, UPS Freight, The UPS Store, UPS Capital, Marken and Coyote Logistics.

In assessing our goodwill for impairment, we initially evaluate qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the qualitative assessment is not conclusive and it is necessary to calculate the fair value of a reporting unit, then we utilize a two-step process to test goodwill for impairment. First, a comparison of the fair value of the applicable reporting unit with the aggregate carrying value, including goodwill, is performed. We primarily determine the fair value of our reporting units using a discounted cash flow model, and supplement this with observable valuation multiples for comparable companies, as applicable. If the carrying amount of a reporting unit exceeds the reporting unit's fair value, we perform the second step of the goodwill impairment test to determine the amount of impairment loss. The second step includes comparing the implied fair value of the affected reporting unit's goodwill with the carrying value of that goodwill.

In 2017, we utilized a qualitative assessment to determine that it was more likely than not that the reporting unit fair value exceeded the carrying value for our U.S. Domestic Package, Europe Package, Asia Package, Americas Package, ISMEA Package, Forwarding, UPS Mail Innovations, The UPS Store and UPS Capital reporting units. For the remaining reporting units owned at the annual goodwill impairment testing date, we utilized the two-step process to test goodwill for impairment. We did not have any goodwill impairment charges in 2017, 2016 or 2015. Cumulatively, our Supply Chain & Freight segment has recorded $622 million of goodwill impairment charges, while our International and U.S. Domestic Package segments have not recorded any goodwill impairment charges.

Intangible Assets

The following is a summary of intangible assets at December 31, 2017 and 2016 (in millions):

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Value	Weighted-Average Amortization Period (in years)
December 31, 2017				
Capitalized software	$ 3,273	$ (2,310)	$ 963	6.9
Licenses	114	(10)	104	3.9
Franchise rights	144	(97)	47	20.0
Customer relationships	776	(160)	616	10.8
Trade name	200	—	200	NA
Trademarks, patents and other	71	(37)	34	5.4
Total Intangible Assets	$ 4,578	$ (2,614)	$ 1,964	7.9
December 31, 2016				
Capitalized software	$ 2,933	$ (2,157)	$ 776	
Licenses	131	(70)	61	
Franchise rights	128	(90)	38	
Customer relationships	724	(85)	639	
Trade name	200	—	200	
Trademarks, patents and other	67	(23)	44	
Total Intangible Assets	$ 4,183	$ (2,425)	$ 1,758	

A trade name and licenses with a carrying value of $200 and $5 million, respectively, as of December 31, 2017 are deemed to be indefinite-lived intangible assets, and therefore are not amortized. Impairment tests for indefinite-lived intangible assets are performed on an annual basis. All of our other recorded intangible assets are deemed to be finite-lived intangibles, and are thus amortized over their estimated useful lives. Impairment tests for these intangible assets are only performed when a triggering event occurs that may indicate that the carrying value of the intangible may not be recoverable. There was a $7 million impairment of a finite-lived intangible asset and no impairment of finite-lived and indefinite-lived intangible assets in 2017 and 2016, respectively.

Amortization of intangible assets was $287, $321 and $261 million during 2017, 2016 and 2015, respectively. Expected amortization of finite-lived intangible assets recorded as of December 31, 2017 for the next five years is as follows (in millions): 2018—$367; 2019—$328; 2020—$287; 2021—$232; 2022—$180. Amortization expense in future periods will be affected by business acquisitions, software development, licensing agreements, franchise rights purchases and other factors.

NOTE 7. BUSINESS ACQUISITIONS

In January 2017, we acquired Freightex Ltd. ("Freightex"), a U.K.-based asset-light provider of truckload, less-than-truckload and specialized over-the-road services, which was added to our Supply Chain & Freight segment. In June 2017, we acquired Eirpost Group Unlimited Company ("Nightline"), an Ireland-based express delivery and logistics company, which was added to our International Package reporting segment. In November 2017, we acquired STTAS, a global trade compliance management company, which was added to our Supply Chain & Freight segment. These acquisitions were funded with cash from operations and were not material to our consolidated financial position or results of operations.

In December 2016, we acquired Marken, a global provider of supply chain solutions to the life sciences industry and leader in clinical trials, material storage and distribution, for approximately $570 million. The purchase price allocation was completed in the fourth quarter of 2017 and there were no material changes to our estimated fair values of assets acquired and liabilities assumed. The financial results of Marken are included in the Supply Chain & Freight segment from the date of acquisition.

The following table summarizes the fair values of the Marken assets acquired and liabilities assumed at the acquisition date (in millions):

Marken Assets Acquired and (Liabilities) Assumed		
Cash and cash equivalents	$	26
Accounts receivable		34
Other current assets		6
Deferred tax assets		35
Property, plant, and equipment		7
Goodwill		319
Intangible assets		238
Accounts payable and other current liabilities		(29)
Deferred tax liabilities		(66)
Total purchase price	$	570

The goodwill recognized of approximately $319 million is attributable to synergies anticipated from future growth of Marken. None of the goodwill is deductible for income tax purposes.

The intangible assets acquired of approximately $238 million primarily consist of $219 million of customer relationships (amortized over 12 years), $10 million of trade name (amortized over 3 years), $8 million of capitalized software (amortized over 3-5 years) and a $1 million agent network (amortized over 4 years). The carrying value of working capital approximates fair value.

We recognized approximately $8 million of acquisition related costs that were expensed in 2016. These costs are included in "other expenses" within the statements of consolidated income.

NOTE 8. DEBT AND FINANCING ARRANGEMENTS

The following table sets forth the principal amount, maturity or range of maturities, as well as the carrying value of our debt obligations, as of December 31, 2017 and 2016 (in millions). The carrying value of these debt obligations can differ from the principal amount due to the impact of unamortized discounts or premiums and valuation adjustments resulting from interest rate swap hedging relationships.

	Principal Amount	Maturity	Carrying Value 2017	Carrying Value 2016
Commercial paper	$ 3,203	2018	$ 3,203	$ 3,250
Fixed-rate senior notes:				
1.125% senior notes	375	2017	—	374
5.500% senior notes	750	2018	751	769
5.125% senior notes	1,000	2019	1,019	1,043
3.125% senior notes	1,500	2021	1,549	1,584
2.050% senior notes	700	2021	696	—
2.450% senior notes	1,000	2022	979	986
2.350% senior notes	600	2022	597	—
2.500% senior notes	1,000	2023	992	—
2.800% senior notes	500	2024	495	—
2.400% senior notes	500	2026	497	497
3.050% senior notes	1,000	2027	990	—
6.200% senior notes	1,500	2038	1,482	1,481
4.875% senior notes	500	2040	489	489
3.625% senior notes	375	2042	368	367
3.400% senior notes	500	2046	491	491
3.750% senior notes	1,150	2047	1,135	—
Floating-rate senior notes:				
Floating-rate senior notes	350	2021	348	—
Floating-rate senior notes	400	2022	398	—
Floating-rate senior notes	500	2023	496	—
Floating-rate senior notes	1,043	2049-2067	1,032	824
8.375% Debentures:				
8.375% debentures	424	2020	447	461
8.375% debentures	276	2030	282	282
Pound Sterling Notes:				
5.500% notes	90	2031	84	76
5.125% notes	614	2050	586	535
Euro Senior Notes:				
0.375% senior notes	839	2023	832	—
1.625% senior notes	839	2025	833	732
1.000% senior notes	599	2028	595	523
1.500% senior notes	599	2032	594	—
Floating-rate senior notes	599	2020	598	525
Canadian senior notes:				

2.125% senior notes	597	2024	593	—
Capital lease obligations	500	2018– 3005	500	447
Facility notes and bonds	320	2029 – 2045	319	319
Other debt	19	2018 – 2022	19	20
Total debt	$ 24,761		24,289	16,075
Less: current maturities			(4,011)	(3,681)
Long-term debt			$ 20,278	$ 12,394

Debt Issuances

On May 16, 2017 we issued U.S. senior rate notes. These senior notes consist of two separate series, as follows:

- Two series of notes, in the principal amounts of $600 and $400 million, were issued. These notes bear interest at a 2.350% fixed rate and at three-month LIBOR plus 38 basis points, respectively, and mature May 2022. Interest on the fixed-rate senior notes is payable semi-annually, beginning November 2017. Interest on the floating-rate senior notes is payable quarterly beginning August 2017. The 2.350% notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 10 basis points and accrued interest. The floating-rate senior notes are not callable.

On May 18, 2017 we issued Canadian senior notes. These senior notes consist of a single series as follows:

- Notes in the principal amount of C$750 million ($547 million), which bear interest at a 2.125% fixed interest rate and mature May 2024. Interest on the notes is payable semi-annually beginning November 2017. The notes are callable at our option, in whole or in part at the Government of Canada yield plus 21.5 basis points, and on or after the par call date, at par value.

On November 8, 2017, we issued Euro senior rate notes. These senior notes consist of two separate series, as follows:

- Two series of notes, in the principal amount of €700 million ($815 million) and €500 million ($582 million) were issued. These notes bear interest at 0.375% and 1.500% fixed rates, respectively, and mature November 2023 and November 2032, respectively. Interest on these notes is payable annually, beginning in November 2018. The notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable government bond yield plus 10 and 20 basis points, respectively, and accrued interest.

On November 9, 2017, we issued U.S. senior rate notes. These senior notes consist of seven separate series, as follows:

- Notes in the principal amount of $350 million, which bear interest at three-month LIBOR plus 15 basis points and mature April 2021. Interest on the notes is payable quarterly beginning April 2018. These notes are not callable.

- Notes in the principal amount of $500 million, which bear interest at three-month LIBOR plus 45 basis points and mature April 2023. Interest on the notes is payable quarterly beginning April 2018. These notes are not callable.

- Notes in the principal amount of $700 million, which bear interest at a 2.050% fixed rate and mature April 2021. Interest on the fixed-rate senior notes is payable semi-annually, beginning April 2018. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 10 basis points and accrued interest.

- Notes in the principal amount of $1 billion, which bear interest at a 2.500% fixed interest rate and mature April 2023. Interest on the fixed-rate senior notes is payable semi-annually, beginning April 2018. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 10 basis points plus accrued interest. If called within the one month prior to maturity, the redemption price is equal to 100% of the principal amount plus accrued and unpaid interest, if any, to, but excluding the redemption date.

- Notes in the principal amount of $500 million, which bear interest at a 2.800% fixed interest rate and mature November 2024. Interest on the fixed-rate senior notes is payable semi-annually, beginning May 2018. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 10 basis points plus accrued interest. If called within the two months prior to maturity, the redemption price is equal to 100% of the principal amount plus accrued and unpaid interest, if any, to, but excluding the redemption date.

- Notes in the principal amount of $1 billion, which bear interest at a 3.050% fixed interest rate and mature November 2027. Interest on the fixed-rate senior notes is payable semi-annually, beginning May 2018. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 15 basis points plus accrued interest. If called within the three months prior to maturity, the redemption price is equal to 100% of the principal amount plus accrued and unpaid interest, if any, to, but excluding the redemption date.

- Notes in the principal amount of $1.15 billion, which bear interest at a 3.750% fixed interest rate and mature November 2047. Interest on the fixed-rate senior notes is payable semi-annually, beginning May 2018. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the discount rate of the treasury rate plus 15 basis points plus accrued interest. If called within the six months prior to maturity, the redemption price is equal to 100% of the principal amount plus accrued and unpaid interest, if any, to, but excluding the redemption date.

Commercial Paper

We are authorized to borrow up to $10.0 billion under a U.S. commercial paper program and €5.0 billion (in a variety of currencies) under a European commercial paper program. We had the following amounts outstanding under these programs as of December 31, 2017: $2.458 billion with an average interest rate of 1.350% and €622 million ($745 million) with an average interest rate of -0.41%. The amount of commercial paper outstanding under these programs in 2018 is expected to fluctuate.

Fixed-Rate Senior Notes

We have completed several offerings of fixed-rate senior notes. All of the notes pay interest semi-annually, and allow for redemption of the notes by UPS at any time by paying the greater of the principal amount or a "make-whole" amount, plus accrued interest. We subsequently entered into interest rate swaps on several of these notes, which effectively converted the fixed interest rates on the notes to variable LIBOR-based interest rates. The average interest rate payable on these notes, including the impact of the interest rate swaps, for 2017 and 2016, respectively, were as follows:

	Principal			Average Effective Interest Rate	
	Value		Maturity	2017	2016
1.125% senior notes	$	375	2017	1.51 %	1.04 %
5.50% senior notes	$	750	2018	3.45 %	2.94 %
5.125% senior notes	$	1,000	2019	2.98 %	2.49 %
3.125% senior notes	$	1,500	2021	1.34 %	1.40 %
2.45% senior notes	$	1,000	2022	1.78 %	1.26 %

On October 1, 2017, our $375 million 1.125% senior notes matured and were repaid in full.

8.375% Debentures

The 8.375% debentures consist of two separate tranches, as follows:

- $276 million of the debentures have a maturity of April 1, 2030. These debentures have an 8.375% interest rate until April 1, 2020, and, thereafter, the interest rate will be 7.62% for the final 10 years. These debentures are redeemable in whole or in part at our option at any time. The redemption price is equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption (at a benchmark treasury yield plus five basis points) plus accrued interest.

- $424 million of the debentures have a maturity of April 1, 2020. These debentures are not subject to redemption prior to maturity.

Interest is payable semi-annually in April and October for both tranches and neither tranche is subject to sinking fund requirements. We subsequently entered into interest rate swaps on the 2020 debentures, which effectively converted the fixed interest rates on the debentures to variable LIBOR-based interest rates. The average interest rate payable on the 2020 debentures, including the impact of the interest rate swaps, for 2017 and 2016 was 5.95% and 5.43%, respectively.

Floating-Rate Senior Notes

The floating-rate senior notes with principal amounts totaling $1.043 billion, bear interest at either one or three-month LIBOR, less a spread ranging from 30 to 45 basis points. The average interest rate for 2017 and 2016 was 0.74% and 0.21%, respectively. These notes are callable at various times after 30 years at a stated percentage of par value, and putable by the note holders at various times after one year at a stated percentage of par value. The notes have maturities ranging from 2049 through 2067. We classified the floating-rate senior notes that are putable by the note holder as a long-term liability, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

In March and November 2017, we issued floating-rate senior notes in the principal amounts of $147 and $64 million, respectively, which are included in the $1.043 billion floating-rate senior notes described above. These notes will bear interest at three-month LIBOR less 30 and 35 basis points, respectively and mature in 2067.

The remaining three floating-rate senior notes in the principal amounts of $350, $400 and $500 million, bear interest at three-month LIBOR, plus a spread ranging from 15 to 45 basis points. The average interest rate for 2017 and 2016 was 0.50% and 0.0%, respectively. These notes are not callable. The notes have maturities ranging from 2021 through 2023. We classified the floating-rate senior notes that are putable by the note holder as a long-term liability, due to our intent and ability to refinance the debt if the put option is exercised by the note holder.

Capital Lease Obligations

We have certain property, plant and equipment subject to capital leases. Some of the obligations associated with these capital leases have been legally defeased. The recorded value of our property, plant and equipment subject to capital leases is as follows as of December 31 (in millions):

	2017	2016
Vehicles	$ 70	$ 68
Aircraft	2,291	2,291
Buildings	285	190
Accumulated amortization	(990)	(896)
Property, plant and equipment subject to capital leases	$ 1,656	$ 1,653

These capital lease obligations have principal payments due at various dates from 2018 through 3005.

Facility Notes and Bonds

We have entered into agreements with certain municipalities to finance the construction of, or improvements to, facilities that support our U.S. Domestic Package and Supply Chain & Freight operations in the United States. These facilities are located around airport properties in Louisville, Kentucky; Dallas, Texas; and Philadelphia, Pennsylvania. Under these arrangements, we enter into a lease or loan agreement that covers the debt service obligations on the bonds issued by the municipalities, as follows:

- Bonds with a principal balance of $149 million issued by the Louisville Regional Airport Authority associated with our Worldport facility in Louisville, Kentucky. The bonds, which are due in January 2029, bear interest at a variable rate, and the average interest rates for 2017 and 2016 were 0.83% and 0.37%, respectively.

- Bonds with a principal balance of $42 million and due in November 2036 issued by the Louisville Regional Airport Authority associated with our air freight facility in Louisville, Kentucky. The bonds bear interest at a variable rate, and the average interest rates for 2017 and 2016 were 0.80% and 0.36%, respectively.

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Bonds with a principal balance of $29 million issued by the Dallas / Fort Worth International Airport Facility Improvement Corporation associated with our Dallas, Texas airport facilities. The bonds are due in May 2032 and bear interest at a variable rate, however the variable cash flows on the obligation have been swapped to a fixed 5.11%.

- In September 2015, we entered into an agreement with the Delaware County, Pennsylvania Industrial Development Authority, associated with our Philadelphia, Pennsylvania airport facilities, for bonds issued with a principal balance of $100 million. These bonds, which are due September 2045, bear interest at a variable rate. The average interest rate for 2017 and 2016 was 0.78% and 0.40%, respectively.

Pound Sterling Notes

The Pound Sterling notes consist of two separate tranches, as follows:

- Notes with a principal amount of £66 million accrue interest at a 5.50% fixed rate, and are due in February 2031. These notes are not callable.

- Notes with a principal amount of £455 million accrue interest at a 5.125% fixed rate, and are due in February 2050. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount and accrued interest, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption at a benchmark U.K. government bond yield plus 15 basis points and accrued interest.

Euro Senior Notes

The remaining euro senior notes consist of three separate issuances, as follows:

- Notes in the principal amount of €500 million accrue interest at a 1% fixed rate and are due in November 2028. Interest is payable annually on the notes, commencing in November 2017. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amounts, or the sum of the present values of the remaining schedule payments of principal and interest thereon discounted to the date of redemption at a benchmark comparable German government bond yield plus 15 basis points and accrued interest.

- Notes with a principal amount of €500 million accrue interest at a variable rate equal to three-month EURIBOR plus 43 basis points and are due in July 2020. Interest is payable quarterly on the notes, commencing in April 2016. These notes are not callable. The senior notes bear interest at a variable rate, and the average interest rates for 2017 and 2016 were 0.10% and 0.19%, respectively.

- Notes with a principal amount of €700 million accrue interest at a 1.625% fixed rate and are due in November 2025. Interest is payable annually on the notes, commencing in November 2016. These notes are callable at our option at a redemption price equal to the greater of 100% of the principal amount, or the sum of the present values of the remaining scheduled payout of principal and interest thereon discounted to the date of redemption at a benchmark German government bond yield plus 20 basis points and accrued interest.

Contractual Commitments

We lease certain aircraft, facilities, land, equipment and vehicles under operating leases, which expire at various dates through 2040. Certain of the leases contain escalation clauses and renewal or purchase options. Rent expense related to our operating leases was $804, $686 and $669 million for 2017, 2016 and 2015, respectively.

The following table sets forth the aggregate minimum lease payments under capital and operating leases, the aggregate annual principal payments due under our long-term debt and the aggregate amounts expected to be spent for purchase commitments (in millions).

Year	Capital Leases	Operating Leases	Debt Principal	Purchase Commitments (1)
2018	$ 81	$ 398	$ 3,960	$ 3,789
2019	79	305	1,009	2,462
2020	69	239	1,024	2,428
2021	49	186	2,551	1,926
2022	45	138	2,000	323

After 2022	500	371	13,342	13
Total	823	$ 1,637	$ 23,886	$ 10,941
Less: imputed interest	(323)			
Present value of minimum capitalized lease payments	500			
Less: current portion	(51)			
Long-term capitalized lease obligations	$ 449			

(1) Purchase commitments include our announcement on February 1, 2018 for 14 new Boeing 747-8 freighters and four new Boeing 767 aircraft.

As of December 31, 2017, we had outstanding letters of credit totaling approximately $1.084 billion issued in connection with our self-insurance reserves and other routine business requirements. We also issue surety bonds as an alternative to letters of credit in certain instances, and as of December 31, 2017, we had $932 million of surety bonds written.

Available Credit

We maintain two credit agreements with a consortium of banks. One of these agreements provides revolving credit facilities of $1.5 billion, and expires on March 23, 2018. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) JPMorgan Chase Bank's publicly announced prime rate, (2) the Federal Funds effective rate plus 0.50%, and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, subject to a minimum rate of 0.10% and a maximum rate of 0.75%. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not lower than 0.00%). We are also able to request advances under this facility based on competitive bids for the applicable interest rate. There were no amounts outstanding under this facility as of December 31, 2017.

The second agreement provides revolving credit facilities of $3.0 billion, and expires on March 24, 2022. Generally, amounts outstanding under this facility bear interest at a periodic fixed rate equal to LIBOR for the applicable interest period and currency denomination, plus an applicable margin. Alternatively, a fluctuating rate of interest equal to the highest of (1) JPMorgan Chase Bank's publicly announced prime rate, (2) the Federal Funds effective rate plus 0.50%, and (3) LIBOR for a one month interest period plus 1.00%, plus an applicable margin, may be used at our discretion. In each case, the applicable margin for advances bearing interest based on LIBOR is a percentage determined by quotations from Markit Group Ltd. for our 1-year credit default swap spread, interpolated for a period from the date of determination of such credit default swap spread in connection with a new interest period until the latest maturity date of this facility then in effect (but not less than a period of one year). The minimum applicable margin rate is 0.10% and the maximum applicable margin rate is 0.75% per annum. The applicable margin for advances bearing interest based on the prime rate is 1.00% below the applicable margin for LIBOR advances (but not less than 0.00%). We are also able to request advances under this facility based on competitive bids. There were no amounts outstanding under this facility as of December 31, 2017.

Debt Covenants

Our existing debt instruments and credit facilities subject us to certain financial covenants. As of December 31, 2017 and for all prior periods presented, we have satisfied these financial covenants. These covenants limit the amount of secured indebtedness that we may incur, and limit the amount of attributable debt in sale-leaseback transactions, to 10% of net tangible assets. As of December 31, 2017, 10% of net tangible assets is equivalent to $2.686 billion; however, we have no covered sale-leaseback transactions or secured indebtedness outstanding. We do not expect these covenants to have a material impact on our financial condition or liquidity.

Fair Value of Debt

Based on the borrowing rates currently available to the Company for long-term debt with similar terms and maturities, the fair value of long-term debt, including current maturities, is approximately $25.206 and $17.134 billion as of December 31, 2017 and 2016, respectively. We utilized Level 2 inputs in the fair value hierarchy of valuation techniques to determine the fair value of all of our debt instruments.

NOTE 9. LEGAL PROCEEDINGS AND CONTINGENCIES

We are involved in a number of judicial proceedings and other matters arising from the conduct of our business activities.

Although there can be no assurance as to the ultimate outcome, we have generally denied, or believe we have a meritorious defense and will deny, liability in all litigation pending against us, including (except as otherwise noted herein) the matters described below, and we intend to defend vigorously each case. We have accrued for legal claims when, and to the extent that, amounts associated with the claims become probable and can be reasonably estimated. The actual costs of resolving legal claims may be substantially higher or lower than the amounts accrued for those claims.

For those matters as to which we are not able to estimate a possible loss or range of loss, we are not able to determine whether the loss will have a material adverse effect on our business, financial condition or results of operations or liquidity. For matters in this category, we have indicated in the descriptions that follow the reasons that we are unable to estimate the possible loss or range of loss.

Judicial Proceedings

We are a defendant in a number of lawsuits filed in state and federal courts containing various class action allegations under state wage-and-hour laws. At this time, we do not believe that any loss associated with these matters would have a material adverse effect on our financial condition, results of operations or liquidity.

UPS and our subsidiary The UPS Store, Inc. are defendants in Morgate v. The UPS Store, Inc. et al., an action in the Los Angeles Superior Court brought on behalf of a certified class of all franchisees who chose to rebrand their Mail Boxes Etc. franchises to The UPS Store in March 2003. Plaintiff alleges that UPS and The UPS Store, Inc. misrepresented and omitted facts to the class about the market tests that were conducted before offering the class the choice of whether to rebrand to The UPS Store. Defendants' motion to decertify the class was granted in August 2017. The plaintiff has filed a notice of appeal, and further proceedings in the trial court are stayed pending resolution by the California Court of Appeal. There are multiple factors that prevent us from being able to estimate the amount of loss, if any, that may result from the remaining aspects of this case, including: (1) we are vigorously defending ourselves and believe we have a number of meritorious legal defenses; (2) it remains uncertain what evidence of damages, if any, plaintiffs will be able to present; and (3) plaintiff's notice of appeal is pending. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

In AFMS LLC v. UPS and FedEx Corporation, a lawsuit filed in federal court in the Central District of California in August 2010, the plaintiff asserts that UPS and FedEx violated U.S. antitrust law by conspiring to refuse to negotiate with third-party negotiators retained by shippers and by individually imposing policies that prevent shippers from using such negotiators. The Court granted summary judgment motions filed by UPS and FedEx, entered judgment in favor of UPS and FedEx, and dismissed the case. Plaintiff appealed to the Court of Appeals for the Ninth Circuit. In August 2017, the Ninth Circuit affirmed the District Court's order dismissing the case. AFMS filed a petition for rehearing in September 2017, which was denied. AFMS filed a Petition for Writ of Certiorari in the Supreme Court in January 29, 2018. The Antitrust Division of the U.S. Department of Justice ("DOJ") opened a civil investigation of our policies and practices for dealing with third-party negotiators. We have cooperated with this investigation, although the DOJ has not communicated with us for over five years. We deny any liability with respect to these matters and intend to vigorously defend ourselves in the event that any of these proceedings were to continue. There are multiple factors that prevent us from being able to estimate the amount of loss, if any, that may result from these matters including: (1) the DOJ investigation may be pending and (2) AFMS filed a petition for discretionary review by the U.S. Supreme Court. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from these matters or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

We are a defendant in Ryan Wright and Julia Zislin v. United Parcel Service Canada Ltd., an action brought on behalf of a certified class of customers in the Superior Court of Justice in Ontario, Canada. Plaintiffs filed suit in February 2007, alleging inadequate disclosure concerning the existence and cost of brokerage services provided by us under applicable provincial consumer protection legislation and infringement of interest restriction provisions under the Criminal Code of Canada. Partial summary judgment was granted to us and the plaintiffs by the Ontario motions court in August 2011, when it dismissed plaintiffs' complaint under the Criminal Code and granted plaintiffs' complaint of inadequate disclosure. We appealed the Court's decision pertaining to inadequate disclosure in September 2011. In October 2017, we reached an agreement in principle to resolve the case for an immaterial amount. Final resolution of this matter is subject to the negotiation, execution and delivery of a settlement agreement and court approval.

In February 2015, the State and City of New York filed suit against UPS in the U.S. District Court for the Southern District of New York, arising from alleged shipments of cigarettes to New York State and City residents. The complaint asserted claims under various federal and state laws. The complaint also included a claim that UPS violated the Assurance of Discontinuance it entered into with the New York Attorney General in 2005 concerning cigarette deliveries. On March 24, 2017, the District Court issued an opinion and order finding liability against UPS on each of the plaintiffs' causes of action. On May 25, 2017, the District Court issued a corrected opinion and order on liability and an order awarding the plaintiffs damages of $9.4 million and penalties of $237.6 million. An accrual of $9.4 million with respect to the damages awarded by the court is included on our consolidated balance sheet at December 31, 2017. We estimate that the amount of losses could be up to $247 million, plus interest; however, the amount of penalties ultimately payable, if any, is subject to a variety of complex factors and potential outcomes that remain to be determined in future legal proceedings. Consequently, we are unable to reasonably estimate a likely amount of loss within that range. We strongly disagree with the District Court's analysis and conclusions, and have appealed to the United States Court of Appeals for the Second Circuit. UPS filed its opening brief with the Appellate Court in October 2017.

Other Matters

In October 2015, the DOJ informed us of an industry-wide inquiry into the transportation of mail under the United States Postal Service ("USPS") International Commercial Air contracts. In October 2017, we received a Civil Investigative Demand seeking certain information relating to our contracts. The DOJ has indicated it is investigating potential violations of the False Claims Act or other statutes. We are cooperating with the DOJ. The Company is unable to predict what action, if any, might be taken in the future by any government authorities as a result of their investigation. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

In August 2016, Spain's National Markets and Competition Commission ("CNMC") opened an investigation into 10 companies in the commercial delivery and parcel industry, including UPS, related to alleged nonaggression agreements to allocate customers. In May 2017, UPS received a Statement of Objections issued by the CNMC. In July 2017, UPS received a Decision Proposal from the CNMC. These documents do not prejudge the final decision (which is subject to appeal) as to facts or law. There are multiple factors that prevent us from being able to estimate the amount of loss, if any, that may result from this matter, including: (1) we are vigorously defending ourselves and believe that we have a number of meritorious legal defenses; and (2) there are unresolved questions of law and fact that could be important to the ultimate resolution of this matter. Accordingly, at this time, we are not able to estimate a possible loss or range of loss that may result from this matter or to determine whether such loss, if any, would have a material adverse effect on our financial condition, results of operations or liquidity.

We are a defendant in various other lawsuits that arose in the normal course of business. We do not believe that the eventual resolution of these other lawsuits (either individually or in the aggregate), including any reasonably possible losses in excess of current accruals, will have a material adverse effect on our financial condition, results of operations or liquidity.

NOTE 10. SHAREOWNERS' EQUITY

Capital Stock, Additional Paid-In Capital and Retained Earnings

We maintain two classes of common stock, which are distinguished from each other by their respective voting rights. Class A shares of UPS are entitled to 10 votes per share, whereas class B shares are entitled to one vote per share. Class A shares are primarily held by UPS employees and retirees, as well as trusts and descendants of the Company's founders, and these shares are fully convertible into class B shares at any time. Class B shares are publicly traded on the New York Stock Exchange ("NYSE") under the symbol "UPS". Class A and B shares both have a $0.01 par value, and as of December 31, 2017, there were 4.6 billion class A shares and 5.6 billion class B shares authorized to be issued. Additionally, there are 200 million preferred shares authorized to be issued, with a par value of $0.01 per share; as of December 31, 2017, no preferred shares had been issued.

The following is a rollforward of our common stock, additional paid-in capital and retained earnings accounts (in millions, except per share amounts):

	2017		2016		2015	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Class A Common Stock:						
Balance at beginning of year	180	$ 2	194	$ 2	201	$ 2
Common stock purchases	(4)	—	(4)	—	(4)	—
Stock award plans	4	—	5	—	5	—
Common stock issuances	3	—	2	—	3	—
Conversions of class A to class B common stock	(10)	—	(17)	—	(11)	—
Class A shares issued at end of year	173	$ 2	180	$ 2	194	$ 2
Class B Common Stock:						
Balance at beginning of year	689	$ 7	693	$ 7	705	$ 7
Common stock purchases	(12)	—	(21)	—	(23)	—
Conversions of class A to class B common stock	10	—	17	—	11	—
Class B shares issued at end of year	687	$ 7	689	$ 7	693	$ 7
Additional Paid-In Capital:						
Balance at beginning of year		$ —		$ —		$ —
Stock award plans		396		541		492
Common stock purchases		(813)		(898)		(791)
Common stock issuances		363		303		316
Option premiums received (paid)		54		54		(17)
Balance at end of year		$ —		$ —		$ —
Retained Earnings:						
Balance at beginning of year		$ 4,879		$ 6,001		$ 5,726
Net income attributable to controlling interests		4,910		3,431		4,844
Dividends ($3.32, $3.12, and $2.92 per share)		(2,928)		(2,771)		(2,649)
Common stock purchases		(1,003)		(1,782)		(1,920)
Balance at end of year		$ 5,858		$ 4,879		$ 6,001

For the years ended December 31, 2017, 2016 and 2015, we repurchased a total of 16.1, 25.2 and 26.8 million shares of class A and class B common stock for $1.816, $2.680 and $2.711 billion, respectively ($1.813, $2.678 and $2.702 billion in repurchases for 2017, 2016 and 2015, respectively, are reported on the cash flow statement due to the timing of settlements). During the first quarter of 2016, we also exercised a capped call option that we entered in 2015 for which we received 0.2 million UPS class B shares. The $25 million premium payment for this capped call option reduced shareowners' equity in 2015. In total, shares repurchased and received the twelve months ended December 31, 2016 were 25.4 million shares for $2.705 billion. In May 2016, the Board of Directors approved a new share repurchase authorization of $8.0 billion, which replaced an authorization previously announced in 2013. This new share repurchase authorization has no expiration date. As of December 31, 2017, we had $4.339 billion of this share repurchase authorization remaining.

From time to time, we enter into share repurchase programs with large financial institutions to assist in our buyback of company stock. These programs allow us to repurchase our shares at a price below the weighted average UPS share price for a given period. During the fourth quarter of 2016, we entered into an accelerated share repurchase program, which allowed us to repurchase $300 million of shares (2.6 million shares). The program was completed in December 2016.

In order to lower the average cost of acquiring shares in our ongoing share repurchase program, we periodically enter into structured repurchase agreements involving the use of capped call options for the purchase of UPS class B shares. We pay a fixed sum of cash upon execution of each agreement in exchange for the right to receive either a pre-determined amount of cash or stock. Upon expiration of each agreement, if the closing market price of our common stock is above the pre-determined price, we will have our initial investment returned with a premium in either cash or shares (at our election). If the closing market price of our common stock is at or below the pre-determined price, we will receive the number of shares specified in the agreement. We received net premiums of $54 and $54 million during 2017 and 2016, respectively, related to entering into and settling capped call options for the purchase of class B shares. As of December 31, 2017, we had outstanding options for the purchase of 0.5 million shares with an average strike price of $101.91 per share that will settle in the first quarter of 2018.

Accumulated Other Comprehensive Income (Loss)

We incur activity in AOCI for unrealized holding gains and losses on available-for-sale securities, foreign currency translation adjustments, unrealized gains and losses from derivatives that qualify as hedges of cash flows and unrecognized pension and postretirement benefit costs. The activity in AOCI is as follows (in millions):

	2017	2016	2015
Foreign Currency Translation Gain (Loss), Net of Tax:			
Balance at beginning of year	$ (1,016)	$ (897)	$ (457)
Translation adjustment (net of tax effect of $(161), $32 and $0)	86	(119)	(440)
Balance at end of year	(930)	(1,016)	(897)
Unrealized Gain (Loss) on Marketable Securities, Net of Tax:			
Balance at beginning of year	(1)	(1)	—
Current period changes in fair value (net of tax effect of $(1), $0 and $(1))	(2)	—	(1)
Reclassification to earnings (net of tax effect of $1, $0 and $0)	1	—	—
Balance at end of year	(2)	(1)	(1)
Unrealized Gain (Loss) on Cash Flow Hedges, Net of Tax:			
Balance at beginning of year	(45)	67	61
Current period changes in fair value (net of tax effect of $(190), $75 and $103)	(316)	124	171
Reclassification to earnings (net of tax effect of $(3), $(142) and $(99))	(5)	(236)	(165)
Balance at end of year	(366)	(45)	67
Unrecognized Pension and Postretirement Benefit Costs, Net of Tax:			
Balance at beginning of year	(3,421)	(2,709)	(3,198)
Reclassification to earnings (net of tax effect of $269, $1,040 and $97)	731	1,783	195
Net actuarial gain (loss) and prior service cost resulting from remeasurements of plan assets and liabilities (net of tax effect of $(180), $(1,460) and $197)	(879)	(2,495)	294
Balance at end of year	(3,569)	(3,421)	(2,709)
Accumulated other comprehensive income (loss) at end of year	$ (4,867)	$ (4,483)	$ (3,540)

Detail of the gains (losses) reclassified from AOCI to the statements of consolidated income for the years ended December 31, 2017, 2016 and 2015 is as follows (in millions):

	2017 Amount Reclassified from AOCI	2016 Amount Reclassified from AOCI	2015 Amount Reclassified from AOCI	Affected Line Item in the Income Statement
Unrealized Gain (Loss) on Marketable Securities:				
Realized gain (loss) on sale of securities	(2)	—	—	Investment income
Income tax (expense) benefit	1	—	—	Income tax expense
Impact on net income	(1)	—	—	Net income
Unrealized Gain (Loss) on Cash Flow Hedges:				
Interest rate contracts	(27)	(26)	(24)	Interest expense
Foreign exchange contracts	—	—	(25)	Interest expense
Foreign exchange contracts	35	404	313	Revenue
Income tax (expense) benefit	(3)	(142)	(99)	Income tax expense
Impact on net income	5	236	165	Net income
Unrecognized Pension and Postretirement Benefit Costs:				
Prior service costs	(200)	(172)	(174)	Compensation and benefits
Remeasurement of benefit obligation	(800)	(2,651)	(118)	Compensation and benefits
Income tax (expense) benefit	269	1,040	97	Income tax expense
Impact on net income	(731)	(1,783)	(195)	Net income
Total amount reclassified for the period	$ (727)	$ (1,547)	$ (30)	Net income

Deferred Compensation Obligations and Treasury Stock

We maintain a deferred compensation plan whereby certain employees were previously able to elect to defer the gains on stock option exercises by deferring the shares received upon exercise into a rabbi trust. The shares held in this trust are classified as treasury stock, and the liability to participating employees is classified as "deferred compensation obligations" in the shareowners' equity section of the consolidated balance sheets. The number of shares needed to settle the liability for deferred compensation obligations is included in the denominator in both the basic and diluted earnings per share calculations. Employees are generally no longer able to defer the gains from stock options exercised subsequent to December 31, 2004.

Activity in the deferred compensation program for the years ended December 31, 2017, 2016 and 2015 is as follows (in millions):

	2017		2016		2015	
	Shares	Dollars	Shares	Dollars	Shares	Dollars
Deferred Compensation Obligations:						
Balance at beginning of year		$ 45		$ 51		$ 59
Reinvested dividends		2		3		3
Benefit payments		(10)		(9)		(11)
Balance at end of year		$ 37		$ 45		$ 51
Treasury Stock:						
Balance at beginning of year	(1)	$ (45)	(1)	$ (51)	(1)	$ (59)
Reinvested dividends	—	(2)	—	(3)	—	(3)

Benefit payments	—	10	—	9	—	11
Balance at end of year	(1)	$ (37)	(1)	$ (45)	(1)	$ (51)

Noncontrolling Interests

We have noncontrolling interests in certain consolidated subsidiaries in our International Package and Supply Chain & Freight segments. Noncontrolling interests increased $6 and $3 million for the years ended December 31, 2017 and 2016, respectively.

NOTE 11. STOCK-BASED COMPENSATION

The UPS Incentive Compensation Plan permits the grant of non-qualified and incentive stock options, stock appreciation rights, restricted stock and stock units, and restricted performance shares and units to eligible employees. The number of shares reserved for issuance under the Incentive Compensation Plan is 27 million. Each share issued pursuant to restricted stock units and restricted performance units (collectively referred to as "Restricted Units"), stock options and other permitted awards will reduce the share reserve by one share. We had 12 million shares available to be issued under the Incentive Compensation Plan as of December 31, 2017.

The primary compensation programs offered under the UPS Incentive Compensation Plan include the UPS Management Incentive Award program, the Coyote Restricted Stock Award, the UPS Long-Term Incentive Performance Award program and the UPS Stock Option program. These awards are discussed in the following paragraphs. The total expense recognized in our income statement under all stock compensation award programs was $584, $591 and $574 million during 2017, 2016 and 2015, respectively. The associated income tax benefit recognized in our income statement was $227, $219 and $215 million during 2017, 2016 and 2015, respectively. The cash income tax benefit received from the exercise of stock options and the lapsing of Restricted Units was $276, $207 and $252 million during 2017, 2016 and 2015, respectively.

Management Incentive Award Program ("MIP")

Non-executive management earning the right to receive the Management Incentive Award are determined annually by the Salary Committee, which is comprised of executive officers of UPS. Awards granted to executive officers are determined annually by the Compensation Committee of the UPS Board of Directors. Our Management Incentive Award program provides, with certain exceptions, that one-half to two-thirds of the annual Management Incentive Award will be made in Restricted Units (depending upon the level of management involved). The other one-third to one-half of the award is electable in the form of cash or unrestricted shares of class A common stock, and is fully vested at the time of grant.

Upon vesting, Restricted Units result in the issuance of the equivalent number of UPS class A common shares after required tax withholdings. Except in the case of death, Restricted Units granted for our Management Incentive Award vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. The entire grant (less estimated forfeitures) is expensed on a straight-line basis over the requisite service period (except in the case of death, disability or retirement, in which case immediate expensing occurs). All Restricted Units granted are subject to earlier cancellation or vesting under certain conditions. Dividends earned on Restricted Units are reinvested in additional Restricted Units at each dividend payable date.

Coyote Restricted Stock Award

In August 2015 we acquired Coyote, a U.S.-based truckload freight brokerage company. During the third quarter of 2015, we granted Restricted Units to certain eligible Coyote management employees. The vesting of Restricted Units granted under this award will vary between one and four years with an equal number of restricted units vesting at each anniversary date (except in the case of death, in which case immediate vesting occurs). The entire grant is expensed on a straight-line basis over the requisite service period (except in the case of death, disability or retirement, in which case immediate expensing occurs).

Long-Term Incentive Performance Award granted prior to 2014

We award Restricted Units in conjunction with our Long-Term Incentive Performance Award program to certain eligible employees. The Restricted Units ultimately granted under the Long-Term Incentive Performance Award program were based upon the achievement of certain performance measures, including growth in consolidated revenue and operating return on invested capital during the performance award cycle, and other measures, including the achievement of an adjusted earnings per share target over the entire three-year performance award cycle. The last award granted under this program fully vested in the first quarter of 2016.

As of December 31, 2017, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our Management Incentive Award program and the Coyote Restricted Stock Award:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Nonvested at January 1, 2017	11,475	$ 94.32		
Vested	(5,100)	90.71		
Granted	3,927	105.62		
Reinvested Dividends	332	N/A		
Forfeited / Expired	(163)	99.70		
Nonvested at December 31, 2017	10,471	$ 99.16	1.38	$ 1,248
Restricted Units Expected to Vest	10,325	$ 99.20	1.38	$ 1,230

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2017, 2016 and 2015 was $105.62, $97.04 and $100.63, respectively. The total fair value of Restricted Units vested was $534, $445 and $564 million in 2017, 2016 and 2015, respectively. As of December 31, 2017, there was $475 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of three years and one month.

Long-Term Incentive Performance Award Program granted after 2013

We award Restricted Units in conjunction with our Long-Term Incentive Performance Award program to certain eligible employees. Beginning with the Long-Term Incentive Performance grant in 2014, the performance targets are equally-weighted among consolidated operating return on invested capital, growth in currency-constant consolidated revenue and total shareowner return relative ("RTSR") to a peer group of companies. The Restricted Units granted under this award vest at the end of a three-year period (except in the case of death, in which case immediate vesting occurs on a prorated basis. In the case of disability and retirement, vesting occurs at the end of the three-year period on a prorated basis). The number of Restricted Units earned will be based on the percentage achievement of the performance targets set forth on the grant date. The range of percentage achievement can vary from 0% to 200% of the target award.

For the two-thirds of the award related to consolidated operating return on invested capital and growth in currency-constant consolidated revenue, we recognize the grant date fair value of these units (less estimated forfeitures) as compensation expense ratably over the vesting period, based on the number of awards expected to be earned. The remaining one-third of the award related to RTSR is valued using a Monte Carlo model. This portion of the award is recognized as compensation expense (less estimated forfeitures) ratably over the vesting period.

The weighted-average assumptions used, by year, and the calculated weighted-average fair values of the RTSR portion of the grants, are as follows:

	2017	2016	2015
Risk-free interest rate	1.46%	1.00%	0.89%
Expected volatility	16.59%	16.46%	15.53%
Weighted-average fair value of units granted	$ 119.29	$ 136.18	$ 63.64
Share payout	113.55%	129.08%	65.86%

There is no expected dividend yield as units earn dividend equivalents.

As of December 31, 2017, we had the following Restricted Units outstanding, including reinvested dividends, that were granted under our Long-Term Incentive Performance Award program:

	Shares (in thousands)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Nonvested at January 1, 2017	1,683	$ 101.36		
Vested	(839)	97.11		
Granted	958	105.65		
Reinvested Dividends	73	N/A		
Forfeited / Expired	(88)	103.87		
Nonvested at December 31, 2017	1,787	$ 105.58	1.53	$ 213
Performance Units Expected to Vest	1,699	$ 105.72	1.54	$ 202

The fair value of each Restricted Unit is the NYSE closing price of class B common stock on the date of grant. The weighted-average grant date fair value of Restricted Units granted during 2017, 2016 and 2015 was $105.65, $105.50 and $96.64, respectively. The total fair value of Restricted Units vested was $71, $13 and $5 million in 2017, 2016 and 2015, respectively. As of December 31, 2017, there was $100 million of total unrecognized compensation cost related to nonvested Restricted Units. That cost is expected to be recognized over a weighted-average period of one year and nine months.

Non-qualified Stock Options

We maintain fixed stock option plans, under which options are granted to purchase shares of UPS class A common stock. Stock options granted in connection with the UPS Incentive Compensation Plan must have an exercise price at least equal to the NYSE closing price of UPS class B common stock on the date the option is granted.

Executive officers and certain senior managers receive a non-qualified stock option grant annually, in which the value granted is determined as a percentage of salary. Options granted generally vest over a five-year period with approximately 20% of the award vesting at each anniversary date of the grant. All options granted are subject to earlier cancellation or vesting under certain conditions. The options granted will expire ten years after the date of the grant. Option holders may exercise their options via the tender of cash or class A common stock and new class A shares are issued upon exercise.

The following is an analysis of options to purchase shares of class A common stock issued and outstanding:

	Shares (in thousands)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding at January 1, 2017	1,828	$ 80.45		
Exercised	(802)	71.57		
Granted	272	106.87		
Forfeited / Expired	(7)	70.90		
Outstanding at December 31, 2017	1,291	$ 91.58	6.30	$ 36
Options Vested and Expected to Vest	1,291	$ 91.58	6.30	$ 36
Exercisable at December 31, 2017	757	$ 83.28	4.80	$ 27

The fair value of each option grant is estimated using the Black-Scholes option pricing model. The weighted-average assumptions used, by year, and the calculated weighted-average fair values of options, are as follows:

	2017	2016	2015
Expected dividend yield	2.89 %	2.95 %	2.63 %
Risk-free interest rate	2.15 %	1.62 %	2.07 %
Expected life in years	7.5	7.5	7.5
Expected volatility	17.81 %	22.40 %	20.61 %
Weighted-average fair value of options granted	$ 14.70	$ 16.46	$ 18.07

Expected volatilities are based on the historical returns on our stock and the implied volatility of our publicly-traded options. The expected dividend yield is based on the recent historical dividend yields for our stock, taking into account changes in dividend policy. The risk-free interest rate is based on the term structure of interest rates at the time of the option grant. The expected life represents an estimate of the period of time options are expected to remain outstanding, and we have relied upon a combination of the observed exercise behavior of our prior grants with similar characteristics, the vesting schedule of the grants and an index of peer companies with similar grant characteristics in estimating this variable.

We received cash of $41, $72 and $56 million during 2017, 2016 and 2015, respectively, from option holders resulting from the exercise of stock options. The total intrinsic value of options exercised during 2017, 2016 and 2015 was $22, $24 and $31 million, respectively. As of December 31, 2017, there was $1 million of total unrecognized compensation cost related to nonvested options. That cost is expected to be recognized over a weighted-average period of three years and six months.

The following table summarizes information about stock options outstanding and exercisable at December 31, 2017:

	Options Outstanding			Options Exercisable	
Exercise Price Range	**Shares (in thousands)**	**Weighted-Average Remaining Contractual Term (in years)**	**Weighted-Average Exercise Price**	**Shares (in thousands)**	**Weighted-Average Exercise Price**
$55.01 - $70.00	131	1.89	$ 61.97	131	$ 61.97
$70.01 - $80.00	223	3.30	75.12	223	75.12
$80.01 - $90.00	141	5.17	82.88	127	82.87
$90.01 - $110.00	796	8.07	102.59	276	100.11
	1,291	6.30	$ 91.58	757	$ 83.28

Discounted Employee Stock Purchase Plan

We maintain an employee stock purchase plan for all eligible employees. Under this plan, shares of UPS class A common stock may be purchased at quarterly intervals at 95% of the NYSE closing price of UPS class B common stock on the last day of each quarterly period. Employees purchased 0.9, 0.9 and 0.9 million shares at average prices of $108.98, $99.27 and $95.41 per share during 2017, 2016 and 2015, respectively. This plan is not considered to be compensatory, and therefore no compensation cost is measured for the employees' purchase rights.

NOTE 12. SEGMENT AND GEOGRAPHIC INFORMATION

We report our operations in three segments: U.S. Domestic Package operations, International Package operations and Supply Chain & Freight operations. Package operations represent our most significant business and are broken down into regional operations around the world. Regional operations managers are responsible for both domestic and export products within their geographic area.

U.S. Domestic Package

Domestic Package operations include the time-definite delivery of letters, documents and packages throughout the United States.

International Package

International Package operations include delivery to more than 220 countries and territories worldwide, including shipments wholly outside the United States, as well as shipments with either origin or destination outside the United States. Our International Package reporting segment includes the operations of our Europe, Asia, Americas and ISMEA operating segments.

Supply Chain & Freight

Supply Chain & Freight includes our Forwarding, Logistics, Coyote, Marken, UPS Mail Innovations, UPS Freight and other aggregated business units. Our Forwarding, Logistics and UPS Mail Innovations units provide services in more than 200 countries and territories worldwide and include international air and ocean freight forwarding, customs brokerage, distribution and post-sales services, mail and consulting services. UPS Freight offers a variety of LTL and TL services to customers in North America. Coyote offers truckload brokerage services primarily in the United States. Marken is a global provider of supply chain solutions to the life sciences industry. Other aggregated business units within this segment include The UPS Store and UPS Capital.

In evaluating financial performance, we focus on operating profit as a segment’s measure of profit or loss. Operating profit is before investment income and other, interest expense and income taxes. The accounting policies of the segments are the same as those described in the "Items Affecting Comparability" section of Management's Discussion and Analysis, with certain expenses allocated between the segments using activity-based costing methods. Unallocated assets are comprised primarily of cash, marketable securities and certain investment partnerships.

Segment information for the years ended December 31, 2017, 2016 and 2015 is as follows (in millions):

	2017	2016	2015
Revenue:			
U.S. Domestic Package	$ 40,764	$ 38,301	$ 36,747
International Package	13,338	12,350	12,149
Supply Chain & Freight	11,770	10,255	9,467
Consolidated	$ 65,872	$ 60,906	$ 58,363
Operating Profit:			
U.S. Domestic Package	$ 4,280	$ 3,017	$ 4,767
International Package	2,464	2,044	2,137
Supply Chain & Freight	785	406	764
Consolidated	$ 7,529	$ 5,467	$ 7,668
Assets:			
U.S. Domestic Package	$ 27,121	$ 23,191	$ 21,701
International Package	8,544	8,193	7,858
Supply Chain & Freight	8,241	7,806	7,728
Unallocated	1,497	1,187	1,024
Consolidated	$ 45,403	$ 40,377	$ 38,311
Depreciation and Amortization Expense:			
U.S. Domestic Package	$ 1,479	$ 1,479	$ 1,408
International Package	509	491	475
Supply Chain & Freight	294	254	201
Consolidated	$ 2,282	$ 2,224	$ 2,084

Revenue by product type for the years ended December 31, 2017, 2016 and 2015 is as follows (in millions):

	2017	2016	2015
U.S. Domestic Package:			
Next Day Air	$ 7,088	$ 6,752	$ 6,570
Deferred	4,421	4,082	3,903
Ground	29,255	27,467	26,274
Total U.S. Domestic Package	40,764	38,301	36,747
International Package:			
Domestic	2,645	2,441	2,425
Export	10,167	9,374	9,092
Cargo	526	535	632
Total International Package	13,338	12,350	12,149
Supply Chain & Freight:			
Forwarding and Logistics	7,981	6,793	5,900
Freight	2,998	2,736	2,881
Other	791	726	686
Total Supply Chain & Freight	11,770	10,255	9,467
Consolidated	$ 65,872	$ 60,906	$ 58,363

Geographic information for the years ended December 31, 2017, 2016 and 2015 is as follows (in millions):

	2017	2016	2015
United States:			
Revenue	$ 51,936	$ 48,013	$ 45,309
Long-lived assets	$ 22,638	$ 19,253	$ 18,196
International:			
Revenue	$ 13,936	$ 12,893	$ 13,054
Long-lived assets	$ 6,382	$ 5,898	$ 5,828
Consolidated:			
Revenue	$ 65,872	$ 60,906	$ 58,363
Long-lived assets	$ 29,020	$ 25,151	$ 24,024

Long-lived assets include property, plant and equipment, pension and postretirement benefit assets, long-term investments, goodwill and intangible assets.

No countries outside of the United States, nor any individual customers, provided 10% or more of consolidated revenue for the years ended December 31, 2017, 2016 or 2015.

NOTE 13. INCOME TAXES

The income tax expense (benefit) for the years ended December 31, 2017, 2016 and 2015 consists of the following (in millions):

	2017	2016	2015
Current:			
U.S. Federal	$ 671	$ 1,338	$ 1,634
U.S. State and Local	49	67	88
Non-U.S.	288	177	236
Total Current	1,008	1,582	1,958
Deferred:			
U.S. Federal	1,121	103	469
U.S. State and Local	118	31	65
Non-U.S.	(9)	(11)	6
Total Deferred	1,230	123	540
Total Income Tax Expense	$ 2,238	$ 1,705	$ 2,498

Income before income taxes includes the following components (in millions):

	2017	2016	2015
United States	$ 5,998	$ 4,322	$ 6,348
Non-U.S.	1,150	814	994
Total Income Before Income Taxes:	$ 7,148	$ 5,136	$ 7,342

A reconciliation of the statutory federal income tax rate to the effective income tax rate for the years ended December 31, 2017, 2016 and 2015 consists of the following:

	2017	2016	2015
Statutory U.S. federal income tax rate	35.0 %	35.0 %	35.0 %
U.S. state and local income taxes (net of federal benefit)	1.5	1.5	1.7
Non-U.S. tax rate differential	(2.0)	(2.4)	(1.2)
Nondeductible/nontaxable items	(0.1)	0.8	0.2
U.S. federal tax credits	(1.8)	(1.2)	(1.3)
Income tax benefit from the Tax Cuts and Jobs Act and other non-U.S. tax law changes	(3.6)	—	—
Defined benefit plans mark-to-market charge tax rate differential (1)	1.5	—	—
Other	0.8	(0.5)	(0.4)
Effective income tax rate	31.3 %	33.2 %	34.0 %

(1) Impact of applying Tax Act corporate rate enacted of 21% versus 35%

Our effective tax rate is affected by recurring factors, such as statutory tax rates in the jurisdictions we operate in and the relative amounts of taxable income we earn in those jurisdictions. It is also affected by discrete items that may occur in any given year, but may not be consistent from year to year.

Our effective tax rate decreased to 31.3% in 2017, compared with 33.2% in 2016 and 34.0% in 2015, primarily due to the effects of the aforementioned recurring factors and the following discrete tax items:

Tax Cuts and Jobs Act

On December 22, 2017, the United States enacted into law the Tax Act. The Tax Act makes broad and complex changes to the U.S. tax code, including a permanent corporate rate reduction to 21% and a transition to a territorial international system effective in 2018. The Tax Act also includes provisions that affect 2017, including: (1) requiring a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries ("Transition Tax") that is payable over eight years; (2) requiring a remeasurement of all U.S. deferred tax assets and liabilities to the newly enacted corporate tax rate of 21%; and (3) providing for additional first-year depreciation that allows full expensing of qualified property placed into service after September 27, 2017.

In late December 2017, the SEC staff issued SAB 118, which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the related accounting under U.S. GAAP. If a company's accounting for certain income tax effects of the Tax Act is incomplete, but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. Accordingly, we have recorded provisional estimates related to our Transition Tax liability, our change in indefinite reinvestment assertion for certain foreign subsidiaries and the remeasurement of our U.S. net deferred tax liabilities.

To calculate the amount of the Transition Tax, we must determine, in addition to other factors, the amount of post-1986 earnings and profits ("E&P") of the foreign subsidiaries as well as the amount of non-U.S. income taxes paid on such earnings. We are able to make a reasonable estimate of the Transition Tax and recorded a provisional liability of $310 million; however, there are certain factors that could impact our provisional estimate.

First, several of our foreign subsidiaries have a fiscal year-end, and E&P for these subsidiaries cannot be precisely calculated until their fiscal years conclude during 2018. Second, we continue to gather additional information needed to precisely estimate the impact of the Transition Tax on our U.S. state and local tax liabilities given the complexity of the relevant state laws. Finally, we expect additional regulatory guidance and technical clarifications from the U.S. Department of the Treasury and Internal Revenue Service within the next 12 months that could change our provisional estimate of the Transition Tax.

Undistributed E&P of our foreign subsidiaries amounted to $5.002 billion at December 31, 2017. As the U.S. has moved to a territorial system, we have changed our indefinite reinvestment assertion with respect to the earnings of certain foreign subsidiaries. As a result, we have recorded a provisional deferred tax liability and corresponding increase to deferred tax expense of $24 million. There are certain factors, discussed above with regard to the Transition Tax, which could also impact our provisional estimate for the change in indefinite reinvestment assertion. For all other foreign subsidiaries, we continue to assert that these earnings are indefinitely reinvested. $1.335 billion of the undistributed E&P of our foreign subsidiaries is considered to be indefinitely reinvested and, accordingly, no deferred income taxes have been provided thereon. Upon distribution of those earnings in the form of dividends or otherwise, we would be subject to U.S. state and local taxes and withholding taxes payable in various jurisdictions. Determination of the amount of unrecognized deferred income tax liability is not practicable because of the complexities associated with its hypothetical calculation. We will continue to evaluate our indefinite reinvestment assertion for all foreign subsidiaries in light of the Tax Act, and our provisional estimate is subject to change.

For our net U.S. deferred tax liabilities, we have recorded a provisional decrease of $606 million with a corresponding reduction to deferred tax expense of $606 million for the year ended December 31, 2017. While we are able to make a reasonable estimate of the impact of the reduction in corporate rate, it may be affected by other analyses related to the Tax Act, including, but not limited to, completing the analysis of our 2017 capital expenditures that qualify for full expensing and the state tax effect of adjustments made to federal temporary differences.

Other 2017 Discrete Items

In the fourth quarter of 2017, we recognized an income tax benefit of $193 million related to pre-tax mark-to-market losses of $800 million on our pension and postretirement defined benefit plans.This income tax benefit was generated at a lower average statutory tax rate than the 2017 U.S. federal statutory tax rate due to future tax rate changes enacted by the Tax Act and differences between U.S. and foreign statutory rates, which was partially offset by the effect of U.S. state and local taxes.

In the fourth quarter of 2017, tax law changes were enacted in certain non-U.S. jurisdictions in which we operate. As a result, we have recorded a decrease to our foreign net deferred tax assets of $14 million with a corresponding net increase to deferred tax expense of $14 million for the year ended December 31, 2017.

In the first quarter of 2017, we adopted a new accounting standard that requires the recognition of excess tax benefits related to share-based compensation in income tax expense, which resulted in tax benefits for the year ended December 31, 2017 of $71 million and reduced our effective tax rate by 1.0%.

2016 Discrete Items

In the fourth quarter of 2016, we recognized an income tax benefit of $978 million related to pre-tax mark-to-market losses of $2.651 billion on our pension and postretirement defined benefit plans. This income tax benefit was generated at a higher average statutory tax rate than the U.S. federal statutory tax rate because it included the effect of U.S. state and local taxes.

2015 Discrete Items

During the third quarter of 2015 and after the filing of our annual federal tax returns, we reconciled our deferred tax balances and identified adjustments to be made with respect to prior years' deferred tax balances. The adjustments resulted in a reduction of income tax expense of $66 million.

In connection with our acquisition of Coyote Logistics in 2015, we distributed $500 million of cash held by a Canadian subsidiary to its U.S. parent during the fourth quarter of 2015. As a result of the distribution, we recorded additional net income tax expense of $28 million.

In the fourth quarter of 2015, we recognized an income tax benefit of $39 million related to pre-tax mark-to-market losses of $118 million on our pension and postretirement defined benefit plans. This income tax benefit was generated at a lower average statutory tax rate than our U.S. federal statutory tax rate because it was due, in part, to non-U.S. benefit plans.

Other favorable rate impacting items in 2015 include: resolution of several U.S. state and local tax matters; the extension of favorable U.S. federal tax provisions associated with the Protecting Americans from Tax Hikes Act of 2015 related to research and development tax credits and work opportunity tax credits; and the execution of two bilateral advance pricing agreements. These agreements established intercompany transfer pricing arrangements between the U.S. and certain non-U.S. jurisdictions related to our small package operations for tax years 2010 through 2019.

Other Items

Beginning in 2012, we were granted a tax incentive for certain of our non-U.S. operations, which is effective through December 31, 2021. The tax incentive is conditional upon our meeting specific employment and investment thresholds. The impact of this tax incentive decreased non-U.S. tax expense by $24 million ($0.03 per share), $21 million ($0.02 per share) and $25 million ($0.03 per share) for 2017, 2016, and 2015, respectively.

Deferred income tax assets and liabilities are comprised of the following at December 31, 2017 and 2016 (in millions):

	2017	2016
Fixed assets and capitalized software	$ (3,288)	$ (4,782)
Other	(535)	(756)
Deferred tax liabilities	(3,823)	(5,538)
Pension and postretirement benefits	1,877	4,236
Loss and credit carryforwards	323	229
Insurance reserves	449	733
Stock compensation	182	297
Other	626	681
Deferred tax assets	3,457	6,176
Deferred tax assets valuation allowance	(126)	(159)
Deferred tax asset (net of valuation allowance)	3,331	6,017
Net deferred tax asset (liability)	$ (492)	$ 479
Amounts recognized in the consolidated balance sheets:		
Deferred tax assets	$ 265	$ 591
Deferred tax liabilities	(757)	(112)
Net deferred tax asset (liability)	$ (492)	$ 479

The valuation allowance changed by $(33), $(38) and $(11) million during the years ended December 31, 2017, 2016 and 2015, respectively.

We have a U.S. federal capital loss carryforward of $34 million as of December 31, 2017, $32 million of which expires on December 31, 2021 and the remainder of which expires on December 31, 2022. In addition, we have U.S. state and local operating loss and credit carryforwards as follows (in millions):

	2017	2016
U.S. state and local operating loss carryforwards	$ 1,215	$ 603
U.S. state and local credit carryforwards	$ 83	$ 70

The U.S. state and local operating loss carryforwards expire at varying dates through 2037. The U.S. state and local credits can be carried forward for periods ranging from one year to indefinitely. We also have non-U.S. loss carryforwards of $728 million as of December 31, 2017, the majority of which may be carried forward indefinitely. As indicated in the table above, we have established a valuation allowance for certain non-U.S. and state carryforwards, due to the uncertainty resulting from a lack of previous taxable income within the applicable tax jurisdictions.

The following table summarizes the activity related to our unrecognized tax benefits (in millions):

	Tax	Interest	Penalties
Balance at January 1, 2015	$ 172	$ 42	$ 3
Additions for tax positions of the current year	24	—	—
Additions for tax positions of prior years	45	21	3
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(85)	(8)	—
Settlements during the period	(6)	(2)	—
Lapses of applicable statute of limitations	(2)	—	—
Balance at December 31, 2015	148	53	6
Additions for tax positions of the current year	17	—	—
Additions for tax positions of prior years	20	10	—
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(41)	(13)	—
Settlements during the period	—	—	—
Lapses of applicable statute of limitations	—	—	—
Balance at December 31, 2016	144	50	6
Additions for tax positions of the current year	16	—	—
Additions for tax positions of prior years	33	14	3
Reductions for tax positions of prior years for:			
Changes based on facts and circumstances	(24)	(18)	—
Settlements during the period	(6)	(3)	—
Lapses of applicable statute of limitations	(3)	—	—
Balance at December 31, 2017	$ 160	$ 43	$ 9

The total amount of gross unrecognized tax benefits as of December 31, 2017, 2016 and 2015 that, if recognized, would affect the effective tax rate were $159, $142 and $147 million, respectively. Our continuing policy is to recognize interest and penalties associated with income tax matters as a component of income tax expense.

We file income tax returns in the U.S. federal jurisdiction, most U.S. state and local jurisdictions, and many non-U.S. jurisdictions. We have substantially resolved all U.S. federal income tax matters for tax years prior to 2014.

A number of years may elapse before an uncertain tax position is audited and ultimately settled. It is difficult to predict the ultimate outcome or the timing of resolution for uncertain tax positions. It is reasonably possible that the amount of unrecognized tax benefits could significantly increase or decrease within the next twelve months. Items that may cause changes to unrecognized tax benefits include the timing of interest deductions and the allocation of income and expense between tax jurisdictions. These changes could result from the settlement of ongoing litigation, the completion of ongoing examinations, the expiration of the statute of limitations or other unforeseen circumstances. At this time, an estimate of the range of the reasonably possible change cannot be made.

NOTE 14. EARNINGS PER SHARE

The earnings per share amounts are the same for class A and class B common shares as the holders of each class are legally entitled to equal per share distributions whether through dividends or in liquidation.

The following table sets forth the computation of basic and diluted earnings per share (in millions, except per share amounts):

	2017	2016	2015
Numerator:			
Net income attributable to common shareowners	$ 4,910	$ 3,431	$ 4,844
Denominator:			
Weighted-average shares	865	878	896
Deferred compensation obligations	1	1	1
Vested portion of restricted shares	5	4	4
Denominator for basic earnings per share	871	883	901
Effect of Dilutive Securities:			
Restricted performance units	3	3	4
Stock options	1	1	1
Denominator for diluted earnings per share	875	887	906
Basic Earnings Per Share	$ 5.64	$ 3.89	$ 5.38
Diluted Earnings Per Share	$ 5.61	$ 3.87	$ 5.35

Diluted earnings per share for the years ended December 31, 2017, 2016 and 2015 exclude the effect of 0.1, 0.2 and 0.2 million shares, respectively, of common stock that may be issued upon the exercise of employee stock options because such effect would be antidilutive.

NOTE 15. DERIVATIVE INSTRUMENTS AND RISK MANAGEMENT

Risk Management Policies

We are exposed to market risk, primarily related to foreign exchange rates, commodity prices and interest rates. These exposures are actively monitored by management. To manage the volatility relating to certain of these exposures, we enter into a variety of derivative financial instruments. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in foreign currency rates, commodity prices and interest rates. It is our policy and practice to use derivative financial instruments only to the extent necessary to manage exposures. As we use price sensitive instruments to hedge a certain portion of our existing and anticipated transactions, we expect that any loss in value for those instruments generally would be offset by increases in the value of those hedged transactions. We do not hold or issue derivative financial instruments for trading or speculative purposes.

Credit Risk Management

The forward contracts, swaps and options discussed below contain an element of risk that the counterparties may be unable to meet the terms of the agreements. However, we minimize such risk exposures for these instruments by limiting the counterparties to banks and financial institutions that meet established credit guidelines and by monitoring counterparty credit risk to prevent concentrations of credit risk with any single counterparty.

We have agreements with all of our active counterparties (covering the majority of our derivative positions) containing early termination rights and/or zero threshold bilateral collateral provisions whereby cash is required based on the net fair value of derivatives associated with those counterparties. Events such as a counterparty credit rating downgrade (depending on the ultimate rating level) could also allow us to take additional protective measures such as the early termination of trades. At December 31, 2017 and 2016, we held cash collateral of $17 and $575 million, respectively, under these agreements; this collateral is included in "cash and cash equivalents" on the consolidated balance sheets and its use by UPS is not restricted.

In connection with the agreements described above, we could also be required to provide additional collateral or terminate transactions with certain counterparties in the event of a downgrade of our credit rating. The amount of collateral required would be determined by the net fair value of the associated derivatives with each counterparty. At December 31, 2017 and 2016, $174 and $0 million, respectively, of additional collateral was required to be posted with our counterparties. In addition, the aggregate fair value of instruments not covered by the zero threshold bilateral collateral provisions that were in a net liability position was $16 million at December 31, 2017.

We have not historically incurred, and do not expect to incur in the future, any losses as a result of counterparty default.

Accounting Policy for Derivative Instruments

We recognize all derivative instruments as assets or liabilities in the consolidated balance sheets at fair value. The accounting for changes in the fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the derivative, based upon the exposure being hedged, as a cash flow hedge, a fair value hedge or a hedge of a net investment in a foreign operation.

A cash flow hedge refers to hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. For derivative instruments that are designated and qualify as a cash flow hedge, the effective portion of the gain or loss on the derivative instrument is reported as a component of AOCI, and reclassified into earnings in the same period during which the hedged transaction affects earnings. The remaining gain or loss on the derivative instrument in excess of the cumulative change in the present value of future cash flows of the hedged item, or hedge components excluded from the assessment of effectiveness, are recognized in the statements of consolidated income during the current period.

A fair value hedge refers to hedging the exposure to changes in the fair value of an existing asset or liability on the consolidated balance sheets that is attributable to a particular risk. For derivative instruments that are designated and qualify as a fair value hedge, the gain or loss on the derivative instrument is recognized in the statements of consolidated income during the current period, as well as the offsetting gain or loss on the hedged item.

A net investment hedge refers to the use of cross currency swaps, forward contracts or foreign currency denominated debt to hedge portions of our net investments in foreign operations. For hedges that meet the effectiveness requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in the cumulative translation adjustment within AOCI. The remainder of the change in value of such instruments is recorded in earnings.

Types of Hedges

Commodity Risk Management

Currently, the fuel surcharges that we apply to our domestic, international package and LTL services are the primary means of reducing the risk of adverse fuel price changes on our business. In order to mitigate the impact of fuel surcharges imposed on us by outside carriers, we regularly adjust the rates we charge for our freight brokerage, inter-modal and truckload services. We periodically enter into option and future contracts on energy commodity products to manage the price risk associated with forecasted transactions involving refined fuels, principally jet-A, diesel and unleaded gasoline. The objective of the hedges is to reduce the variability of cash flows, due to changing fuel prices, associated with the forecasted transactions involving those products. We have designated and account for these contracts as cash flow hedges of the underlying forecasted transactions involving these fuel products and, therefore, the resulting gains and losses from these hedges are recognized as a component of fuel expense or revenue when the underlying transactions occur.

Foreign Currency Risk Management

To protect against the reduction in value of forecasted foreign currency cash flows from our international package business, we maintain a foreign currency cash flow hedging program. Our most significant foreign currency exposures relate to the Euro, British Pound Sterling, Canadian Dollar, Chinese Renminbi and Hong Kong Dollar. We hedge portions of our forecasted revenue denominated in foreign currencies with foreign currency option and forward contracts. We have designated and account for these contracts as cash flow hedges of anticipated foreign currency denominated revenue and, therefore, the resulting gains and losses from these hedges are recognized as a component of international package revenue when the underlying sales transactions occur.

We also hedge portions of our anticipated cash settlements of intercompany transactions subject to foreign currency remeasurement using foreign currency forward contracts. We have designated and account for these contracts as cash flow hedges of forecasted foreign currency denominated transactions, and therefore the resulting gains and losses from these hedges are recognized as a component of investment income and other when the underlying transactions are subject to currency remeasurement.

We hedge our net investment in certain foreign operations with foreign currency denominated debt instruments. The use of foreign denominated debt as the hedging instrument allows the debt to be remeasured to cumulative translation adjustment within AOCI to offset the translation risk from those investments. Any ineffective portion of net investment hedges is recognized as a component of investment income and other. Balances in the cumulative translation adjustment account remain until the sale or liquidation of the foreign entity.

Interest Rate Risk Management

Our indebtedness under our various financing arrangements creates interest rate risk. We use a combination of derivative instruments as part of our program to manage the fixed and floating interest rate mix of our total debt portfolio and related overall cost of borrowing. The notional amount, interest payment date and maturity date of the swaps match the terms of the associated debt being hedged. Interest rate swaps allow us to maintain a target range of floating-rate debt within our capital structure.

We have designated and account for the majority of our interest rate swaps that convert fixed-rate interest payments into floating-rate interest payments as hedges of the fair value of the associated debt instruments. Therefore, the gains and losses resulting from fair value adjustments to the interest rate swaps and fair value adjustments to the associated debt instruments are recorded to interest expense in the period in which the gains and losses occur. We have designated and account for interest rate swaps that convert floating-rate interest payments into fixed-rate interest payments as cash flow hedges of the forecasted payment obligations. The gains and losses resulting from fair value adjustments to the interest rate swaps are recorded to AOCI.

We periodically hedge the forecasted fixed-coupon interest payments associated with anticipated debt offerings, using forward starting interest rate swaps, interest rate locks or similar derivatives. These agreements effectively lock a portion of our interest rate exposure between the time the agreement is entered into and the date when the debt offering is completed, thereby mitigating the impact of interest rate changes on future interest expense. These derivatives are settled commensurate with the issuance of the debt, and any gain or loss upon settlement is amortized as an adjustment to the effective interest yield on the debt.

Outstanding Positions

The notional amounts of our outstanding derivative positions were as follows as of December 31, 2017 and 2016 (in millions):

		2017	2016
Currency Hedges:			
Euro	EUR	4,942	3,702
British Pound Sterling	GBP	1,736	1,380
Canadian Dollar	CAD	1,259	1,053
Indian Rupee	INR	—	76
Mexican Peso	MXN	169	—
Japanese Yen	JPY	—	3,972
Singapore Dollar	SGD	11	32
Interest Rate Hedges:			
Fixed to Floating Interest Rate Swaps	USD	5,424	5,799

Floating to Fixed Interest Rate Swaps	USD	778	778
Investment Market Price Hedges:			
Marketable Securities	EUR	64	76

As of December 31, 2017, we had no outstanding commodity hedge positions.

Balance Sheet Recognition

The following table indicates the location on the consolidated balance sheets in which our derivative assets and liabilities have been recognized, and the related fair values of those derivatives as of December 31, 2017 and 2016 (in millions). The table is segregated between those derivative instruments that qualify and are designated as hedging instruments and those that are not, as well as by type of contract and whether the derivative is in an asset or liability position.

We have master netting arrangements with substantially all of our counterparties giving us the right of offset for our derivative positions. However, we have not elected to offset the fair value positions of the derivative contracts recorded on our consolidated balance sheets. The columns labeled "net amounts if right of offset had been applied" indicate the potential net fair value positions by type of contract and location on the consolidated balance sheets had we elected to apply the right of offset.

		Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Asset Derivatives	**Balance Sheet Location**	**2017**	**2016**	**2017**	**2016**
Derivatives Designated As Hedges:					
Foreign exchange contracts	Other current assets	$ 2	$ 176	$ —	$ 176
Interest rate contracts	Other current assets	1	—	1	—
Foreign exchange contracts	Other non-current assets	1	131	—	126
Interest rate contracts	Other non-current assets	59	137	43	119
Derivatives Not Designated As Hedges:					
Foreign exchange contracts	Other current assets	18	1	17	1
Interest rate contracts	Other non-current assets	26	42	26	40
Total Asset Derivatives		$ 107	$ 487	$ 87	$ 462

		Gross Amounts Presented in Consolidated Balance Sheets		Net Amounts if Right of Offset had been Applied	
Liability Derivatives	**Balance Sheet Location**	**2017**	**2016**	**2017**	**2016**
Derivatives Designated As Hedges:					
Foreign exchange contracts	Other current liabilities	$ 93	$ —	$ 91	$ —
Interest rate contracts	Other current liabilities	—	1	—	1
Foreign exchange contracts	Other non-current liabilities	194	6	193	1
Interest rate contracts	Other non-current liabilities	28	21	12	3
Derivatives Not Designated As Hedges:					
Foreign exchange contracts	Other current liabilities	1	—	—	—
Investment market price contracts	Other current liabilities	16	10	16	10
Interest rate contracts	Other non-current liabilities	—	7		5
Total Liability Derivatives		$ 332	$ 45	$ 312	$ 20

Income Statement and AOCI Recognition

The following table indicates the amount of gains and losses that have been recognized in AOCI within "unrealized gain (loss) on cash flow hedges" for the years ended December 31, 2017 and 2016 for those derivatives designated as cash flow hedges (in millions):

Derivative Instruments in Cash Flow Hedging Relationships	Amount of Gain (Loss) Recognized in AOCI on Derivative (Effective Portion) 2017	2016
Interest rate contracts	$ —	$ 1
Foreign exchange contracts	(506)	198
Total	$ (506)	$ 199

As of December 31, 2017, $150 million of pre-tax losses related to cash flow hedges that are currently deferred in AOCI are expected to be reclassified to income over the 12 month period ended December 31, 2018. The actual amounts that will be reclassified to income over the next 12 months will vary from this amount as a result of changes in market conditions. The maximum term over which we are hedging exposures to the variability of cash flow is 15 years.

The amount of ineffectiveness recognized in income on derivative instruments designated in cash flow hedging relationships was immaterial for the years ended December 31, 2017, 2016 and 2015.

The following table indicates the amount of gains and losses that have been recognized in AOCI within "foreign currency translation gain (loss)" for the years ended December 31, 2017 and 2016 for those instruments designated as net investment hedges (in millions):

Non-derivative Instruments in Net Investment Hedging Relationships	Amount of Gain (Loss) Recognized in AOCI on Debt (Effective Portion) 2017	2016
Foreign denominated debt	$ (428)	$ 119
Total	$ (428)	$ 119

The amount of ineffectiveness recognized in income on non-derivative instruments designated in net investment hedging relationships was immaterial for the years ended December 31, 2017, 2016 and 2015.

The following table indicates the amount and location in the statements of consolidated income in which derivative gains and losses, as well as the associated gains and losses on the underlying exposure, have been recognized for those derivatives designated as fair value hedges for the years ended December 31, 2017 and 2016 (in millions):

Derivative Instruments in Fair Value Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income 2017	2016	Hedged Items in Fair Value Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income 2017	2016
Interest rate contracts	Interest Expense	$ (84)	$ (71)	Fixed-Rate Debt and Capital Leases	Interest Expense	$ 84	$ 71

Additionally, we maintain some interest rate swaps, foreign currency forwards, investment market price forwards and commodity contracts that are not designated as hedges. These interest rate swap contracts are intended to provide an economic hedge of portions of our outstanding debt. These foreign exchange forward contracts are intended to provide an economic offset to foreign currency remeasurement risks for certain assets and liabilities in our consolidated balance sheets. These investment market price forward contracts are intended to provide an economic offset to fair value fluctuations of certain investments in marketable securities.

We also periodically terminate interest rate swaps and foreign currency options by entering into offsetting swap and foreign currency positions with different counterparties. As part of this process, we de-designate our original swap and foreign currency contracts. These transactions provide an economic offset that effectively eliminates the impact of changes in market valuation.

The following is a summary of the amounts recorded in the statements of consolidated income related to fair value changes and settlements of these foreign currency forwards, interest rate swaps, investment market price and commodity contracts not designated as hedges for the years ended December 31, 2017 and 2016 (in millions):

Derivative Instruments Not Designated in Hedging Relationships	Location of Gain (Loss) Recognized in Income	Amount of Gain (Loss) Recognized in Income 2017	Amount of Gain (Loss) Recognized in Income 2016
Foreign exchange contracts	Investment income and other	$ 60	$ (145)
Investment market price contracts	Investment income and other	(5)	(5)
Interest rate contracts	Interest Expense	(9)	(8)
Total		$ 46	$ (158)

Fair Value Measurements

Our foreign currency, interest rate and investment market price derivatives are largely comprised of over-the-counter derivatives, which are primarily valued using pricing models that rely on market observable inputs such as yield curves, currency exchange rates and commodity forward prices, and therefore are classified as Level 2. The fair values of our derivative assets and liabilities as of December 31, 2017 and 2016 by hedge type are as follows (in millions):

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2017				
Assets:				
Foreign Exchange Contracts	$ —	$ 21	$ —	$ 21
Interest Rate Contracts	—	86	—	86
Total	$ —	$ 107	$ —	$ 107
Liabilities:				
Foreign Exchange Contracts	$ —	$ 288	$ —	$ 288
Investment Market Price Contracts	—	16	—	16
Interest Rate Contracts	—	28	—	28
Total	$ —	$ 332	$ —	$ 332

	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
2016				
Assets:				
Foreign Exchange Contracts	$ —	$ 308	$ —	$ 308
Interest Rate Contracts	—	179	—	179
Total	$ —	$ 487	$ —	$ 487

Liabilities:				
Foreign Exchange Contracts	$ —	$ 6	$ —	$ 6
Investment Market Price Contracts	—	10	—	10
Interest Rate Contracts	—	29	—	29
Total	$ —	$ 45	$ —	$ 45

NOTE 16. QUARTERLY INFORMATION (UNAUDITED)

Our revenue, segment operating profit (loss), net income (loss), basic and diluted earnings per share on a quarterly basis are presented below (in millions, except per share amounts):

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2017	2016	2017	2016	2017	2016	2017	2016
Revenue:								
U.S. Domestic Package	$ 9,535	$ 9,084	$ 9,745	$ 9,015	$ 9,649	$ 9,289	$ 11,835	$ 10,913
International Package	3,058	2,914	3,163	3,077	3,364	3,024	3,753	3,335
Supply Chain & Freight	2,722	2,420	2,842	2,537	2,965	2,615	3,241	2,683
Total revenue	15,315	14,418	15,750	14,629	15,978	14,928	18,829	16,931
Operating Profit (Loss):								
U.S. Domestic Package	1,076	1,102	1,395	1,233	1,182	1,252	627	(570)
International Package	529	574	583	613	627	576	725	281
Supply Chain & Freight	179	147	238	192	226	206	142	(139)
Total operating profit (loss)	1,784	1,823	2,216	2,038	2,035	2,034	1,494	(428)
Net Income (Loss)	$ 1,158	$ 1,131	$ 1,384	$ 1,269	$ 1,264	$ 1,270	$ 1,104	$ (239)
Net Income (Loss) Per Share:								
Basic	$ 1.32	$ 1.27	$ 1.59	$ 1.43	$ 1.45	$ 1.44	$ 1.27	$ (0.27)
Diluted	$ 1.32	$ 1.27	$ 1.58	$ 1.43	$ 1.45	$ 1.44	$ 1.27	$ (0.27)

Operating profit for the quarter ended December 31, 2017 was impacted by a mark-to-market loss of $800 million on our pension and postretirement benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor (allocated as follows—U.S. Domestic Package $637 million, International Package $35 million, and Supply Chain & Freight $128 million). Net income for the quarter ended December 31, 2017 includes an income tax benefit of $258 million attributable to the 2017 Tax Act. These items reduced fourth quarter net income by $349 million and basic and diluted earnings per share by $0.41 and $0.40, respectively.

Operating profit for the quarter ended December 31, 2016 was impacted by a mark-to-market loss of $2.651 billion on our pension and postretirement benefit plans related to the remeasurement of plan assets and liabilities recognized outside of a 10% corridor (allocated as follows—U.S. Domestic Package $1.908 billion, International Package $425 million and Supply Chain & Freight $318 million). This loss reduced fourth quarter net income by $1.673 billion, and basic and diluted earnings per share by $1.91.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures:

As of the end of the period covered by this report, management, including our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures and internal controls over financial reporting. Based upon, and as of the date of, the evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports we file and submit under the Exchange Act is recorded, processed, summarized and reported as and when required and is accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control:

There were no changes in the Company's internal controls over financial reporting during the quarter ended December 31, 2017 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting:

UPS management is responsible for establishing and maintaining adequate internal controls over financial reporting for United Parcel Service, Inc. and its subsidiaries (the "Company"). Based on the criteria for effective internal control over financial reporting established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, management has assessed the Company's internal control over financial reporting as effective as of December 31, 2017. The independent registered public accounting firm of Deloitte & Touche LLP, as auditors of the consolidated balance sheets of United Parcel Service, Inc. and its subsidiaries as of December 31, 2017 and the related statements of consolidated income, consolidated comprehensive income and consolidated cash flows for the year ended December 31, 2017, has issued an attestation report on the Company's internal control over financial reporting, which is included herein.

Report of Independent Registered Public Accounting Firm

Board of Directors and Shareowners
United Parcel Service, Inc.
Atlanta, Georgia

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of United Parcel Service, Inc. and subsidiaries (the "Company") as of December 31, 2017, based on criteria established in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements as of and for the year ended December 31, 2017, of the Company and our report dated February 21, 2018, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Atlanta, Georgia
February 21, 2018

Item 9B. ***Other Information***

None.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Executive Officers of the Registrant

Name and Office	**Age**	**Principal Occupation and Employment For the Last Five Years**
David P. Abney Chairman and Chief Executive Officer	62	Chief Executive Officer (2014 - present), Chairman (2016 - present) Senior Vice President and Chief Operating Officer (2007 - 2014).
James J. Barber, Jr. Senior Vice President and President, UPS International	57	President, UPS International (2013 - present), Chief Operating Officer, UPS Europe, Middle East and Africa (2010 - 2013).
Norman M. Brothers, Jr. Senior Vice President, General Counsel and Corporate Secretary	50	Senior Vice President, General Counsel and Corporate Secretary (2016 - present), Corporate Legal Department Manager (2014 - 2016), Vice President, Corporate Legal (2004 - 2014).
Alan Gershenhorn Senior Vice President, Chief Commercial Officer	59	Executive Vice President and Chief Commercial Officer (2014 - present), Senior Vice President, Worldwide Sales, Marketing and Strategy (2011 - 2014).
Myron A. Gray Senior Vice President and President, United States Operations	60	President, United States Operations (2014 - present), Senior Vice President, United States Operations (2009 - 2014).
Kate M. Gutmann Senior Vice President, Chief Sales and Solutions Officer	49	Chief Sales and Solutions Officer; Senior Vice President The UPS Store and UPS Capital (2017 - present), Senior Vice President, Worldwide Sales and Solutions (2014 - 2017), President, Worldwide Sales (2011 - 2014).
Teri P. McClure Senior Vice President, Chief Human Resources Officer, Labor Relations	54	Chief Human Resources Officer and Senior Vice President, Labor (2016 - present), Chief Legal, Communications and Human Resources Officer (2015 - 2016), Senior Vice President of Legal, Compliance and Public Affairs, General Counsel and Corporate Secretary (2006 -2014).
Richard N. Peretz Senior Vice President, Chief Financial Officer and Treasurer	56	Chief Financial Officer (2015 - present), Corporate Controller and Treasurer (2014-2015), Corporate Controller (2013 - 2015), Vice President of Corporate Finance and Accounting (2008 - 2013).
Juan R. Perez Senior Vice President, Chief Information Officer	51	Chief Information Officer and Engineering Officer (2017 - present), Chief Information Officer (2016 - 2017), Vice President, Information Services (2011 - 2016).
Scott A. Price Senior Vice President, Chief Transformation Officer	56	Chief Transformation Officer (2017 - present), Walmart International Executive Vice President of Global Leverage (2017), Walmart Asia President and Chief Executive Officer (2009 - 2017).
Mark R. Wallace	55	Senior Vice President, Global Engineering and Sustainability (2015 - present), President, Global

Senior Vice President, Global Engineering and Sustainability	Logistics & Distribution (2013 - 2015), Corporate U.S. Engineering Coordinator (2012 - 2013).

Information about our directors is presented under the caption “Your Board of Directors" in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Information about our Audit Committee is presented under the caption “Your Board of Directors - Committees of the Board of Directors” and "Audit Committee Matters" in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Information about our Code of Business Conduct is presented under the caption “Where You Can Find More Information” in Part I, Item 1 of this report.

Information about our compliance with Section 16 of the Exchange Act of 1934, as amended, is presented under the caption “Ownership of Our Securities - Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Item 11. ***Executive Compensation***

Information about our board and executive compensation is presented under the captions “Your Board of Directors - Director Compensation" and "Executive Compensation" in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

Information about security ownership is presented under the caption “Ownership of Our Securities - Securities Ownership of Certain Beneficial Owners and Management” in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Information about our equity compensation plans is presented under the caption “Executive Compensation - Equity Compensation Plans” in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

Information about transactions with related persons is presented under the caption “Corporate Governance - Conflicts of Interest and Related Person Transactions” in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Information about director independence is presented under the caption “Corporate Governance - Director Independence” in our definitive Proxy Statement for the Annual Meeting of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

Item 14. ***Principal Accounting Fees and Services***

Information about aggregate fees billed to us by our principal accountant is presented under the caption “Audit Committee Matters - Principal Accounting Firm Fees” in our definitive Proxy Statement for the Annual Meetings of Shareowners to be held on May 10, 2018 and is incorporated herein by reference.

PART IV

Item 15. *Exhibits and Financial Statement Schedules*

(a) *Documents filed as a part of this report:*

1. *Financial Statements*.

See Item 8 for the financial statements filed with this report.

2. *Financial Statement Schedules*.

None.

3. *Exhibits*.

See the Exhibit Index below for a list of the exhibits incorporated by reference into or filed with this report.

(b) *Exhibits Required To Be Filed*

See Item 15(a)1 above

(c) *Financial Statement Schedules Required To Be Filed*

See Item 15(a) 2 above

Item 16. *Form 10-K Summary*

None

EXHIBIT INDEX

Exhibit No.		Description
3.1	—	Form of Restated Certificate of Incorporation of United Parcel Service, Inc. (incorporated by reference to Exhibit 3.2 to Form 8-K filed on May 12, 2010).
3.2	—	Amended and Restated Bylaws of United Parcel Service, Inc. as of November 17, 2017 (incorporated by reference to Exhibit 3.1 to Form 8-K, filed on November 17, 2017).
4.1	—	Indenture relating to 8 3/8% Debentures due April 1, 2020 (incorporated by reference to Exhibit 4(c) to Registration Statement No. 33-32481, filed December 7, 1989)[1].
4.2	—	Indenture dated as of December 18, 1997 (incorporated by reference to Exhibit T-3C to Form T-3 filed December 18, 1997).
4.3	—	Indenture dated as of January 26, 1999 (incorporated by reference to Exhibit 4.1 to Pre-Effective Amendment No. 1 to Form S-3 (No. 333-08369), filed on January 26, 1999).
4.4	—	Supplemental Indenture dated as of March 27, 2000 to Indenture dated January 26, 1999 (incorporated by reference to Exhibit 4.2 to Post-Effective Amendment No. 1 to Form S-3 (No. 333-08369-01), filed on March 15, 2000).
4.5	—	Second Supplemental Indenture dated as of September 21, 2001 to Indenture dated January 26, 1999 (incorporated by reference to Exhibit 4 to Form 10-Q for the Quarter Ended September 30, 2001).
4.6	—	Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.1 to Form S-3 (No. 333-108272), filed on August 27, 2003).
4.7	—	

		First Supplemental Indenture dated as of November 15, 2013 to Indenture dated as of August 26, 2003 (incorporated by reference to Exhibit 4.2 to Form S-3ASR (No. 333-192369) filed on November 15, 2013).
4.8	—	Form of Second Supplemental Indenture dated as of May 18, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on May 18, 2017).
4.9	—	Form of Note for 5.50% Senior Notes due January 15, 2018 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on January 15, 2008).
4.10	—	Form of Note for 6.20% Senior Notes due January 15, 2038 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on January 15, 2008).

4.11 — Form of Note for 5.125% Senior Notes due April 1, 2019 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on March 24, 2009).

4.12 — Form of Note for 3.125% Senior Notes due January 15, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on November 12, 2010).

4.13 — Form of Note for 4.875% Senior Notes due November 15, 2040 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on November 12, 2010).

4.14 — Form of Note for 1.125% Senior Notes due October 1, 2017 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on September 27, 2012).

4.15 — Form of Note for 2.450% Senior Notes due October 1, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on September 27, 2012).

4.16 — Form of Note for 3.625% Senior Notes due October 1, 2042 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on September 27, 2012).

4.17 — Form of Note for Floating Rate Senior Notes due December 15, 2064 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on December 15, 2014).

4.18 — Form of Note for Floating Rate Senior Notes due September 15, 2065 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on September 17, 2015).

4.19 — Form of Note for Floating Rate Senior Notes due July 15, 2020 (incorporated by reference to Exhibit 4.1 and Exhibit 4.2 to Form 8-K filed on November 20, 2015).

4.20 — Form of Note for 1.625% Senior Notes due November 15, 2025 (incorporated by reference to Exhibit 4.1 and Exhibit 4.2 to Form 8-K filed on November 20, 2015).

4.21 — Form of Note for Floating Rate Senior Notes due September 15, 2065 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on December 15, 2015).

4.22 — Form of Note for Floating Rate Senior Notes due March 15, 2066 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on April 1, 2016).

4.23 — Form of Note for Floating Rate Senior Notes due March 15, 2066 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on June 15, 2016).

4.24 — Form of Note for Floating Rate Senior Notes due March 15, 2066 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on August 24, 2016).

4.25 — Form of Note for 2.40% Senior Notes Due November 2026 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on October 24, 2016).

4.26 — Form of Note for 3.40% Senior Notes Due November 2046 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on October 24, 2016).

4.27 — Form of Note for 1.00% Senior Notes Due November 2028 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on October 24, 2016).

4.28 — Form of Note for Floating Rate Senior Notes due March 15, 2067 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on March 31, 2017).

4.29 — Form of Note for Floating Rate Senior Notes due May 16, 2022 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on May 16, 2017).

4.30 — Form of Note 2.350% Senior Noted due May 16, 2022 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on May 16, 2017).

4.31	—	Form of Note for 2.125% Senior Notes due May 21, 2024 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on May 18, 2017).
4.32	—	Form of Note 0.375% Senior Notes due November 15, 2023 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on November 13, 2017).
4.33	—	Form of Note 1.500% Senior Notes due November 15, 2032 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on November 13, 2017).
4.34	—	Form of Note for Floating Rate Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on November 14, 2017).

4.35	—	Form of Note for Floating Rate Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.2 to Form 8-K filed on November 14, 2017).
4.36	—	Form of Note 2.050% Senior Notes due April 1, 2021 (incorporated by reference to Exhibit 4.3 to Form 8-K filed on November 14, 2017).
4.37	—	Form of Note 2.500% Senior Notes due April 1, 2023 (incorporated by reference to Exhibit 4.4 to Form 8-K filed on November 14, 2017).
4.38	—	Form of Note 2.800% Senior Notes due November 15, 2024 (incorporated by reference to Exhibit 4.5 to Form 8-K filed on November 14, 2017).
4.39	—	Form of Note 3.050% Senior Notes due November 15, 2027 (incorporated by reference to Exhibit 4.6 to Form 8-K filed on November 14, 2017).
4.40	—	Form of Note 3.750% Senior Notes due November 15, 2047 (incorporated by reference to Exhibit 4.7 to Form 8-K filed on November 14, 2017).
4.41	—	Form of Note for Floating Rate Senior Notes due November 15, 2067 (incorporated by reference to Exhibit 4.8 to Form 8-K filed on November 14, 2017).
10.1	—	Amendment No. 1 to UPS Retirement Plan, as Amended and Restated, effective as of June 30, 2016 (incorporated by reference to Exhibit 10.1 to Form 10-Q for the Quarter Ended June 30, 2016).
10.1(a)	—	Amendment Four to the Amended and Restated UPS Retirement Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.2 to Form 8-K filed on June 27, 2017).
10.2	—	UPS 401(k) Savings Plan, Amendment and Restatement effective as of July 1, 2016 (incorporated by reference to Exhibit 10.2 to Form 10-Q for the Quarter Ended September 30, 2016).
10.2(a)	—	Amended and Restated UPS 401(k) Savings Plan effective January 1, 2017 (incorporated by references to Exhibit 10.1 to 8-K filed on June 27, 2017).
10.3	—	Amended and Restated UPS Restoration Savings Plan effective January 1, 2017 (incorporated by reference to Exhibit 10.3 to Form 8-K filed on June 27, 2017).
10.4	—	Amendment One to the UPS Excess Coordinating Benefit Plan effective June 23, 2017 (incorporated by reference to Exhibit 10.4 to Form 8-K filed on June 27, 2017).
10.5	—	UPS Excess Coordinating Benefit Plan, as Amended and Restated, effective as of January 1, 2012 (incorporated by reference to Exhibit 10.5 to the 2012 Annual Report on Form 10-K).
10.6	—	United Parcel Service, Inc. 2012 Omnibus Incentive Compensation Plan (incorporated by reference to Annex II to the Definitive Proxy Statement, filed on March 12, 2012).
10.6(a)	—	Form of Long-Term Incentive Performance Award Agreement (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2011).
10.6(b)	—	Form of Non-Management Director Restricted Stock Unit Award (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2010).
10.6(c)	—	UPS Management Incentive Program Terms and Conditions effective as of January 1, 2011 (incorporated by reference to Exhibit 10.10(3) to the 2010 Annual Report on Form 10-K).
10.6(d)	—	UPS Stock Option Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(4) to the 2011 Annual Report on Form 10-K).
10.6(e)	—	UPS Long-Term Incentive Performance Program Terms and Conditions effective as of January 1, 2012 (incorporated by reference to Exhibit 10.7(5) to the 2011 Annual Report on Form 10-K).
10.7	—	

		Form of UPS Deferred Compensation Plan (incorporated by reference to Exhibit 10.11 to the 2010 Annual Report on Form 10-K).
10.7(a)	—	Amendment No. 1 to the UPS Deferred Compensation Plan (incorporated by reference to Exhibit 10.7(1) to the 2012 Annual Report on Form 10-K).
10.8	—	United Parcel Service, Inc. Nonqualified Employee Stock Purchase Plan (incorporated by reference to Exhibit 99.1 to the registration statement on Form S-8 (No. 333-34054), filed on April 5, 2000).
10.9	—	Discounted Employee Stock Purchase Plan, as Amended and Restated, effective October 1, 2002.

10.9(a)	—	Amendment No. 1 to the Discounted Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.12(1) to the 2005 Annual Report on Form 10-K).
10.9(b)	—	Amendment No. 2 to the Discounted Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.13(2) to the 2009 Annual Report on Form 10-K).
10.9(c)	—	Amendment No. 3 to the Discounted Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.9(3) to the 2012 Annual Report on Form 10-K).
10.10	—	2015 Omnibus Incentive Compensation Plan (incorporated by reference to Annex A to the Definitive Proxy Statement filed on March 24, 2015).
11	—	Statement regarding Computation of per Share Earnings (incorporated by reference to note 14 to Part I, Item 8 "Financial Statements and Supplementary Data" of this Annual Report on Form 10-K).
†12	—	Ratio of Earnings to Fixed Charges.
†21	—	Subsidiaries of the Registrant.
†23	—	Consent of Deloitte & Touche LLP.
†31.1	—	Certificate of the Chief Executive Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†31.2	—	Certificate of the Chief Financial Officer Pursuant to Rule 13a-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†32.1	—	Certification of the Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
†32.2	—	Certification of the Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
†101	—	The following financial information from the Annual Report on Form 10-K for the year ended December 31, 2017, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Cash Flows and (v) the Notes to the Consolidated Financial Statements.

† Filed herewith.

(1) Filed in paper format.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, United Parcel Service, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

UNITED PARCEL SERVICE, INC.
(REGISTRANT)

By: /S/ DAVID P. ABNEY

David P. Abney

Chairman and Chief Executive Officer

Date: February 21, 2018

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/S/ DAVID P. ABNEY **David P. Abney**	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	February 21, 2018
/S/ RODNEY C. ADKINS **Rodney C. Adkins**	Director	February 21, 2018
/S/ MICHAEL J. BURNS **Michael J. Burns**	Director	February 21, 2018
/S/ WILLIAM R. JOHNSON **William R. Johnson**	Director	February 21, 2018
/S/ Dr. CANDACE KENDLE **Candace Kendle**	Director	February 21, 2018
/S/ ANN M. LIVERMORE **Ann M. Livermore**	Director	February 21, 2018
/S/ RUDY H.P. MARKHAM **Rudy H. P. Markham**	Director	February 21, 2018
/S/ FRANCK J. MOISON **Franck J. Moison**	Director	February 21, 2018
/S/ RICHARD N. PERETZ **Richard N. Peretz**	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	February 21, 2018

/s/ Clark T. Randt, Jr. **Clark T. Randt, Jr.**	Director	February 21, 2018
/s/ John T. Stankey **John T. Stankey**	Director	February 21, 2018
/s/ Carol B. Tomé **Carol B. Tomé**	Director	February 21, 2018
/s/ Kevin M. Warsh **Kevin M. Warsh**	Director	February 21, 2018