

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549**

FORM 10-K

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 1-3950

Ford Motor Company

(Exact name of Registrant as specified in its charter)

Delaware

(State of incorporation)

38-0549190

(I.R.S. Employer Identification No.)

One American Road

Dearborn, Michigan

(Address of principal executive offices)

48126

(Zip Code)

313-322-3000

(Registrant's telephone number, including area code)

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

Title of each class	Trading symbols	Name of each exchange on which registered
Common Stock, par value \$.01 per share	F	New York Stock Exchange
6.200% Notes due June 1, 2059	FPRB	New York Stock Exchange
6.000% Notes due December 1, 2059	FPRC	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None.

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 Act.
 Yes No

Indicate by check mark if 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 (§ 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 emerging growth company. See the 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 Act). Yes No

As of June 28, 2019, Ford had outstanding 3,918,987,194 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date (\$10.23 per share), the aggregate market value of such Common Stock was \$40,091,238,995. Although there is no quoted market for our Class B Stock, shares of Class B Stock may be converted at any time into an equal number of shares of Common Stock for the purpose of effecting the sale or other disposition of such shares of Common Stock. The shares of Common Stock and Class B Stock outstanding at June 28, 2019 included shares owned by persons who may be deemed to be "affiliates" of Ford. We do not believe, however, that any such person should be considered to be an affiliate. For information concerning ownership of outstanding Common Stock and Class B Stock, see the Proxy Statement for Ford's Annual Meeting of Stockholders currently scheduled to be held on May 14, 2020 (our "Proxy Statement"), which is incorporated by reference under various Items of this Report as indicated below.

As of January 31, 2020, Ford had outstanding 3,894,078,249 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date (\$8.82 per share), the aggregate market value of such Common Stock was \$34,345,770,156.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Where Incorporated
Proxy Statement*	Part III (Items 10, 11, 12, 13, and 14)

* As stated under various Items of this Report, only certain specified portions of such document are incorporated by reference in this Report.

Exhibit Index begins on page

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**FORD MOTOR COMPANY
ANNUAL REPORT ON FORM 10-K
For the Year Ended December 31, 2019**

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PART I.**ITEM 1. Business.**

Ford Motor Company was incorporated in Delaware in 1919. We acquired the business of a Michigan company, also known as Ford Motor Company, which had been incorporated in 1903 to produce and sell automobiles designed and engineered by Henry Ford. We are a global company based in Dearborn, Michigan. With about 190,000 employees worldwide, the Company designs, manufactures, markets, and services a full line of Ford cars, trucks, sport utility vehicles ("SUVs"), electrified vehicles, and Lincoln luxury vehicles, provides financial services through Ford Motor Credit Company LLC ("Ford Credit"), and is pursuing leadership positions in electrification; mobility solutions, including self-driving services; and connected vehicle services.

In addition to the information about Ford and our subsidiaries contained in this Annual Report on Form 10-K for the year ended December 31, 2019 ("2019 Form 10-K Report" or "Report"), extensive information about our Company can be found at <http://corporate.ford.com>, including information about our management team, brands, products, services, and corporate governance principles.

The corporate governance information on our website includes our Corporate Governance Principles, Code of Ethics for Senior Financial Personnel, Code of Ethics for the Board of Directors, Code of Corporate Conduct for all employees, and the Charters for each of the Committees of our Board of Directors. In addition, any amendments to our Code of Ethics or waivers granted to our directors and executive officers will be posted on our corporate website. All of these documents may be accessed by going to our corporate website, or may be obtained free of charge by writing to our Shareholder Relations Department, Ford Motor Company, One American Road, P.O. Box 1899, Dearborn, Michigan 48126-1899.

Our recent periodic reports filed with the Securities and Exchange Commission ("SEC") pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge at <http://shareholder.ford.com>. This includes recent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, as well as any amendments to those reports, and our Section 16 filings. We post each of these documents on our website as soon as reasonably practicable after it is electronically filed with the SEC. Our reports filed with the SEC also may be found on the SEC's website at www.sec.gov.

Our Sustainability Report, which details our performance and progress toward our sustainability and corporate responsibility goals, is available at <http://sustainability.ford.com>.

The foregoing information regarding our website and its content is for convenience only and not deemed to be incorporated by reference into this Report nor filed with the SEC.

Item 1. Business (Continued)**OVERVIEW**

Segments. We report our results in three operating segments that represent the primary businesses reported in our consolidated financial statements: Automotive, Mobility, and Ford Credit.

AUTOMOTIVE SEGMENT

Our Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs. The segment includes the following regional business units: North America, South America, Europe, China (including Taiwan), Asia Pacific Operations, and Middle East & Africa.

In the first quarter of 2020, we changed our business units in the Automotive segment to align with the way we now manage the business. As a result of the change, beginning with our first quarter 2020 10-Q report, we will report in the Automotive segment the following business units: North America, South America, Europe, China (including Taiwan), and the International Markets Group (which will include what we reported in 2019 in the Asia Pacific Operations and Middle East & Africa business units, and the results of our joint venture in Russia).

General

Our vehicle brands are Ford and Lincoln. In 2019, we sold approximately 5,386,000 vehicles at wholesale throughout the world. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" ("Item 7") for a discussion of our calculation of wholesale unit volumes.

Substantially all of our vehicles, parts, and accessories are sold through distributors and dealers (collectively, "dealerships"), the substantial majority of which are independently owned. At December 31, the approximate number of dealerships worldwide distributing our vehicle brands was as follows:

<u>Brand</u>	<u>2018</u>	<u>2019</u>
Ford	10,466	9,883
Ford-Lincoln (combined)	858	759
Lincoln	210	279
Total	<u>11,534</u>	<u>10,921</u>

We do not depend on any single customer or a few customers to the extent that the loss of such customers would have a material adverse effect on our business.

In addition to the products we sell to our dealerships for retail sale, we also sell vehicles to our dealerships for sale to fleet customers, including commercial fleet customers, daily rental car companies, and governments. We also sell parts and accessories, primarily to our dealerships (which in turn sell these products to retail customers) and to authorized parts distributors (which in turn primarily sell these products to retailers). We also offer extended service contracts.

The worldwide automotive industry is affected significantly by general economic and political conditions over which we have little control. Vehicles are durable goods, and consumers and businesses have latitude in determining whether and when to replace an existing vehicle. The decision whether to purchase a vehicle may be affected significantly by slowing economic growth, geopolitical events, and other factors (including the cost of purchasing and operating cars, trucks, and SUVs and the availability and cost of financing and fuel). As a result, the number of cars, trucks, and SUVs sold may vary substantially from year to year. Further, the automotive industry is a highly competitive business that has a wide and growing variety of product and service offerings from a growing number of manufacturers.

Item 1. Business (Continued)

Our wholesale unit volumes vary with the level of total industry demand and our share of that industry demand. Our wholesale unit volumes also are influenced by the level of dealer inventory. Our share is influenced by how our products are perceived by customers in comparison to those offered by other manufacturers based on many factors, including price, quality, styling, reliability, safety, fuel efficiency, functionality, and reputation. Our share also is affected by the timing and frequency of new model introductions. Our ability to satisfy changing consumer and business preferences with respect to type or size of vehicle, as well as design and performance characteristics, affects our sales and earnings significantly.

As with other manufacturers, the profitability of our business is affected by many factors, including:

- Wholesale unit volumes
- Margin of profit on each vehicle sold - which in turn is affected by many factors, such as:
 - Market factors - volume and mix of vehicles and options sold, and net pricing (reflecting, among other factors, incentive programs)
 - Costs of components and raw materials necessary for production of vehicles
 - Costs for customer warranty claims and additional service actions
 - Costs for safety, emissions, and fuel economy technology and equipment
- A high proportion of relatively fixed structural costs, so that small changes in wholesale unit volumes can significantly affect overall profitability

Our industry has a very competitive pricing environment, driven in part by industry excess capacity. For the past several decades, manufacturers typically have given price discounts and other marketing incentives to provide value for customers and maintain market share and production levels. The decline in value of foreign currencies in the past has contributed significantly to competitive pressures in many of our markets. In 2019, the U.S. administration sought to address this issue with currency provisions that were included in the recently negotiated United States-Mexico-Canada Agreement and United States-China trade deals.

Competitive Position. The worldwide automotive industry consists of many producers, with no single dominant producer. Certain manufacturers, however, account for the major percentage of total sales within particular countries, especially their countries of origin.

Seasonality. We manage our vehicle production schedule based on a number of factors, including retail sales (i.e., units sold by our dealerships to their customers at retail) and dealer stock levels (i.e., the number of units held in inventory by our dealerships for sale to their customers). Historically, we have experienced some seasonal fluctuation in the business, with production in many markets tending to be higher in the first half of the year to meet demand in the spring and summer (typically the strongest sales months of the year).

Backlog Orders. We generally produce and ship our products on average within approximately 20 days after an order is deemed to become firm. Therefore, no significant amount of backlog orders accumulates during any period.

Raw Materials. We purchase a wide variety of raw materials from numerous suppliers around the world for use in production of our vehicles. These materials include base metals (e.g., steel and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas), and plastics/resins (e.g., polypropylene). We believe we have adequate supplies or sources of availability of raw materials necessary to meet our needs; however, there always are risks and uncertainties with respect to the supply of raw materials that could impact availability in sufficient quantities and at cost effective prices to meet our needs. See the "Overview" section of Item 7 for a discussion of commodity and energy price trends, and "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" ("Item 7A") for a discussion of commodity price risks.

Intellectual Property. We own or hold licenses to use numerous patents, trade secrets, copyrights, and trademarks on a global basis. We expect to continue building this portfolio as we actively pursue innovation in every part of our business. We also own numerous trademarks and service marks that contribute to the identity and recognition of our Company and its products and services globally. While our intellectual property rights in the aggregate are important to the operation of each of our businesses, we do not believe that our business would be materially affected by the expiration of any particular intellectual property right or termination of any particular intellectual property agreement.

Item 1. Business (Continued)

Warranty Coverage, Field Service Actions, and Customer Satisfaction Actions. We provide warranties on vehicles we sell. Warranties are offered for specific periods of time and/or mileage, and vary depending upon the type of product and the geographic location of its sale. Pursuant to these warranties, we will repair, replace, or adjust all parts on a vehicle that are defective in factory-supplied materials or workmanship during the specified warranty period. In addition to the costs associated with this warranty coverage provided on our vehicles, we also incur costs as a result of field service actions (i.e., safety recalls, emission recalls, and other product campaigns), and for customer satisfaction actions.

For additional information regarding warranty and related costs, see “Critical Accounting Estimates” in Item 7 and Note 27 of the Notes to the Financial Statements.

Wholesales

Wholesales consist primarily of vehicles sold to dealerships. For the majority of such sales, we recognize revenue when we ship the vehicles to our dealerships from our manufacturing facilities. See Item 7 for additional discussion of revenue recognition practices. Wholesales in each region and in certain key markets within each region during the past three years were as follows:

	Wholesales (a)		
	(in thousands of units)		
	2017	2018	2019
United States	2,566	2,540	2,412
Canada	308	295	289
Mexico	82	69	53
North America	2,967	2,920	2,765
Brazil	215	235	218
Argentina	115	86	47
South America	373	365	295
United Kingdom	418	387	367
Germany	277	313	328
EU21 (b)	1,429	1,439	1,345
Russia	54	51	28
Turkey	116	65	47
Europe	1,582	1,533	1,418
Middle East & Africa	119	109	94
China (c)	1,235	732	535
Australia	78	65	64
India	88	98	73
ASEAN (d)	122	117	102
Asia Pacific Operations	331	323	279
Total Company	6,607	5,982	5,386

- (a) Wholesale unit volumes include sales of medium and heavy trucks. Wholesale unit volumes also include all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships, units manufactured by Ford that are sold to other manufacturers, units distributed by Ford for other manufacturers, and local brand units produced by our unconsolidated Chinese joint venture Jiangling Motors Corporation, Ltd. (“JMC”) that are sold to dealerships. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volumes. Revenue from certain vehicles in wholesale unit volumes (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue.
- (b) EU21 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Sweden, and Switzerland.
- (c) China includes Taiwan.
- (d) ASEAN includes Philippines, Thailand, and Vietnam.

Item 1. Business (Continued)**Retail Sales, Industry Volume, and Market Share**

Retail sales, industry volume, and market share in each region and in certain key markets within each region during the past three years were as follows:

	Retail Sales (a) (in millions of units)			Industry Volume (b) (in millions of units)			Market Share (c) (as a percentage)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
United States	2.6	2.5	2.4	17.6	17.7	17.5	14.7%	14.1%	13.8%
Canada	0.3	0.3	0.3	2.1	2.0	2.0	14.9	14.7	14.6
Mexico	0.1	0.1	0.1	1.6	1.5	1.4	5.3	4.8	4.4
North America	3.0	2.9	2.8	21.5	21.5	21.1	13.9	13.4	13.2
Brazil	0.2	0.2	0.2	2.2	2.6	2.8	9.6	9.2	8.1
Argentina	0.1	0.1	0.1	0.9	0.8	0.5	12.9	12.1	11.4
South America	0.4	0.4	0.3	4.2	4.5	4.3	8.9	8.3	7.2
United Kingdom	0.4	0.4	0.4	3.0	2.8	2.7	13.8	13.7	13.0
Germany	0.3	0.3	0.3	3.8	3.8	4.0	7.7	7.9	8.3
EU21 (d)	1.4	1.4	1.4	19.3	19.6	19.7	7.3	7.2	6.9
Russia	0.1	0.1	—	1.6	1.8	1.8	3.1	2.9	1.6
Turkey	0.1	0.1	—	1.0	0.6	0.5	11.9	10.9	10.1
Europe	1.6	1.5	1.4	20.9	20.9	21.0	7.5	7.2	6.8
Middle East & Africa	0.1	0.1	0.1	3.6	3.8	3.1	3.8	3.0	3.2
China (e)	1.2	0.8	0.6	28.6	26.7	26.1	4.2	2.9	2.2
Australia	0.1	0.1	0.1	1.2	1.2	1.1	6.6	6.0	6.0
India	0.1	0.1	0.1	4.1	4.4	3.8	2.2	2.2	2.0
ASEAN (f)	0.1	0.1	0.1	1.6	1.7	1.8	7.5	6.6	5.9
Asia Pacific Operations (e)	0.3	0.3	0.3	16.2	16.8	16.3	2.0	1.9	1.7
Global / Total Company	6.6	6.0	5.5	95.0	94.2	91.9	7.0%	6.3%	6.0%

- (a) Retail sales represents primarily sales by dealers and is based, in part, on estimated vehicle registrations; includes medium and heavy trucks.
- (b) Industry volume is an internal estimate based on publicly-available data collected from various government, private, and public sources around the globe; includes medium and heavy trucks.
- (c) Market share represents reported retail sales of our brands as a percent of total industry volume in the relevant market or region.
- (d) EU21 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sweden, and Switzerland.
- (e) China includes Taiwan; China and Asia Pacific Operations market share includes Ford brand and JMC brand vehicles produced and sold by our unconsolidated affiliates.
- (f) ASEAN includes Philippines, Thailand, and Vietnam.

U.S. Sales by Type

The following table shows U.S. retail sales volume and U.S. wholesales segregated by truck, SUV, and car sales. U.S. retail sales volume reflects transactions with (i) retail and fleet customers (as reported by dealers), (ii) government, and (iii) Ford management. U.S. wholesales reflect sales to dealers.

	U.S. Retail Sales		U.S. Wholesales	
	2018	2019	2018	2019
Trucks	1,139,079	1,243,136	1,156,022	1,285,859
SUVs	872,215	830,471	937,845	816,933
Cars	486,024	349,091	445,999	309,413
Total Vehicles	2,497,318	2,422,698	2,539,866	2,412,205

Item 1. Business (Continued)

MOBILITY SEGMENT

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility LLC (“FSM”). Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility products and subscription and other services on its own, and collaborates with service providers and technology companies.

FORD CREDIT SEGMENT

The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

Ford Credit offers a wide variety of automotive financing products to and through automotive dealers throughout the world. The predominant share of Ford Credit’s business consists of financing our vehicles and supporting our dealers. Ford Credit earns its revenue primarily from payments made under retail installment sale and finance lease (retail financing) and operating lease contracts that it originates and purchases; interest rate supplements and other support payments from us and our affiliates; and payments made under dealer financing programs.

As a result of these financing activities, Ford Credit has a large portfolio of finance receivables and operating leases which it classifies into two portfolios—“consumer” and “non-consumer.” Finance receivables and operating leases in the consumer portfolio include products offered to individuals and businesses that finance the acquisition of our vehicles from dealers for personal and commercial use. Retail financing includes retail installment sale contracts for new and used vehicles and finance leases (comprised of sales-type and direct financing leases) for new vehicles to retail and commercial customers, including leasing companies, government entities, daily rental companies, and fleet customers. Finance receivables in the non-consumer portfolio include products offered to automotive dealers. Ford Credit makes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer vehicle programs. Ford Credit also purchases receivables generated by us and our affiliates, primarily related to the sale of parts and accessories to dealers and certain used vehicles from daily rental fleet companies. Ford Credit also provides financing to us for vehicles that we lease to our employees.

Ford Credit does business in the United States and Canada through business centers. Outside of the United States, Europe is Ford Credit’s largest operation. Ford Credit’s European operations are managed primarily through its United Kingdom-based subsidiary, FCE Bank plc (“FCE”). Within Europe, FCE’s largest markets are the United Kingdom and Germany.

The following table shows Ford Credit’s retail financing and operating lease share of new Ford and Lincoln vehicle sales as well as its wholesale financing share of new Ford and Lincoln vehicles acquired by dealers in the United States and Europe:

	Years Ended December 31,		
	2017	2018	2019
United States			
Share of Ford and Lincoln sales (excl. Fleet)	55%	58%	51%
Wholesale share	76	76	75
Europe - Financing Share			
Share of Ford sales (incl. Fleet)	37%	38%	37%
Wholesale share	98	98	98

In 2019, the lower year-over-year share of Ford and Lincoln sales in the United States primarily reflects changes in Ford’s marketing programs.

See Item 7 and Notes 10, 11, and 13 of the Notes to the Financial Statements for a detailed discussion of Ford Credit’s receivables, credit losses, allowance for credit losses, loss-to-receivables ratios, funding sources, and funding strategies. See Item 7A for a discussion of how Ford Credit manages its financial market risks.

Item 1. Business (Continued)

We routinely sponsor special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. These programs increase Ford Credit's financing volume and share. See Note 2 of the Notes to the Financial Statements for information about our accounting for these programs.

We have an Amended and Restated Relationship Agreement with Ford Credit, pursuant to which, if Ford Credit's managed leverage for a calendar quarter were to be higher than 11.5:1 (as reported in its most recent periodic report), Ford Credit could require us to make or cause to be made a capital contribution to it in an amount sufficient to have caused such managed leverage to have been 11.5:1. No capital contributions have been made pursuant to this agreement. The agreement also allocates to Ford Credit \$3 billion of commitments under our \$13.4 billion corporate credit facility. In a separate agreement with FCE, Ford Credit has agreed to maintain FCE's net worth in excess of \$500 million. No payments have been made pursuant to that agreement.

Ford Credit files periodic reports with the SEC that contain additional information regarding Ford Credit. The reports are available through Ford Credit's website located at www.fordcredit.com/investor-center and can also be found on the SEC's website located at www.sec.gov.

The foregoing information regarding Ford Credit's website and its content is for convenience only and not deemed to be incorporated by reference into this Report nor filed with the SEC.

GOVERNMENTAL STANDARDS

Many governmental standards and regulations relating to safety, fuel economy, emissions control, noise control, vehicle recycling, substances of concern, vehicle damage, and theft prevention are applicable to new motor vehicles, engines, and equipment manufactured for sale. In addition, manufacturing and other automotive assembly facilities are subject to stringent standards regulating air emissions, water discharges, and the handling and disposal of hazardous substances. The most significant of the standards and regulations affecting us are discussed below:

Vehicle Emissions Control

U.S. Requirements - Federal and California Emission Standards. Both the U.S. Environmental Protection Agency ("EPA") and the California Air Resources Board ("CARB") have established motor vehicle tailpipe and evaporative emissions standards that become increasingly stringent over time. Thirteen states have adopted the California standards, and other states may join them. Both federal and California regulations also require motor vehicles to be equipped with on-board diagnostic ("OBD") systems that monitor emission-related systems and components. In addition, vehicles and heavy-duty engines must be certified by EPA prior to sale in the United States and Canada, and by CARB prior to sale in California and the relevant states. Compliance with emissions standards, OBD requirements, and related regulations can be challenging and can drive increased product development costs, warranty costs, and vehicle recalls.

Both EPA and CARB have announced that they intend to promulgate new emissions regulations applicable to future heavy-duty engines. These rules are likely to include more stringent emissions standards as well as new requirements affecting durability testing, warranty, and OBD. The new rules are expected to impose increased challenges and costs on the development of heavy-duty engines.

Compliance with automobile emission standards depends in part on the widespread availability of high-quality and consistent automotive fuels that the vehicles were designed to use. Legislative, regulatory, and judicial developments related to fuel quality at both the national and state levels could affect vehicle manufacturers' warranty costs as well as their ability to comply with vehicle emission standards.

The California vehicle emissions program also includes requirements for manufacturers to produce and deliver for sale zero-emission vehicles ("ZEVs"). The current ZEV regulations mandate substantial annual increases in the production and sale of battery-electric, fuel cell, and plug-in hybrid vehicles through the 2025 model year. By the 2025 model year, approximately 15% of a manufacturer's total California sales volume will need to be made up of such vehicles. California is now in the process of promulgating future ZEV regulations aimed at medium- and heavy-duty vehicles. These rules, which could entail significant costs and compliance challenges, are also expected to include complex warranty and recall requirements. Compliance with ZEV rules depends on market conditions as well as the availability of adequate infrastructure to support vehicle charging.

Item 1. Business (Continued)

European Requirements. European Union (“EU”) directives and related legislation limit the amount of regulated pollutants that may be emitted by new motor vehicles and engines sold in the EU. Regulatory stringency has increased significantly since 2014 when Stage VI emission standards were introduced. Since then, a laboratory test cycle for CO₂ and emissions was implemented in 2017, followed by the introduction of on-road emission testing using portable emission analyzers (Real Driving Emission or “RDE”). These on-road emission tests are in addition to the laboratory-based tests. The divergence between the regulatory limit that is tested in laboratory conditions and the values measured in RDE tests will ultimately be reduced to zero as the regulatory demands increase. The costs associated with complying with these requirements are significant, and following the EU Commission’s indication of its intent to accelerate emissions rules in its new road map publication “EU Green Deal,” the challenges will continue. In addition, the Whole Vehicle Type Approval (“WVTA”) regulation has been updated to increase the stringency of in-market surveillance.

There is an increasing trend of city access restrictions for internal combustion engine powered vehicles, particularly in European cities that do not meet air quality limits. The access rules being introduced are developed by individual cities based on their specific concerns, resulting in rapid deployment of access rules that differ greatly among cities. The speed of implementation of access rules may directly influence customer vehicle residual values and choice of next purchase, and there is a risk that these rules may result in the need for customers to retrofit their vehicles with emission after-treatment systems. In an effort to achieve country specific targets supporting the Paris Accord, some countries are adopting yearly increases in CO₂ taxes, where such a system is in place, and publishing dates by when internal combustion powered vehicles may no longer be registered, e.g., Norway 2025 and the Netherlands 2030.

Other National Requirements. Many countries, in an effort to address air quality and climate change concerns, are adopting previous versions of European or United Nations Economic Commission for Europe (“UN-ECE”) mobile source emission regulations. Some countries have adopted more advanced regulations based on the most recent version of European or U.S. regulations. For example, the China Stage VI emission standards, based on European Stage VI emission standards for light duty vehicles, U.S. evaporative and refueling emissions standards, and CARB OBD II requirements, incorporate two levels of stringency for tailpipe emissions. Level one is slated for implementation by July 1, 2020, and the more stringent level two is slated for implementation by July 1, 2023. The government has encouraged the more developed cities to pull-ahead implementation. The earliest implementation began in July 2019.

Canadian criteria emissions regulations are largely aligned with U.S. requirements; however, Quebec’s ZEV regulations are more stringent than those in place in California. In addition, in May 2019, the Province of British Columbia passed legislation regarding regulation of ZEV sales. Final regulations are expected in 2020.

In South America, there is a mix of regulations and processes based on U.S. and European standards. Brazil has established more stringent requirements for light duty vehicle tailpipe and evaporative emissions based on U.S. regulations, including onboard refueling vapor recovery (“ORVR”) systems and OBD monitors, and adopted RDE requirements based on European Stage VI regulations. New requirements to be implemented in two stages (PROCONVE L7 by January 1, 2022 and PROCONVE L8 by January 1, 2025) include fleet average emissions standards based on U.S. EPA’s requirements. For heavy-duty vehicles, PROCONVE P8 established new requirements effective January 1, 2022 based on European Stage VI regulations.

Elsewhere, there is a mix of regulations and processes based on U.S. and EU standards. Not all countries have adopted appropriate fuel quality standards to accompany the stringent emission standards adopted. This could lead to compliance problems, particularly if OBD or in-use surveillance requirements are implemented.

Global Developments. In recent years, EPA and CARB have increased their focus on the use of “defeat devices.” Defeat devices are elements of design (typically embedded in software) that improperly cause the emission control system to function less effectively during normal on-road driving than during an official laboratory emissions test, without justification. They are prohibited by law in many jurisdictions, and we do not use defeat devices in our vehicles.

Item 1. Business (Continued)

Regulators around the world continue to scrutinize automakers' emission testing, which has led to a number of defeat device settlements by various manufacturers. EPA is carrying out additional non-standard tests as part of its vehicle certification program. CARB has also been conducting extensive non-standard emission tests, which in some cases have resulted in certification delays for diesel vehicles. In the past, several European countries have conducted non-standard emission tests and published the results, and, in some cases, this supplemental testing has triggered investigations of manufacturers for possible defeat devices. Testing is expected to continue on an ongoing basis. In addition, plaintiffs' attorneys are pursuing consumer class action lawsuits based on alleged excessive emissions from cars and trucks, which could, in turn, prompt further investigations by regulators.

Vehicle Fuel Economy and Greenhouse Gas Standards

U.S. Requirements - Light Duty Vehicles. Federal law requires that light duty vehicles meet minimum corporate average fuel economy ("CAFE") standards set by the National Highway Traffic Safety Administration ("NHTSA"). Manufacturers are subject to substantial civil penalties if they fail to meet the CAFE standard in any model year, after taking into account all available credits for the preceding three model years and expected credits for the five succeeding model years. The law requires NHTSA to promulgate and enforce separate CAFE standards applicable to each manufacturer's fleet of domestic passenger cars, imported passenger cars, and light-duty trucks.

EPA also regulates vehicle greenhouse gas ("GHG") emissions under the Clean Air Act. Because the vast majority of GHGs emitted by a vehicle are the result of fuel combustion, GHG emission standards are similar to fuel economy standards. Thus, it is necessary for NHTSA and EPA to coordinate with each other on their fuel economy and GHG standards, respectively, to avoid potential inconsistencies.

Since the 2012 model year, EPA and NHTSA have jointly promulgated harmonized GHG and fuel economy regulations under what came to be known as the "One National Program" ("ONP") framework. California, which had promulgated its own state-specific set of GHG regulations, agreed that compliance with the federal program would satisfy compliance with its own GHG requirements, thereby avoiding a patchwork of potentially conflicting federal and state GHG standards. ONP has required manufacturers to achieve increasingly stringent year-over-year standards.

ONP was envisioned to continue at least through the 2025 model year. The ONP rules provided for a midterm evaluation process under which, by April 2018, EPA and NHTSA would re-evaluate the standards for model years 2022-2025 in order to ensure that they are feasible and optimal in light of intervening events. As a result of the mid-term evaluation process, the federal government issued a proposed rule to significantly reduce the stringency of future GHG standards. The federal government also took the position that California's vehicle GHG standards are preempted by federal law. California, which continues to assert its authority to regulate vehicle GHGs, took steps to withdraw from ONP and return to enforcing its own state-specific GHG standard beginning with the 2021 model year. Litigation over the preemption issue is underway. The federal government is expected to release a final rule setting fuel economy and GHG standards; this rule is likely to be challenged in court by a coalition of states and non-governmental organizations ("NGOs").

The anticipated litigation over both standards and preemption, with uncertain outcomes, creates difficulty for purposes of Ford's future product planning. One plausible outcome is a "bifurcated" scenario in which California, along with the 13 states that have adopted California's GHG standards, enforce one set of rules, while a different set of rules applies in the rest of the country. Such an outcome would impose a layer of complexity on Ford's product planning, testing, certification, and distribution activities. In an effort to avoid such an outcome and mitigate the current regulatory uncertainty, Ford reached an agreement with California on a set of terms for an alternative framework. Under this framework, Ford will meet a designated set of standards on a national basis in lieu of the California regulatory program. This framework enables Ford to continue its product planning on a nationwide basis, and it is also consistent with Ford's environmental goals. Ford is in the process of finalizing a formal agreement with California and the relevant states based on the framework terms.

While the pending framework agreement helps mitigate the current regulatory uncertainty, it does not resolve all potential risks or litigation outcomes. Ford would face increased costs and complexity should a "bifurcated" set of fuel economy/GHG regulations be imposed in the future. If any federal or state agency imposes and enforces fuel economy and GHG standards that are misaligned with market conditions, Ford would likely be forced to take various actions that could have substantial adverse effects on our sales volumes and results of operations. Such actions likely would include restricting offerings of selected engines and popular options; increasing market support programs for Ford's most fuel-efficient vehicles; and ultimately curtailing the production and sale of certain vehicles, such as high-performance cars, utilities, and/or full-size light trucks in order to maintain compliance.

Item 1. Business (Continued)

U.S. Requirements - Heavy-Duty Vehicles. EPA and NHTSA have jointly promulgated GHG and fuel economy standards for heavy-duty vehicles (generally, vehicles over 8,500 pounds gross vehicle weight rating) through the 2027 model year. In Ford's case, the standards primarily affect heavy-duty pickup trucks and vans, plus vocational vehicles such as shuttle buses and delivery trucks. As the heavy-duty standards increase in stringency, it may become more difficult to comply while continuing to offer a full lineup of heavy-duty trucks.

European Requirements. The EU regulates passenger car and light commercial vehicle CO₂ emissions using sliding scales with different CO₂ targets for each manufacturer based on the respective average vehicle weight for its fleet of vehicles first registered in a calendar year, with separate targets for passenger cars and light commercial vehicles. A penalty system applies to manufacturers failing to meet the individual CO₂ targets. Pooling agreements between manufacturers are possible under certain conditions. For "multi-stage vehicles" (e.g., Ford's Transit chassis cabs), the base manufacturer (e.g., Ford) is fully responsible for the CO₂ performance of the final up-fitted vehicles. The initial target levels get significantly more stringent every five years (2020, 2025, 2030), requiring significant investments in propulsion technologies and extensive fleet management forcing low CO₂ volume. Delayed launches, supply shortages, or lower demand for low CO₂ emission vehicles, as well as a limited charging infrastructure, can trigger compliance risks.

The EU Commission is investigating the introduction of Real Driving CO₂ and Life Cycle Assessment elements, and heavy-duty vehicles are addressed in separate regulations with analogous requirements and challenges. As discussed above, the EU Commission has announced a "Green Deal" that is likely to trigger more stringent requirements for CO₂ emissions and regulated emissions and include recycling and substance restrictions. The announcement also included a pull ahead of revision dates for the CO₂ fleet regulation. The EU Commission targets net climate neutrality by 2050 and a more ambitious 2030 interim target (a 50-55% instead of 40% CO₂ reduction compared to 1990).

Outside of the EU, Switzerland has introduced similar rules. Ford faces the risk of advance premium payment requirements for both passenger cars as well as for light commercial vehicles due to, for example, unexpected market fluctuations and shorter lead times impacting average fleet performance.

The United Nations developed a technical regulation for passenger car emissions and CO₂. This new world light duty test procedure ("WLTP") is focused primarily on better aligning laboratory CO₂ and fuel consumption figures with customer-reported figures. The introduction of WLTP in Europe started in September 2017 and requires updates to CO₂ labeling, thereby impacting taxes in countries with a CO₂ tax scheme as well as CO₂ fleet regulations for passenger cars and light commercial vehicles. Costs associated with new or incremental testing for WLTP are significant.

Some European countries have implemented or are considering other initiatives for reducing CO₂ vehicle emissions, including fiscal measures and CO₂ labeling to address country specific targets associated with the Paris Accord. For example, the United Kingdom, France, Germany, Spain, Portugal, and the Netherlands, among others, have introduced taxation based on CO₂ emissions. The EU CO₂ requirements are likely to trigger further measures.

Other National Requirements. The Canadian federal government regulates vehicle GHG emissions under the Canadian Environmental Protection Act. In October 2014, the Canadian federal government published the final changes to the regulation for light-duty vehicles, which maintain alignment with U.S. EPA vehicle GHG standards for the 2017-2025 model years. Canada is also undertaking a mid-term evaluation of the standards for the 2022 model year and beyond, the outcome of which remains uncertain and may be influenced by U.S. actions. The final regulation for 2014-2018 heavy-duty vehicles was published in February 2013. The 2018 model year standards will remain in place through the 2020 model year. Final regulations for the 2021 model year and beyond were published in May 2018 and are in line with U.S. requirements. In Mexico, fuel economy and CO₂ regulation is based on a combination of NHTSA and U.S. EPA standards, with modifications that take into consideration local conditions; however, the current administration is seeking to implement more stringent regulations.

The China fuel consumption requirement uses a weight-based approach to establish targets, specifies year-over-year target reductions, and requires New Energy Vehicle ("NEV") mandated volumes of plug-in hybrids, battery electric vehicles, or fuel cell vehicles to generate credits equivalent to 12% in 2020 of the year's production or import fleet volume. China has set the 2020 fuel consumption fleet average at 5.0L/100km and 4.0L/100km in 2025. The government is projecting further fuel consumption reductions in 2030 and is targeting 3.2L/100km. The fuel efficiency targets and NEV mandate will impact the costs of vehicle technology in the future.

Item 1. Business (Continued)

In South America, Brazil was the first country to establish an energy efficiency policy for light-duty vehicles with a spark ignition engine. Targets had to be achieved for 2017 and must be maintained through 2020. Additional tax reductions are available if further fuel efficiency targets are achieved, and penalties may be applied if the efficiency levels are not maintained. In December 2018, the next phase of the fuel efficiency program was published. It includes light-duty diesel and heavy-duty vehicles, and it will be effective in 2022. Other countries in the region are considering a similar approach, such as the fuel efficiency labeling program in Argentina and Chile.

Vehicle Safety

U.S. Requirements. The National Traffic and Motor Vehicle Safety Act of 1966 (the "Safety Act") regulates vehicles and vehicle equipment in two primary ways. First, the Safety Act prohibits the sale in the United States of any new vehicle or equipment that does not conform to applicable vehicle safety standards established by NHTSA. Meeting or exceeding many safety standards is costly and has continued to evolve as global compliance and public domain (e.g., New Car Assessment Programs ("NCAPs"), Insurance Institute for Highway Safety ("IIHS")) requirements continue to evolve, are increasing in demands, and lack harmonization globally. As we expand our business priorities to include autonomous vehicles and broader mobility products and services, our financial exposure has increased. Second, the Safety Act requires that defects related to motor vehicle safety be remedied through safety recall campaigns. A manufacturer is obligated to recall vehicles if it determines the vehicles do not comply with a safety standard. Should we or NHTSA determine that either a safety defect or noncompliance issue exists with respect to any of our vehicles, the cost of such recall campaigns could be substantial.

Other National Requirements. The EU and many countries have established vehicle safety standards and regulations and are likely to adopt additional or more stringent requirements in the future. The European General Safety Regulation introduced UN-ECE regulations, which will be required for the European Type Approval process and will require the mandatory introduction of multiple active and passive safety features with limited lead time. EU regulators also are focusing on active safety features, such as lane departure warning systems, electronic stability control, and automatic brake assist. Globally, governments generally have been adopting UN-ECE based regulations with minor variations to address local concerns. Any difference between North American and UN-ECE based regulations can add complexity and costs to the development of global platform vehicles, and we continue to support efforts to harmonize regulations to reduce vehicle design complexity while providing a common level of safety performance; several on-going bilateral negotiations on free trade can potentially contribute to this goal. New safety and recall requirements in Brazil, China, India, and Gulf Cooperation Council countries also may add substantial costs and complexity to our global recall practice. Brazil has set mandatory fleet safety targets, and penalties are applied, if these levels are not maintained, while a tax reduction may be available for over-performance. In Canada, regulatory requirements are currently aligned with U.S. regulations; however, under the Canadian Motor Vehicle Safety Act, the Minister of Transport has broad powers to order manufacturers to submit a notice of defect or non-compliance when the Minister considers it to be in the interest of safety. In China, a new mandatory Event Data Recorder regulation is under development that is more complex than U.S. requirements, and in China, Malaysia, and South Korea, mandatory e-Call requirements are being drafted. E-Call is mandatory in the UAE for new vehicles beginning with the 2021 model year.

New Car Assessment Programs. Organizations around the world rate and compare motor vehicles in NCAPs to provide consumers and businesses with additional information about the safety of new vehicles. NCAPs use crash tests and other evaluations that are different than what is required by applicable regulations, and use stars to rate vehicle safety, with five stars awarded for the highest rating and one for the lowest. Achieving high NCAP ratings, which may vary by country or region, can add complexity and cost to vehicles. Similarly, environmental rating systems exist in various regions, e.g., Green NCAP in Europe.

Item 1. Business (Continued)**EMPLOYMENT DATA**

The approximate number of individuals employed by us and entities that we consolidated as of December 31 was as follows (in thousands):

	2018	2019
Automotive	183	173
Ford Credit	8	7
Mobility	1	3
Corporate and Other	7	7
Total Company	199	190

Substantially all of the hourly employees in our Automotive operations are represented by unions and covered by collective bargaining agreements. In the United States, approximately 99% of these unionized hourly employees in our Automotive segment are represented by the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America ("UAW" or "United Auto Workers"). At December 31, 2019, approximately 56,000 hourly employees in the United States were represented by the UAW.

ITEM 1A. Risk Factors.

We have listed below the most significant risk factors applicable to us grouped into the following categories: Operational Risks; Macroeconomic, Market, and Strategic Risks; Financial Risks; and Legal and Regulatory Risks.

Operational Risks***Ford's long-term competitiveness depends on the successful execution of global redesign and fitness actions.***

We previously announced plans for our global redesign and fitness actions to transform the operational fitness of our business by becoming more customer centric and adopting processes that emphasize simplicity, speed and agility, efficiency, and accountability. In addition, to further improve our fitness and overall competitiveness, we are attempting to leverage relationships with third parties, including various alliances and joint ventures as discussed below under "*Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, or new business strategies.*" If our global redesign actions are not successful or are delayed for reasons outside of our control, particularly in Europe and South America, or our fitness actions are not successful, we may not be able to materially lower costs in the near term or improve our competitiveness in the long term, which could have an adverse effect on our financial condition or results of operations.

Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs.

Government safety standards require manufacturers to remedy defects related to vehicle safety through safety recall campaigns, and a manufacturer is obligated to recall vehicles if it determines that the vehicles do not comply with a safety standard. NHTSA's enforcement strategy has shifted to a significant increase in civil penalties levied and the use of consent orders requiring direct oversight by NHTSA of certain manufacturers' safety processes, a trend that could continue. Should we or government safety regulators determine that a safety or other defect or a noncompliance exists with respect to certain of our vehicles prior to the start of production, the launch of such vehicle could be delayed until such defect is remedied. The cost of recall and customer satisfaction actions to remedy defects in vehicles that have been sold could be substantial, particularly if the actions relate to global platforms or involve defects that are identified years after production (e.g., Takata airbag inflators). Such recall and customer satisfaction actions may relate to defective components we receive from suppliers, and our ability to recover from the suppliers may be limited by the suppliers' financial condition. We accrue the estimated cost of both base warranty coverages and field service actions at the time a vehicle is sold, and we reevaluate the adequacy of our accruals on a regular basis. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance. For additional information regarding warranty and field service action costs, including our process for establishing our reserves, see "Critical Accounting Estimates" in Item 7 and Note 27 of the Notes to the Financial Statements. If warranty costs are greater than anticipated as a result of increased vehicle and component complexity, the adoption of new technologies, or otherwise, such costs could have an adverse effect on our financial condition or results of operations. Furthermore, launch delays, recall actions, and increased warranty costs could adversely affect our reputation or market acceptance of our products as discussed below under "*Ford's new and existing products and mobility services are subject to market acceptance.*"

Item 1A. Risk Factors (Continued)

Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, or new business strategies. We have invested in, formed strategic alliances with, and announced or formed joint ventures with a number of companies, and we may expand those relationships or enter into similar relationships with additional companies. These initiatives typically involve enormous complexity and we may not be able to complete anticipated alliance or joint venture transactions, the anticipated benefits of these transactions may not be realized, or the benefits may be delayed. For example, we may not successfully integrate an alliance or joint venture with our operations, including the implementation of our controls, systems, procedures, and policies, or unforeseen expenses or liabilities may arise that were not discovered during due diligence prior to an investment or entry into a strategic alliance, or a misalignment of interests may develop between us and the other party. Further, to the extent we share ownership, control, or management with another party in a joint venture, our ability to influence the joint venture may be limited, and we may be unable to prevent misconduct or implement our compliance or internal control systems. In addition, implementation of a new business strategy may lead to the disruption of our existing business operations, including distracting management from current operations. Results of operations from new activities may be lower than our existing activities, and, if a strategy is unsuccessful, we may not recoup our investments in that strategy. Failure to successfully and timely realize the anticipated benefits of these transactions or strategies could have an adverse effect on our financial condition or results of operations.

Operational systems, security systems, and vehicles could be affected by cyber incidents. We rely on information technology networks and systems, including in-vehicle systems and mobile devices, some of which are managed by suppliers, to process, transmit, and store electronic information that is important to the operation of our business and our vehicles. Despite security measures, we are at risk for interruptions, outages, and compromises of: (i) operational systems (including business, financial, accounting, product development, consumer receivables, data processing, or manufacturing processes); (ii) facility security systems; and/or (iii) in-vehicle systems or mobile devices. Such cyber incidents could materially disrupt operational systems; result in loss of trade secrets or other proprietary or competitively sensitive information; compromise the privacy of personal information of consumers, employees, or others; jeopardize the security of our facilities; affect the performance of in-vehicle systems; and/or impact the safety of our vehicles. The cyber risk exposure rises as we continue to develop and produce vehicles with increased connectivity. We, our suppliers, and our dealers have been the target of cyber attacks in the past, and such attacks will continue to evolve in the future, which may cause cyber incidents to be more difficult to detect for periods of time. Our networks and in-vehicle systems, sharing similar architectures, could also be impacted by the negligence or misconduct of insiders or third parties who have access to our networks and systems. We continually employ capabilities, processes, and other security measures designed to reduce and mitigate the risk of cyber attacks; however, such preventative measures cannot provide absolute security and may not be sufficient in all circumstances or mitigate all potential risks. Moreover, a cyber incident could harm our reputation and/or subject us to regulatory actions or litigation, and a cyber incident involving us or one of our suppliers could impact production.

Ford's production, as well as Ford's suppliers' production, could be disrupted by labor issues, natural or man-made disasters, financial distress, production difficulties, or other factors. A work stoppage or other limitation on production could occur at Ford's or its suppliers' facilities for any number of reasons, including as a result of labor issues, including disputes under existing collective bargaining agreements with labor unions or in connection with negotiation of new collective bargaining agreements, absenteeism, public health issues, or in response to potential restructuring actions (e.g., plant closures); as a result of supplier financial distress or other production constraints, quality issues, or other difficulties; as a result of a natural disaster (including climate-related physical risk); or for other reasons. Many components used in our vehicles are available only from a single supplier and, therefore, cannot be re-sourced quickly or inexpensively to another supplier (due to long lead times, new contractual commitments that may be required by another supplier before ramping up to provide the components or materials, etc.). Such single-source suppliers also could threaten to disrupt our production as leverage in negotiations. In addition, when we undertake a model changeover, significant downtime at one or more of our production facilities may be required, and our ability to return to full production may be delayed if we experience production difficulties at one of our facilities or a supplier's facility. Moreover, as vehicles, components, and their integration become more complex, we may face an increased risk of a delay in production of new vehicles. A significant disruption to our production schedule could have a substantial adverse effect on our financial condition or results of operations.

Item 1A. Risk Factors (Continued)***Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints.***

Substantially all of the hourly employees in our Automotive operations in the United States and Canada are represented by unions and covered by collective bargaining agreements. These agreements provide guaranteed wage and benefit levels throughout the contract term and some degree of income security, subject to certain conditions. These agreements may restrict our ability to close plants and divest businesses. A substantial number of our employees in other regions are represented by unions or government councils, and legislation or custom promoting retention of manufacturing or other employment in the state, country, or region may constrain as a practical matter our ability to sell or close manufacturing or other facilities.

Ford's ability to attract and retain talented, diverse, and highly skilled employees is critical to its success and competitiveness. Our success depends on our ability to continue to recruit and retain talented and diverse employees who are highly skilled in engineering, software, and technology, among other areas. Competition for such employees is intense, and the loss of existing employees or our inability to recruit new employees, particularly with the introduction of new technologies, could have a substantial adverse effect on our business.**Macroeconomic, Market, and Strategic Risks*****Ford's new and existing products and mobility services are subject to market acceptance.*** Although we conduct extensive market research before launching new or refreshed vehicles and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace and we may not be able to accurately predict trends or the success of new products or services in the market. It takes years to design and develop a new vehicle or change an existing vehicle. Because customers' preferences may change quickly, our new and existing products may not generate sales in sufficient quantities and at costs low enough to be profitable. Offering vehicles and services that customers want and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less desirable (whether in terms of price, quality, styling, safety, overall value, fuel efficiency, or other attributes) can exacerbate these risks. For example, if we are unable to differentiate our products from those of our competitors or sufficiently tailor our products to customers in markets like China, there could be insufficient demand for our products, which could have an adverse impact on our financial condition or results of operations.

With increased consumer interconnectedness through the internet, social media, and other media, mere allegations relating to quality, safety, fuel efficiency, corporate social responsibility, or other key attributes can negatively impact our reputation or market acceptance of our products or services, even where such allegations prove to be inaccurate or unfounded. Further, our ability to successfully grow through investments in the area of mobility and electrification depends on many factors, including advancements in technology, regulatory changes, and other factors that are difficult to predict, that may significantly affect the future of autonomous vehicles and mobility services. The automotive and mobility businesses are very competitive, and rapid changes to our industry, including the introduction of new types of competitors that may possess technological innovations, increase the importance that we are able to anticipate, develop, and deliver products and services that customers desire on a timely basis and at costs low enough to be profitable. If the propulsion choices (such as electrified vehicles) or autonomous vehicles and services we offer do not gain market acceptance or at the rate we expect, there could be an adverse impact on our financial condition or results of operations. Moreover, new offerings may present technological challenges that could be costly to implement and overcome and may subject us to customer claims if they do not operate as anticipated. In addition, since new technologies are subject to market acceptance, a malfunction involving any manufacturer's autonomous vehicle may negatively impact the perception of autonomous vehicles and erode customer trust.

Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States. A shift in consumer preferences away from larger, more profitable vehicles (including trucks and utilities) at levels beyond our current planning assumption, whether because of spiking fuel prices, a decline in the construction industry, government actions or incentives, or other reasons, could result in an immediate and substantial adverse effect on our financial condition or results of operations.

Item 1A. Risk Factors (Continued)

With a global footprint, Ford's results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including tariffs and Brexit. With the increasing interconnectedness of the global economy, a financial crisis, economic downturn or recession, natural disaster, geopolitical crisis, or other significant event in one area of the world can have an immediate and material adverse impact on markets around the world. Changes in international trade policy can also have a substantial adverse effect on our financial condition or results of operations. For example, steps taken by the U.S. government to apply or consider applying tariffs on automobiles, parts, and other products and materials have the potential to disrupt existing supply chains, impose additional costs on our business, affect the demand for our products, and make us less competitive. Further, other countries attempting to retaliate by imposing tariffs would increase the cost for us to import our vehicles into such countries. In addition, changes to and withdrawals from existing trade agreements and the entry into new trade agreements between governments may impact our results of operations.

China, in particular, presents unique risks to automakers due to its unique competitive and regulatory landscape. For example, we have established joint ventures in China, and, as discussed above under "*Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, or new business strategies,*" we do not have the ability to control or operate those joint ventures for our sole benefit. Changes in the Chinese economy, and the automotive market in particular, are driving significant changes to our business model for operating in China. Moreover, changes in U.S.-China trade policy and new or increased tariffs, as well as a further economic slowdown, may have an adverse effect on our financial condition or results of operations.

In Europe, the United Kingdom withdrew from the European Union effective as of January 31, 2020, and is now in a period of transition until the end of 2020. The transition period maintains all existing trading arrangements. During the transition period, the United Kingdom and European Union will negotiate future trading arrangements. Until a final agreement has been reached, an exit without a trade agreement in place, which would result in the United Kingdom losing access to free trade agreements for goods and services with the European Union and other countries, continues to be a risk. An exit from the European Union without an agreement in place would likely result in a significant reduction in industry volumes in the United Kingdom, increased tariffs on U.K. imports and exports, and delays at the U.K. border, which could have a substantial adverse impact on our financial condition or results of operations. To the extent there is a negotiated Brexit, the implementation of any agreements reached, and the changes to current operations and processes resulting therefrom, could have an adverse impact on our operations.

We have operations in various markets with volatile economic or political environments and are pursuing growth opportunities in a number of newly developed and emerging markets. These investments may expose us to heightened risks of economic, geopolitical, or other events, including governmental takeover (i.e., nationalization) of our manufacturing facilities or intellectual property, restrictive exchange or import controls, disruption of operations as a result of systemic political or economic instability, outbreak of war or expansion of hostilities, and acts of terrorism, each of which could have a substantial adverse effect on our financial condition or results of operations. Further, the U.S. government, other governments, and international organizations could impose additional sanctions that could restrict us from doing business directly or indirectly in or with certain countries or parties, which could include affiliates.

Industry sales volume in any of our key markets can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event. Because we, like other manufacturers, have a high proportion of relatively fixed structural costs, relatively small changes in industry sales volume can have a substantial effect on our cash flow and results of operations. Industry vehicle sales are affected by overall economic and market conditions. If industry vehicle sales were to decline to levels significantly below our planning assumption for key markets including the United States, Europe, or China, the decline could have a substantial adverse effect on our financial condition, results of operations, and cash flow. For a discussion of economic trends, see Item 7.

Item 1A. Risk Factors (Continued)

Ford may face increased price competition or a reduction in demand for its products resulting from industry excess capacity, currency fluctuations, competitive actions, or other factors. The global automotive industry is intensely competitive, with manufacturing capacity far exceeding current demand. Industry overcapacity has resulted in many manufacturers offering marketing incentives on vehicles in an attempt to maintain and grow market share; these incentives historically have included a combination of subsidized financing or leasing programs, price rebates, and other incentives. As a result, we are not necessarily able to set our prices to offset higher costs of marketing incentives, commodity or other cost increases, tariffs, or the impact of adverse currency fluctuations, including pricing advantages foreign competitors may have because of their weaker home market currencies. Continuation of or increased excess capacity, particularly for trucks and utilities, could have a substantial adverse effect on our financial condition or results of operations.

Fluctuations in commodity prices, foreign currency exchange rates, interest rates, and market value of our investments can have a significant effect on results. We are exposed to a variety of market risks, including the effects of changes in commodity prices, foreign currency exchange rates, and interest rates. We monitor and manage these exposures as an integral part of our overall risk management program, which recognizes the unpredictability of markets and seeks to reduce potentially adverse effects on our business. Changes in commodity prices (from tariffs, as discussed above under “*With a global footprint, Ford’s results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including tariffs and Brexit,*” or otherwise), currency exchange rates, and interest rates cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility. As a result, significant changes in commodity prices, foreign currency exchange rates, or interest rates could have a substantial adverse effect on our financial condition or results of operations. See Item 7 and Item 7A for additional discussion of currency, commodity price, and interest rate risks. In addition, our results are impacted by fluctuations in the market value of our investments, which are included in Corporate Other.

Financial Risks

Ford and Ford Credit’s access to debt, securitization, or derivative markets around the world at competitive rates or in sufficient amounts could be affected by credit rating downgrades, market volatility, market disruption, regulatory requirements, or other factors. Ford and Ford Credit’s ability to obtain unsecured funding at a reasonable cost is dependent on their credit ratings or their perceived creditworthiness. Further, Ford Credit’s ability to obtain securitized funding under its committed asset-backed liquidity programs and certain other asset-backed securitization transactions is subject to having a sufficient amount of assets eligible for these programs, as well as Ford Credit’s ability to obtain appropriate credit ratings and, for certain committed programs, derivatives to manage the interest rate risk. Over time, and particularly in the event of credit rating downgrades, market volatility, market disruption, or other factors, Ford Credit may reduce the amount of receivables it purchases or originates because of funding constraints. The potential discontinuance of LIBOR is one such risk that could cause market volatility or disruption. In July 2017, the chief executive of the United Kingdom Financial Conduct Authority (the “FCA”), which regulates LIBOR, announced that the FCA intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. It is unknown whether any banks will continue to voluntarily submit rates for the calculation of LIBOR after 2021 or whether LIBOR will continue to be published by its administrator based on these submissions or on any other basis. It is not possible to predict the effect of these changes, other reforms, or the establishment of alternative reference rates, but the potential discontinuance of LIBOR could adversely affect Ford Credit’s access to the debt, securitization, or derivative markets and its cost of funding and hedging. In addition, Ford Credit may reduce the amount of receivables it purchases or originates if there is a significant decline in the demand for the types of securities it offers or Ford Credit is unable to obtain derivatives to manage the interest rate risk associated with its securitization transactions. A significant reduction in the amount of receivables Ford Credit purchases or originates would significantly reduce its ongoing results of operations and could adversely affect its ability to support the sale of Ford vehicles.

Item 1A. Risk Factors (Continued)

Ford's receipt of government incentives could be subject to reduction, termination, or clawback. We receive economic benefits from national, state, and local governments in various regions of the world in the form of incentives designed to encourage manufacturers to establish, maintain, or increase investment, workforce, or production. These incentives may take various forms, including grants, loan subsidies, or tax abatements or credits. The impact of these incentives can be significant in a particular market during a reporting period. For example, most of our manufacturing facilities in South America are located in Brazil, where the state or federal governments have historically offered, and continue to offer, significant incentives to manufacturers to encourage capital investment, increase manufacturing production, and create jobs. As a result, the performance of our South American operations has been impacted favorably by government incentives to a substantial extent. In Brazil, however, the federal government has levied assessments against us concerning our calculation of federal incentives we received, and certain states have challenged the grant to us of tax incentives by the State of Bahia. A decrease in, expiration without renewal of, or other cessation or clawback of government incentives for any of our business units, as a result of administrative decision or otherwise, could have a substantial adverse impact on our financial condition or results of operations. See Note 2 of the Notes to the Financial Statements for discussion of our accounting for government incentives, and "Item 3. Legal Proceedings" for a discussion of tax proceedings in Brazil and the potential requirement for us to post collateral.

Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles. Credit risk is the possibility of loss from a customer's or dealer's failure to make payments according to contract terms. Credit risk (which is heavily dependent upon economic factors including unemployment, consumer debt service burden, personal income growth, dealer profitability, and used car prices) has a significant impact on Ford Credit's business. The level of credit losses Ford Credit may experience could exceed its expectations and adversely affect its financial condition or results of operations. In addition, Ford Credit projects expected residual values (including residual value support payments from Ford) and return volumes for the vehicles it leases. Actual proceeds realized by Ford Credit upon the sale of returned leased vehicles at lease termination may be lower than the amount projected, which would reduce Ford Credit's return on the lease transaction. Among the factors that can affect the value of returned lease vehicles are the volume and mix of vehicles returned, economic conditions, marketing programs, and quality or perceived quality, safety, fuel efficiency, or reliability of the vehicles, or changes in propulsion technology and related legislative changes. Actual return volumes may be influenced by these factors, as well as by contractual lease-end values relative to auction values. Each of these factors, alone or in combination, has the potential to adversely affect Ford Credit's results of operations if actual results were to differ significantly from Ford Credit's projections. See "Critical Accounting Estimates" in Item 7 for additional discussion.

Economic and demographic experience for pension and other postretirement benefit plans (e.g., discount rates or investment returns) could be worse than Ford has assumed. The measurement of our obligations, costs, and liabilities associated with benefits pursuant to our pension and other postretirement benefit plans requires that we estimate the present value of projected future payments to all participants. We use many assumptions in calculating these estimates, including assumptions related to discount rates, investment returns on designated plan assets, and demographic experience (e.g., mortality and retirement rates). We generally remeasure these estimates at each year end and recognize any gains or losses associated with changes to our plan assets and liabilities in the year incurred. To the extent actual results are less favorable than our assumptions, we may recognize a substantial remeasurement loss in our results. For discussion of our assumptions, see "Critical Accounting Estimates" in Item 7 and Note 18 of the Notes to the Financial Statements.

Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition. We have defined benefit retirement plans in the United States that cover many of our hourly and salaried employees. We also provide pension benefits to non-U.S. employees and retirees, primarily in Europe. In addition, we and certain of our subsidiaries sponsor plans to provide other postretirement benefits ("OPEB") for retired employees (primarily health care and life insurance benefits). See Note 18 of the Notes to the Financial Statements for more information about these plans. These benefit plans impose significant liabilities on us and could require us to make additional cash contributions, which could impair our liquidity. If our cash flows and capital resources were insufficient to meet any pension or OPEB obligations, we could be forced to reduce or delay investments and capital expenditures, suspend dividend payments, seek additional capital, or restructure or refinance our indebtedness.

Item 1A. Risk Factors (Continued)**Legal and Regulatory Risks**

Ford could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, perceived environmental impacts, or otherwise. We spend substantial resources ensuring that we comply with governmental safety regulations, mobile and stationary source emissions regulations, and other standards, but we cannot ensure that employees or other individuals affiliated with us will not violate such laws or regulations. Moreover, compliance with governmental standards does not necessarily prevent individual or class action lawsuits, which can entail significant cost and risk. In certain circumstances, courts may permit tort claims even where our vehicles comply with federal and/or other applicable law. Furthermore, simply responding to actual or threatened litigation or government investigations of our compliance with regulatory standards, whether related to our products or business or commercial relationships, requires significant expenditures of time and other resources. Litigation also is inherently uncertain, and we could experience significant adverse results, which could have an adverse effect on our financial condition or results of operations. In addition, adverse publicity surrounding an allegation may cause significant reputational harm that could have a significant adverse effect on our sales.

Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, autonomous vehicle, and other regulations that may change in the future. The worldwide automotive industry is governed by a substantial amount of government regulation, which often differs by state, region, and country, while proposals for additional regulation continue, primarily out of concern for the environment (including concerns about global climate change and its impact), vehicle safety, and energy independence. The regulatory landscape is in flux and can change on short notice. For example, as discussed above under "Item 1. Business - Governmental Standards," the European Union recently imposed stringent new regulations governing motor vehicle fleet CO₂ emissions beginning in 2020, with significant potential penalties for excess emissions. In the United States, legal battles are taking shape over environmental regulatory standards. California, which has an ambitious plan to reduce overall GHG emissions to 40% below 1990 levels by 2030, is vigorously opposing an effort by the federal government to preempt state regulations governing motor vehicle GHG emissions. With the backing of other states, California continues to assert its right to promulgate and enforce stringent motor vehicle GHG and ZEV regulations. These conflicts give rise to regulatory uncertainty and create the possibility that applicable regulatory standards may change quickly as a result of court rulings. In addition, many governments regulate local product content and/or impose import requirements with the intent of creating jobs, protecting domestic producers, and influencing the balance of payments.

We are continuing to make changes to our product cycle plan to improve the fuel economy of our petroleum-powered vehicles and to offer more propulsion choices, such as electrified vehicles, with lower GHG emissions. There are limits on our ability to achieve fuel economy improvements over a given time frame, however, primarily relating to the cost and effectiveness of available technologies, consumer acceptance of new technologies and changes in vehicle mix (as described in more detail above under "*Ford's new and existing products and mobility services are subject to market acceptance*"), willingness of consumers to absorb the additional costs of new technologies, the appropriateness (or lack thereof) of certain technologies for use in particular vehicles, the widespread availability (or lack thereof) of supporting infrastructure for new technologies, and the human, engineering, and financial resources necessary to deploy new technologies across a wide range of products and powertrains in a short time. If fuel prices remain relatively low and market conditions do not drive consumers to purchase electric vehicles and other highly fuel-efficient vehicles in large numbers, it may be difficult to meet applicable environmental standards without compromising results.

Increased scrutiny of automaker emission testing by regulators around the world has led to new regulations, more stringent enforcement programs, requests for field actions, and/or delays in regulatory approvals. The cost to comply with existing government regulations is substantial and additional regulations or changes in consumer preferences that affect vehicle mix could have a substantial adverse impact on our financial condition or results of operations. In addition, a number of governments, as well as NGOs, publicly assess vehicles to their own protocols. The protocols could change, and any negative perception regarding the performance of our vehicles subjected to such tests could reduce future sales. Court decisions arising out of consumer and investor litigation could give rise to *de facto* changes in the interpretation of existing emission laws and regulations, thereby imposing new burdens on manufacturers. For more discussion of the impact of standards on our global business, see the "Governmental Standards" discussion in "Item 1. Business" above.

Item 1A. Risk Factors (Continued)

We and other companies continue to develop autonomous vehicle technologies, and the U.S. and foreign governments are continuing to develop the regulatory framework that will govern autonomous vehicles. The evolution of the regulatory framework for autonomous vehicles, and the pace of the development of such regulatory framework, may subject us to increased costs and uncertainty, and may ultimately impact our ability to deliver autonomous vehicles and related services that customers want.

Ford and Ford Credit could be affected by the continued development of more stringent privacy, data use, and data protection laws and regulations as well as consumer expectations for the safeguarding of personal information.

We are subject to laws, rules, and regulations in the United States and other countries (such as the European Union's General Data Protection Regulation and the California Consumer Privacy Act) relating to the collection, use, and security of personal information of consumers, employees, or others, including laws that may require us to notify regulators and affected individuals of a data security incident. Complying with newly developed laws and regulations, which are subject to change and uncertain interpretations and may be inconsistent from state to state or country to country, may lead to a decline in consumer engagement or cause us to incur substantial costs or modify our operations or business practices. Moreover, regulatory actions seeking to impose significant financial penalties for noncompliance and/or legal actions could be brought against us in the event of a data compromise, misuse of consumer information, or perceived or actual non-compliance with data protection or privacy requirements. Further, any unauthorized release of personally identifiable information could harm our reputation, disrupt our business, cause us to expend significant resources, and lead consumers to withhold consent for our use of data.

Ford Credit could be subject to new or increased credit regulations, consumer protection regulations, or other regulations.

As a finance company, Ford Credit is highly regulated by governmental authorities in the locations in which it operates, which can impose significant additional costs and/or restrictions on its business. In the United States, for example, Ford Credit's operations are subject to regulation and supervision under various federal, state, and local laws, including the federal Truth-in-Lending Act, Consumer Leasing Act, Equal Credit Opportunity Act, and Fair Credit Reporting Act.

The Dodd-Frank Act directs federal agencies to adopt rules to regulate the finance industry and the capital markets and gives the Consumer Financial Protection Bureau ("CFPB") broad rule-making and enforcement authority for a wide range of consumer financial protection laws that regulate consumer finance businesses, such as Ford Credit's automotive financing business. Exercise of these powers by the CFPB may increase the costs of, impose additional restrictions on, or otherwise adversely affect companies in the automotive finance business. The CFPB has authority to supervise and examine the largest nonbank automotive finance companies, such as Ford Credit, for compliance with consumer financial protection laws.

ITEM 1B. Unresolved Staff Comments.

None.

ITEM 2. Properties.

Our principal properties include manufacturing and assembly facilities, distribution centers, warehouses, sales or administrative offices, and engineering centers.

We own substantially all of our U.S. manufacturing and assembly facilities. Our facilities are situated in various sections of the country and include assembly plants, engine plants, casting plants, metal stamping plants, transmission plants, and other component plants. Most of our distribution centers are leased (we own approximately 40% of the total square footage, and lease the balance). The majority of the warehouses that we operate are leased, although many of our manufacturing and assembly facilities contain some warehousing space. Substantially all of our sales offices are leased space. Approximately 90% of the total square footage of our engineering centers and our supplementary research and development space is owned by us.

In addition, we maintain and operate manufacturing plants, assembly facilities, parts distribution centers, and engineering centers outside of the United States. We own substantially all of our non-U.S. manufacturing plants, assembly facilities, and engineering centers. The majority of our parts distribution centers outside of the United States are either leased or provided by vendors under service contracts.

We and the entities that we consolidated as of December 31, 2019 use eight regional engineering, research, and development centers, and 55 manufacturing and assembly plants, which includes plants that are operated by us or our consolidated joint ventures that support our Automotive segment.

The significant consolidated joint ventures and the number of plants each owns are as follows:

- *Ford Lio Ho Motor Company Ltd.* (“FLH”) — a joint venture in Taiwan among Ford (70% partner), the Lio Ho Group (25% partner), and individual shareholders (5% ownership in aggregate) that assembles a variety of Ford vehicles sourced from Ford. In addition to domestic assembly, FLH imports Ford brand built-up vehicles from Asia Pacific, Europe, and the United States. The joint venture operates one plant in Taiwan.
- *Ford Vietnam Limited* — a joint venture between Ford (75% partner) and Diesel Song Cong One Member Limited Liability Company (a subsidiary of the Vietnam Engine and Agricultural Machinery Corporation, which in turn is majority owned (87.43%) by the State of Vietnam represented by the Ministry of Industry and Trade) (25% partner). Ford Vietnam Limited assembles and distributes a variety of Ford passenger and commercial vehicle models. The joint venture operates one plant in Vietnam.

In addition to the plants that we operate directly or that are operated by our consolidated joint ventures, additional plants that support our Automotive segment are operated by unconsolidated joint ventures of which we are a partner. The most significant of the automotive unconsolidated joint ventures are as follows:

- *AutoAlliance (Thailand) Co., Ltd.* (“AAT”) — a 50/50 joint venture between Ford and Mazda that owns and operates a manufacturing plant in Rayong, Thailand. AAT produces Ford and Mazda products for domestic and export sales.
- *Changan Ford Automobile Corporation, Ltd.* (“CAF”) — a 50/50 joint venture between Ford and Chongqing Changan Automobile Co., Ltd. (“Changan”). CAF operates five assembly plants, an engine plant, and a transmission plant in China where it produces and distributes a variety of Ford passenger vehicle models.
- *Ford Otomotiv Sanayi Anonim Sirketi* (“Ford Otosan”) — a joint venture in Turkey among Ford (41% partner), the Koc Group of Turkey (41% partner), and public investors (18%) that is the sole supplier to us of the Transit, Transit Custom, and Transit Courier commercial vehicles for Europe and is our sole distributor of Ford vehicles in Turkey. Ford Otosan also manufactures the Cargo truck for the Turkish and certain export markets and certain engines and transmissions, as well as certain components mainly for the Transit for supply to other regions. The joint venture owns three plants, a parts distribution depot, and a research and development center in Turkey.
- *Ford Sollers Netherlands B.V.* (“Ford Sollers”) — a joint venture between Ford (49% shareholder) and Sollers PJSC (“Sollers”) (51% shareholder). The joint venture is primarily engaged in manufacturing light commercial vehicles for sale in Russia, and has an exclusive right to manufacture, assemble, and distribute light commercial Ford vehicles in Russia through the licensing of certain trademarks and intellectual property rights. The joint venture operates one manufacturing facility in Russia.

Item 2. Properties (Continued)

- *Getrag Ford Transmissions GmbH* (“GFT”) — a 50/50 joint venture with Magna PT International GmbH (formerly Getrag International GmbH), a German company owned by Magna Powertrain GmbH. GFT operates plants in Halewood, England; Cologne, Germany; and Bordeaux, France and produces, among other things, manual transmissions for our Europe business unit.
- *JMC* — a publicly-traded company in China with Ford (32% shareholder) and Nanchang Jiangling Investment Co., Ltd. (41% shareholder) as its controlling shareholders. Nanchang Jiangling Investment Co., Ltd. is a 50/50 joint venture between Changan and Jiangling Motors Company Group. The public investors in JMC own 27% of its total outstanding shares. JMC assembles Ford Transit, Ford Everest, Ford Territory, Ford engines, and non-Ford vehicles and engines for distribution in China and in other export markets. JMC operates two assembly plants and one engine plant in Nanchang, and is constructing a new vehicle assembly plant in Nanchang. JMC also operates a plant in Taiyuan that assembles heavy duty trucks and engines.

The facilities described above are, in the opinion of management, suitable and adequate for the manufacture and assembly of our and our joint ventures' products.

The furniture, equipment, and other physical property owned by our Ford Credit operations are not material in relation to the operations' total assets.

ITEM 3. Legal Proceedings.

The litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. See Note 27 of the Notes to the Financial Statements for a discussion of loss contingencies. Following is a discussion of our significant pending legal proceedings:

PRODUCT LIABILITY MATTERS

We are a defendant in numerous actions in state and federal courts within and outside of the United States alleging damages from injuries resulting from (or aggravated by) alleged defects in our vehicles. In many actions, no monetary amount of damages is specified or the specific amount alleged is the jurisdictional minimum. Our experience with litigation alleging a specific amount of damages suggests that such amounts, on average, bear little relation to the actual amount of damages, if any, that we will pay in resolving such matters.

In addition to pending actions, we assess the likelihood of incidents that likely have occurred but not yet been reported to us. We also take into consideration specific matters that have been raised as claims but have not yet proceeded to litigation. Individual product liability matters which, if resolved unfavorably to the Company, likely would involve a significant cost would be described herein. Currently there are no such matters to report.

ASBESTOS MATTERS

Asbestos was used in some brakes, clutches, and other automotive components from the early 1900s. Along with other vehicle manufacturers, we have been the target of asbestos litigation and, as a result, are a defendant in various actions for injuries claimed to have resulted from alleged exposure to Ford parts and other products containing asbestos. Plaintiffs in these personal injury cases allege various health problems as a result of asbestos exposure, either from component parts found in older vehicles, insulation or other asbestos products in our facilities, or asbestos aboard our former maritime fleet. We believe that we are targeted more aggressively in asbestos suits because many previously targeted companies have filed for bankruptcy or emerged from bankruptcy relieved of liability for such claims.

Most of the asbestos litigation we face involves individuals who claim to have worked on the brakes of our vehicles. We are prepared to defend these cases and believe that the scientific evidence confirms our long-standing position that there is no increased risk of asbestos-related disease as a result of exposure to the type of asbestos formerly used in the brakes on our vehicles. The extent of our financial exposure to asbestos litigation remains very difficult to estimate and could include both compensatory and punitive damage awards. The majority of our asbestos cases do not specify a dollar amount for damages; in many of the other cases the dollar amount specified is the jurisdictional minimum, and the vast majority of these cases involve multiple defendants, sometimes more than one hundred. Many of these cases also involve multiple plaintiffs, and often we are unable to tell from the pleadings which plaintiffs are making claims against us (as opposed to other defendants). Annual payout and defense costs may become significant in the future. Our accrual for asbestos matters includes probable losses for both asserted and unasserted claims.

*Item 3. Legal Proceedings (Continued)***CONSUMER MATTERS**

We provide warranties on the vehicles we sell. Warranties are offered for specific periods of time and/or mileage and vary depending upon the type of product and the geographic location of its sale. Pursuant to these warranties, we will repair, replace, or adjust all parts on a vehicle that are defective in factory-supplied materials or workmanship during the specified warranty period. We are a defendant in numerous actions in state and federal courts alleging damages based on state and federal consumer protection laws and breach of warranty obligations. Remedies under these statutes may include vehicle repurchase, civil penalties, and plaintiff's attorney fees. In some cases, plaintiffs also include an allegation of fraud. Remedies for a fraud claim may include contract rescission, vehicle repurchase, and punitive damages.

The cost of these matters is included in our warranty costs. We accrue obligations for warranty costs at the time of sale using a patterned estimation model that includes historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We reevaluate the adequacy of our accruals on a regular basis.

We are currently a defendant in a significant number of litigation matters relating to the performance of vehicles, including those equipped with DPS6 transmissions.

ENVIRONMENTAL MATTERS

We have received notices under various federal and state environmental laws that we (along with others) are or may be a potentially responsible party for the costs associated with remediating numerous hazardous substance storage, recycling, or disposal sites in many states and, in some instances, for natural resource damages. We also may have been a generator of hazardous substances at a number of other sites. The amount of any such costs or damages for which we may be held responsible could be significant.

We have one environmental legal proceeding to which a governmental authority is a party and in which we believe there is the possibility of monetary sanctions in excess of \$100,000:

Notice of Violation to Ford Chicago Assembly Plant. On August 17, 2015, U.S. EPA issued a notice of violation to our Chicago Assembly Plant. EPA alleges that the plant violated several requirements related to its air permit. Monetary sanctions, if any, have not yet been determined.

CLASS ACTIONS

In light of the fact that very few of the purported class actions filed against us in the past have ever been certified by the courts as class actions, in general we list those actions that (i) have been certified as a class action by a court of competent jurisdiction (and any additional purported class actions that raise allegations substantially similar to an existing and certified class), and (ii) likely would involve a significant cost if resolved unfavorably to the Company. At this time, other than as described below, we have no such class actions filed against us.

In re: Takata Airbag Product Liability Litigation; Economic Loss Track Cases Against Ford Motor Company. On July 16, 2018, Ford entered into a settlement agreement related to a consumer economic loss class action pending before the U.S. District Court for the Southern District of Florida. The first case was originally filed on October 27, 2014, against Ford, Takata, and several other automotive manufacturers, and was brought by consumers who own or owned vehicles equipped with Takata airbag inflators. Additional cases were subsequently filed in courts throughout the United States and consolidated into a multidistrict case before the Florida court, which also included personal injury claims and claims by automotive recyclers. Ford's July 16, 2018 settlement relates only to the consumer economic loss matters. In these cases, plaintiffs allege that Ford vehicles equipped with Takata airbags are defective and that Ford did not disclose this defect to consumers. Plaintiffs allege that they suffered several forms of economic damages as a result of purchasing vehicles with defective airbags. The settlement is for \$299 million, which is subject to certain discounts, and is subject to court approval. On December 20, 2018, the court overruled all objections and entered a final order approving the settlement. Several objectors then filed notices of appeal of the trial court's order. On December 10, 2019, plaintiffs filed a motion with the court indicating they reached an agreement with the objectors to resolve the dispute. The agreement does not increase the total cost to Ford of the settlement. On January 23, 2020, the court held a hearing on the motion to approve the agreement, and on January 27, 2020, the court entered an "Indicative Ruling" indicating it would approve the agreement. The U.S. Court of Appeals for the Eleventh Circuit will review this ruling and consider whether to dismiss the objectors' appeal.

Item 3. Legal Proceedings (Continued)**OTHER MATTERS**

Brazilian Tax Matters. Two Brazilian states and the Brazilian federal tax authority currently have outstanding substantial tax assessments against Ford Brazil related to state and federal tax incentives Ford Brazil receives for its operations in the Brazilian state of Bahia. All assessments have been appealed to the relevant administrative court of each jurisdiction. Our appeals with the State of São Paulo and the federal tax authority remain at the administrative level. In the State of Minas Gerais, where three cases are pending, one remains at the administrative level and two have been appealed to the judicial court. To proceed with an appeal within the judicial court system, an appellant may be required to post collateral, which would likely be significant. To date we have not been required to post any collateral.

The state assessments are part of a broader conflict among various states in Brazil. The federal legislature enacted laws designed to encourage the states to end that conflict, and in 2017 the states reached an agreement on a framework for resolution. Ford Brazil continues to pursue a resolution under the framework and expects the amount of any remaining assessments by the states to be resolved under that framework. The federal assessments are outside the scope of the legislation.

Transit Connect Customs Ruling. On March 8, 2013, U.S. Customs and Border Protection ("CBP") ruled that Transit Connects imported as passenger wagons and later converted into cargo vans are subject to the 25% duty applicable to cargo vehicles, rather than the 2.5% duty applicable to passenger vehicles. As a result of the ruling, CBP is requiring Ford to pay the 25% duty upon importation of Transit Connects that will be converted to cargo vehicles, and is seeking the difference in duty rates for prior imports. Our protest of the ruling within CBP was denied, and we filed a challenge in the U.S. Court of International Trade ("CIT"). On August 9, 2017, the CIT ruled in our favor. On October 6, 2017, CBP filed a notice of appeal to the U.S. Court of Appeals for the Federal Circuit (the "Federal Circuit"), and on June 7, 2019, a panel of three Federal Circuit judges ruled in favor of CBP. On July 22, 2019, we filed a petition for rehearing and rehearing en banc with the Federal Circuit. On October 16, 2019, the Federal Circuit denied our petition. We intend to file a petition for a writ of certiorari with the U.S. Supreme Court. If we prevail, we will receive a refund of the contested amounts paid, plus interest. If we do not prevail, CBP would recover the increased duties for prior imports, plus interest, and might assert a claim for penalties.

European Competition Law Matter. On October 5, 2018, FCE Bank plc ("FCE") received a notice from the Italian Competition Authority (the "ICA") concerning an alleged violation of Article 101 of the Treaty on the Functioning of the European Union. The ICA alleges that FCE and other parties engaged in anti-competitive practices in relation to the automotive finance market in Italy. On January 9, 2019, FCE received a decision from the ICA, which included an assessment of a fine against FCE in the amount of €42 million. On March 8, 2019, FCE appealed the decision and the fine, and a hearing has been scheduled for February 26, 2020. The ultimate resolution of the matter may potentially take several years.

Emissions Certification. The Company has been investigating a potential concern involving its U.S. emissions certification process. This matter currently focuses on issues relating to road load estimations, including analytical modeling and coastdown testing. The potential concern does not involve the use of defeat devices (see Item 1, Governmental Standards for a definition of defeat devices). We voluntarily disclosed this matter to the U.S. Environmental Protection Agency and the California Air Resources Board on February 18, 2019 and February 21, 2019, respectively. Subsequently, the U.S. Department of Justice opened a criminal investigation into the matter. In addition, we notified a number of other state and federal agencies. We continue to cooperate fully with these government agencies. Environment and Climate Change Canada also has opened an investigation that is in a preliminary stage. At this stage, we cannot predict the outcome of these investigations, and we cannot provide assurance that they will not have a material adverse effect on us.

ITEM 4. Mine Safety Disclosures.

Not applicable.

ITEM 4A. Executive Officers of Ford.

Our executive officers are as follows, along with each executive officer's position and age at February 1, 2020:

Name	Position	Position Held Since	Age
William Clay Ford, Jr. (a)	Executive Chairman and Chairman of the Board	September 2006	62
James P. Hackett (b)	President and Chief Executive Officer	May 2017	64
James D. Farley, Jr.	President, New Businesses, Technology & Strategy	May 2019	57
Joseph R. Hinrichs	President, Automotive	May 2019	53
Tim Stone	Chief Financial Officer	June 2019	53
Hau Thai-Tang	Chief Product Development and Purchasing Officer	June 2017	53
Bradley M. Gayton	Chief Administrative Officer and General Counsel	June 2017	56
Kiersten Robinson	Chief Human Resources Officer	April 2018	49
Cathy O'Callaghan	Controller and Chief Financial Officer, Automotive	September 2019	51

(a) Also a Director, Chair of the Office of the Chairman and Chief Executive, Chair of the Finance Committee, and a member of the Sustainability Committee of the Board of Directors.

(b) Also a Director and member of the Office of the Chairman and Chief Executive.

Except as noted below, each of the officers listed above has been employed by Ford or its subsidiaries in one or more capacities during the past five years. Prior to becoming President and Chief Executive Officer of Ford, Jim Hackett was a member of Ford's Board of Directors from 2013 to 2016 and the chairman of Ford Smart Mobility LLC from March 2016 to May 2017. Tim Stone joined Ford in April 2019. Prior to becoming Chief Financial Officer, Tim Stone held various positions at Amazon.com, Inc., most recently as Vice President of Finance until May 2018, and was Chief Financial Officer of Snap Inc. from May 2018 to February 2019.

Under our by-laws, executive officers are elected by the Board of Directors at an annual meeting of the Board held for this purpose or by a resolution to fill a vacancy. Each officer is elected to hold office until a successor is chosen or as otherwise provided in the by-laws.

PART II.**ITEM 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.****Market for Registrant's Stock**

Our Common Stock is listed on the New York Stock Exchange in the United States under the symbol F. As of January 31, 2020, stockholders of record of Ford included approximately 112,618 holders of Common Stock and 3 holders of Class B Stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Common Stock is held in "street name" by brokers.

Stock Performance Graph

The information contained in this Stock Performance Graph section shall not be deemed to be "soliciting material" or "filed" or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Exchange Act, except to the extent that we specifically incorporate it by reference into a document filed under the Securities Act or the Exchange Act.

The following graph compares the cumulative total shareholder return on our Common Stock with the total return on the S&P 500 Index and the Dow Jones Automobiles & Parts Titans 30 Index for the five year period ended December 31, 2019. It shows the growth of a \$100 investment on December 31, 2014, including the reinvestment of all dividends.

COMPARISON OF CUMULATIVE FIVE-YEAR TOTAL RETURN

Company / Index	Base Period	Years Ending				
		2014	2015	2016	2017	2018
Ford Motor Company	100	95	87	95	62	81
S&P 500	100	101	114	138	132	174
Dow Jones Automobiles & Parts Titans 30	100	99	97	118	92	105

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

Issuer Purchases of Securities

We completed no share repurchases during the fourth quarter of 2019.

Dividends

The table below shows the dividends we paid per share of Common and Class B Stock for each quarterly period in 2018 and 2019:

	2018				2019			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Dividends per share of Ford Common and Class B Stock	\$ 0.28	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15	\$ 0.15

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Common Stock and Class B Stock. The declaration and payment of future dividends is at the sole discretion of our Board of Directors after taking into account various factors, including our financial condition, operating results, available cash, and current and anticipated cash needs.

ITEM 6. Selected Financial Data.

The following table sets forth selected financial data for each of the last five years (dollar amounts in millions, except for per share amounts):

SUMMARY OF INCOME	2015	2016	2017	2018	2019
Total revenues	\$ 149,558	\$ 151,800	\$ 156,776	\$ 160,338	\$ 155,900
Income/(Loss) before income taxes	\$ 10,179	\$ 6,784	\$ 8,159	\$ 4,345	\$ (640)
Provision for/(Benefit from) income taxes	2,854	2,184	402	650	(724)
Net income	7,325	4,600	7,757	3,695	84
Less: Income/(Loss) attributable to noncontrolling interests	(2)	11	26	18	37
Net income attributable to Ford Motor Company	<u>\$ 7,327</u>	<u>\$ 4,589</u>	<u>\$ 7,731</u>	<u>\$ 3,677</u>	<u>\$ 47</u>
Earnings Per Share Attributable to Ford Motor Company Common and Class B Stock					
Average number of shares of Ford Common and Class B Stock outstanding (in millions)	3,969	3,973	3,975	3,974	3,972
Basic income	\$ 1.85	\$ 1.16	\$ 1.94	\$ 0.93	\$ 0.01
Diluted income	1.83	1.15	1.93	0.92	0.01
Cash dividends declared	0.60	0.85	0.65	0.73	0.60
BALANCE SHEET DATA AT YEAR END					
Total assets	\$ 225,491	\$ 238,510	\$ 258,496	\$ 256,540	\$ 258,537
Automotive debt	\$ 12,839	\$ 15,907	\$ 15,931	\$ 13,547	\$ 14,678
Ford Credit debt	119,417	126,464	137,757	140,066	140,029
Other debt	598	599	599	600	600
Total equity	\$ 29,223	\$ 29,746	\$ 35,606	\$ 35,966	\$ 33,230

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

Our Automotive segment revenue is generated primarily by sales of vehicles, parts, and accessories. Revenue is recorded when control is transferred to our customers (generally, our dealers and distributors). For the majority of sales, this occurs when products are shipped from our manufacturing facilities. This is not the case, however, with respect to vehicles produced for sale to daily rental car companies with an obligation to repurchase the vehicle for a guaranteed amount, exercisable at the option of the customer. These contracts are accounted for as operating leases, with lease revenue and profits recognized over the term of the lease. Proceeds from the sale of vehicles at auction are recognized in revenue upon transfer of control of the vehicle to the buyer.

Most of the vehicles sold by us to our dealers and distributors are financed at wholesale by Ford Credit. Upon Ford Credit originating the wholesale receivable related to a dealer's purchase of a vehicle, Ford Credit pays cash to the relevant Automotive legal entity in payment of the dealer's obligation for the purchase price of the vehicle. The dealer then pays the wholesale finance receivable to Ford Credit when it sells the vehicle to a retail customer.

Our Ford Credit segment revenue is generated primarily from interest on finance receivables, net of certain deferred origination costs that are included as a reduction of financing revenue, and such revenue is recognized over the term of the receivable using the interest method. Also, revenue from operating leases is recognized on a straight-line basis over the term of the lease. Income is generated to the extent revenues exceed expenses, most of which are interest, depreciation, and operating expenses.

Transactions between our Automotive and Ford Credit segments occur in the ordinary course of business. For example, we offer special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. The cost for these incentives is included in our estimate of variable consideration at the date the related vehicle sales to our dealers are recorded. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. Ford Credit recognizes the incentive amount over the life of retail finance contracts as an element of financing revenue and over the life of lease contracts as a reduction to depreciation. See Note 1 of the Notes to the Financial Statements for a more detailed discussion of transactions between our Automotive and Ford Credit segments.

Costs and Expenses

Our income statement classifies our Automotive segment total costs and expenses into two categories: (i) cost of sales, and (ii) selling, administrative, and other expenses. We include within cost of sales those costs related to the development, manufacture, and distribution of our vehicles, parts, and accessories. Specifically, we include in cost of sales each of the following: material costs (including commodity costs); freight costs; warranty, including product recall costs; labor and other costs related to the development and manufacture of our products; depreciation and amortization; and other associated costs. We include within selling, administrative, and other expenses labor and other costs not directly related to the development and manufacture of our products, including such expenses as advertising and sales promotion costs.

Certain of our costs, such as material costs, generally vary directly with changes in volume and mix of production. In our industry, production volume often varies significantly from quarter to quarter and year to year. Quarterly production volumes experience seasonal shifts throughout the year (including peak retail sales seasons and the impact on production of model changeover and new product launches). Annual production volumes are heavily impacted by external economic factors, including the pace of economic growth and factors such as the availability of consumer credit and cost of fuel.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

As a result, we analyze the profit impact of certain cost changes holding constant present-year volume and mix and currency exchange, in order to evaluate our cost trends absent the impact of varying production and currency exchange levels. We analyze these cost changes in the following categories:

- *Contribution Costs* – these costs typically vary with production volume. These costs include material (including commodity), warranty, and freight and duty costs.
- *Structural Costs* – these costs typically do not have a directly proportionate relationship to production volume. These costs include manufacturing, engineering, spending-related, advertising and sales promotion, administrative and selling, and pension and OPEB costs.

While contribution costs generally vary directly in proportion to production volume, elements within our structural costs category are impacted to differing degrees by changes in production volume. We also have varying degrees of discretion when it comes to controlling the different elements within our structural costs. For example, depreciation and amortization expense largely is associated with prior capital spending decisions. On the other hand, while labor costs do not vary directly with production volume, manufacturing labor costs may be impacted by changes in volume, for example when we increase overtime, add a production shift, or add personnel to support volume increases. Other structural costs, such as advertising or engineering costs, do not necessarily have a directly proportionate relationship to production volume. Our structural costs generally are within our discretion, although to varying degrees, and can be adjusted over time in response to external factors.

We consider certain structural costs to be a direct investment in future growth and revenue. For example, structural costs are necessary to grow our business and improve profitability, invest in new products and technologies, respond to increasing industry sales volume, and grow our market share.

Cost of sales and Selling, administrative, and other expenses for full-year 2019 were \$145.9 billion. Our Automotive segment's material and commodity costs make up the largest portion of these costs and expenses, representing in 2019 about two-thirds of the total amount. Structural costs are the largest piece of the remaining balance. Although material costs are our largest absolute cost, our margins can be affected significantly by changes in any category of costs.

Key Economic Factors and Trends Affecting the Automotive Industry

Currency Exchange Rate Volatility. The U.S. Federal Reserve lowered its policy interest rate three times in 2019, after nine increases over the course of the tightening cycle beginning in late 2015. Central banks in other developed markets have also signaled the potential for rate cuts in response to recent global economic headwinds, extending the era of monetary policy easing that began with the 2008-2009 global financial crisis. The related shifts in capital flows have contributed to increased volatility for both developed and emerging market currencies globally. Emerging markets also face differing inflation backdrops and, in some cases, exposure to commodity prices and political instability, contributing to unpredictable movements in the value of their exchange rates. In addition to direct impacts on the financial flows of global automotive companies, currency movements can also impact pricing of vehicles exported to overseas markets, most notably in the case of the Japanese yen and Korean won. In most markets, exchange rates are market-determined, and all are impacted by many different macroeconomic and policy factors, and thus likely to remain volatile. However, in some markets, exchange rates are heavily influenced or controlled by governments.

Excess Capacity. According to IHS Automotive, an automotive research firm, the estimated automotive industry global production capacity for light vehicles of about 139 million units exceeded global production by about 50 million units in 2019. While global production capacity rose by about 2 million units in 2019 compared with 2018, excess capacity rose by nearly 7 million units, including increases in North America, Europe, and, most substantially, in China. In North America and Europe, two regions where a significant share of industry revenue is earned, excess capacity as a percent of production in 2019 increased to 30% and 33%, respectively. In China, the auto industry witnessed excess capacity at 104% in 2019, as industry sales remained below expectations due to weaker economic conditions there. According to production capacity data projected by IHS Automotive, global excess capacity conditions could continue for several years at an average of about 50 million units per year, declining only gradually from current levels, during the period from 2020 to 2025.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Pricing Pressure. Excess capacity, coupled with a proliferation of new products being introduced in key segments, will keep pressure on manufacturers' ability to set prices. In North America, the industry restructuring of the past few years has allowed manufacturers to better match production with demand, although Japanese and Korean manufacturers also have capacity located outside of the region directed to North America. In the future, Chinese and Indian manufacturers are expected to enter U.S. and European markets, further intensifying competition. Over the long term, intense competition and excess capacity will continue to put downward pressure on inflation-adjusted prices for similarly-contented vehicles in the United States and contribute to a challenging pricing environment for the automotive industry. In Europe, the excess capacity situation has been exacerbated by the nominal reductions in existing capacity, such that negative pricing pressure is expected to continue for the foreseeable future.

Commodity and Energy Price Changes. Changes in market expectations for global demand, notably weaker growth in China, along with geopolitical tensions have generated volatility in energy prices, though they remain at a relatively low level compared with historical performance. Oil prices are expected to remain volatile, and on a lower long-term trend than in prior commodity cycles. Prices for other commodities have also been volatile, as fluctuating global demand and the threat of further tariff actions continues to impact prices despite some easing in global trade tensions at the start of this year.

Vehicle Profitability. Our financial results depend on the profitability of the vehicles we sell, which may vary significantly by vehicle line. In general, larger vehicles tend to command higher prices and be more profitable than smaller vehicles, both across and within vehicle segments. For example, in North America, our larger, more profitable vehicles had an average contribution margin that was about 130% of our total average contribution margin across all vehicles, whereas our smaller vehicles had significantly lower contribution margins. In addition, government regulations aimed at reducing emissions and increasing fuel efficiency (e.g., ZEV mandates and low emission zones) may increase the cost of vehicles by more than the perceived benefit to the consumer. Given the backdrop of excess capacity, these regulations could dampen contribution margins.

Trade Policy. To the extent governments in various regions erect or intensify barriers to imports, or implement currency policy that advantages local exporters selling into the global marketplace, there can be a significant negative impact on manufacturers based in other markets. While we believe the long-term trend will support the growth of free trade, we have noted with concern recent developments in a number of regions. The imposition of tariffs on steel and aluminum coming into the United States in 2018 had a direct negative impact on costs for manufacturers in the U.S. market. In Asia Pacific, a weak yen significantly reduces the cost of exports into the United States, Europe, and other global markets by Japanese manufacturers, and, over a period of time, contribute to other countries pursuing weak currency policies by intervening in the exchange rate markets. This is particularly likely in other Asian countries, such as South Korea. We will continue to monitor and address developing issues around trade policy.

Other Economic Factors. Interest rates, notably mature market government bond yields, and inflation have remained lower than expected. At the same time, government deficits and debt remain at high levels in many major markets. The eventual implications of higher government deficits and debt, with potentially higher long-term interest rates, may drive a higher cost of capital over our planning period. Higher interest rates and/or taxes to address the higher deficits also may impede real growth in gross domestic product and, therefore, vehicle sales over our planning period.

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***RESULTS OF OPERATIONS - 2019**

Net income attributable to Ford Motor Company was \$47 million in 2019. Company adjusted EBIT was \$6,379 million.

Net income includes certain items ("special items") that are excluded from Company adjusted EBIT. These items are discussed in more detail in Note 28 of the Notes to the Financial Statements. We report special items separately to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results. Our pre-tax and tax special items were as follows (in millions):

	2018	2019
<u>Global Redesign</u>		
Europe excl. Russia	\$ (309)	\$ (1,246)
India	—	(804)
South America	(65)	(566)
Russia	—	(357)
China	—	(101)
Separations and Other (not included above)	<u>(163)</u>	<u>(107)</u>
Subtotal Global Redesign	\$ (537)	\$ (3,181)
<u>Other Items</u>		
Focus cancellation	\$ (16)	\$ (72)
Other, including Transit Connect customs ruling and Chariot	<u>(40)</u>	<u>(201)</u>
Subtotal Other Items	\$ (56)	\$ (273)
<u>Pension and OPEB Gain / (Loss)</u>		
Pension and OPEB remeasurement	\$ (851)	\$ (2,500)
Pension curtailment	<u>15</u>	<u>(45)</u>
Subtotal Pension and OPEB Gain / (Loss)	\$ (836)	\$ (2,545)
Total EBIT Special Items	<u><u>\$ (1,429)</u></u>	<u><u>\$ (5,999)</u></u>
Cash effect of Global Redesign (incl. separations)	\$ (196)	\$ (911)
Tax special items*	\$ (88)	\$ (1,323)

* Includes related tax effect on special items and tax special items.

We recorded \$6 billion of special item charges in 2019. Actions related to our Global Redesign accounted for \$3.2 billion of the special items, including European restructuring, with cash effects of \$911 million. Special item charges also included \$2.5 billion for pension and OPEB remeasurement losses. The remeasurement loss did not have an impact on our cash in 2019.

In Note 28 of the Notes to the Financial Statements, special items are reflected as a separate reconciling item, as opposed to being allocated among the Automotive, Mobility, and Ford Credit segments. This reflects the fact that management excludes these items from its review of operating segment results for purposes of measuring segment profitability and allocating resources.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**COMPANY KEY METRICS**

The table below shows our full year 2019 key metrics for the Company compared to a year ago.

	2018	2019	H / (L)
<u>GAAP Financial Measures</u>			
Cash Flows from Operating Activities (\$B)	\$ 15.0	\$ 17.6	\$ 2.6
Revenue (\$M)	160,338	155,900	(3)%
Net Income (\$M)	3,677	47	\$ (3,630)
Net Income Margin (%)	2.3%	0.0%	(2.3) ppts
EPS (Diluted)	\$ 0.92	\$ 0.01	\$ (0.91)
<u>Non-GAAP Financial Measures*</u>			
Company Adj. Free Cash Flow (\$B)	\$ 2.8	\$ 2.8	\$ —
Company Adj. EBIT (\$M)	7,002	6,379	(623)
Company Adj. EBIT Margin (%)	4.4%	4.1%	(0.3) ppts
Adjusted EPS (Diluted)	\$ 1.30	\$ 1.19	\$ (0.11)
Adjusted ROIC (Trailing Four Qtrs)	7.1%	7.8%	0.7 ppts

* See Non-GAAP Financial Measure Reconciliations section for reconciliation to GAAP.

For full year 2019, revenue was down 3 percent, or 1 percent excluding the impact of exchange, to \$155.9 billion.

In 2019, our diluted earnings per share of Common and Class B Stock was \$0.01 and our diluted adjusted earnings per share was \$1.19.

Net income margin was 0.0 percent in 2019, down from 2.3 percent a year ago. Company adjusted EBIT margin was 4.1 percent in 2019, down from 4.4 percent a year ago.

The table below shows our full year 2019 net income attributable to Ford and Company adjusted EBIT by segment (in millions).

	2018	2019	H / (L)
Automotive	\$ 5,422	\$ 4,926	\$ (496)
Mobility	(674)	(1,186)	(512)
Ford Credit	2,627	2,998	371
Corporate Other	(373)	(359)	14
Company Adjusted EBIT *	7,002	6,379	(623)
Interest on Debt	(1,228)	(1,020)	208
Special Items	(1,429)	(5,999)	(4,570)
Taxes / Noncontrolling Interests	(668)	687	1,355
Net Income	\$ 3,677	\$ 47	\$ (3,630)

* See Non-GAAP Financial Measure Reconciliations section for reconciliation to GAAP.

The \$3.6 billion year-over-year decline in net income in 2019 is more than explained by the \$6 billion of special item charges discussed in more detail above under "Results of Operations."

Company adjusted EBIT decreased about 9 percent year-over-year in 2019, driven by higher investments in Mobility and lower Automotive EBIT, offset partially by improved Ford Credit EBT.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Automotive Segment**

The table below shows our full year 2019 Automotive segment EBIT by business unit (in millions).

	2018	2019	H / (L)
North America	\$ 7,607	\$ 6,612	\$ (995)
South America	(678)	(704)	(26)
Europe	(398)	(47)	351
China	(1,545)	(771)	774
Asia Pacific Operations	443	(23)	(466)
Middle East & Africa	(7)	(141)	(134)
Automotive Segment	\$ 5,422	\$ 4,926	\$ (496)

The tables below and on the following pages provide full year 2019 key metrics and the change in full year 2019 EBIT compared with full year 2018 by causal factor for our Automotive segment and its regional business units. For a description of these causal factors, see *Definitions and Information Regarding Automotive Causal Factors*.

	2018	2019	H / (L)
Key Metrics			
Market Share (%)		6.3%	6.0%
Wholesale Units (000)		5,982	5,386
Revenue (\$M)	\$ 148,294	\$ 143,599	\$ (4,695)
EBIT (\$M)	5,422	4,926	(496)
EBIT Margin (%)		3.7%	3.4%
			(0.3) ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT			\$ 5,422
Volume / Mix			(720)
Net Pricing			3,093
Cost			(1,552)
Exchange			(904)
Other			(413)
2019 Full Year EBIT			\$ 4,926

In 2019, wholesales in our Automotive segment declined 596,000 units year-over-year, reflecting decreases in each business unit, while Automotive revenue was down 3.1 percent from a year ago.

Our full year 2019 Automotive segment EBIT was \$5 billion, down \$496 million from a year ago, and EBIT margin was 3.4 percent. Favorable mix was more than offset by the impact of lower volume, including the effects of new product launches. We had higher net pricing across most business units. Costs were higher, driven by higher material and warranty costs, while structural costs, excluding pension and OPEB, were lower, primarily as a result of improved fitness and global redesign actions. Exchange was unfavorable, and other adverse impacts included UAW contract ratification costs.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**North America**

	2018	2019	H / (L)
Key Metrics			
Market Share (%)		13.4%	13.2%
Wholesale Units (000)		2,920	2,765
Revenue (\$M)	\$ 96,617	\$ 98,053	\$ 1,436
EBIT (\$M)		7,607	6,612
EBIT Margin (%)		7.9%	6.7%
			(1.2) ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT			\$ 7,607
Volume / Mix			(241)
Net Pricing			1,910
Cost			(1,865)
Exchange			(174)
Other			(625)
2019 Full Year EBIT			\$ 6,612

In North America, 2019 wholesales declined 5 percent from a year ago, driven by the impact of major product launches. Full year 2019 revenue increased 1 percent year-over-year, driven by improved mix and higher net pricing, offset partially by lower volume.

North America's 2019 EBIT decreased 13 percent from a year ago with an EBIT margin of 6.7 percent, driven by UAW contract-related bonuses, higher warranty expenses, and lower wholesales. Higher net pricing and favorable mix were partial offsets.

South America

	2018	2019	H / (L)
Key Metrics			
Market Share (%)		8.3%	7.2%
Wholesale Units (000)		365	295
Revenue (\$M)	\$ 5,288	\$ 3,893	\$ (1,395)
EBIT (\$M)		(678)	(704)
EBIT Margin (%)		(12.8)%	(18.1)%
			(5.2) ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT			\$ (678)
Volume / Mix			(180)
Net Pricing			626
Cost			(350)
Exchange			(175)
Other			53
2019 Full Year EBIT			\$ (704)

In South America, 2019 wholesales declined 19 percent from a year ago, driven by the discontinuation of heavy trucks, Fiesta, and Focus. Full year 2019 revenue declined 26 percent year over year, driven by lower volume and adverse exchange.

South America's 2019 EBIT loss of \$704 million was 4 percent higher than a year ago, driven by lower wholesales.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Europe**

	2018	2019	H / (L)
Key Metrics			
Market Share (%)	7.2%	6.8%	(0.4) ppts
Wholesale Units* (000)	1,533	1,418	(115)
Revenue (\$M)	\$ 31,272	\$ 28,627	\$ (2,645)
EBIT (\$M)	(398)	(47)	351
EBIT Margin (%)	(1.3)%	(0.2)%	1.1 ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT		\$ (398)	
Volume / Mix		(124)	
Net Pricing		452	
Cost		(25)	
Exchange		(232)	
Other		280	
2019 Full Year EBIT		\$ (47)	

*Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Turkey (about 44,000 units in 2018 and 34,000 in 2019); revenue does not include these sales.

In Europe, 2019 wholesales declined 8 percent from a year ago, driven by lower share from planned actions to drive gross margin and improve EBIT. Full year 2019 revenue declined 8 percent year-over-year, driven by adverse exchange and planned lower share from our business redesign.

Europe's 2019 EBIT loss improved \$351 million year-over-year, driven by higher net pricing and lower structural costs.

China

	2018	2019	H / (L)
Key Metrics			
Market Share (%)	2.9%	2.2%	(0.7) ppts
Wholesale Units* (000)	732	535	(197)
Revenue (\$M)	\$ 4,619	\$ 3,615	\$ (1,004)
EBIT (\$M)	(1,545)	(771)	774
EBIT Margin (%)	(33.4)%	(21.3)%	12.1 ppts
* Wholesale units include Ford brand and JMC brand vehicles produced and sold in China by our unconsolidated affiliates; revenue does not include these sales.			
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT		\$ (1,545)	
Volume / Mix		7	
Net Pricing		61	
Cost		612	
Exchange		143	
Other		(49)	
2019 Full Year EBIT		\$ (771)	

In China, 2019 wholesales declined 27 percent from a year ago, driven by lower joint venture volumes. Full year 2019 consolidated revenue declined 22 percent year-over-year, driven primarily by lower component sales to our joint ventures in China and lower volume.

China's 2019 EBIT loss narrowed by 50 percent year-over-year, driven by lower structural costs, favorable exchange, lower tariffs, and higher net pricing.

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***Asia Pacific Operations**

	2018	2019	H / (L)
Key Metrics			
Market Share (%)	1.9%	1.7%	(0.2) ppts
Wholesale Units* (000)	323	279	(44)
Revenue (\$M)	\$ 7,811	\$ 7,017	\$ (794)
EBIT (\$M)	443	(23)	(466)
EBIT Margin (%)	5.7%	(0.3)%	(6.0) ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT		\$ 443	
Volume / Mix		(221)	
Net Pricing		(25)	
Cost		124	
Exchange		(281)	
Other		(63)	
2019 Full Year EBIT		\$ (23)	

In our Asia Pacific Operations, 2019 wholesales declined 14 percent from a year ago, driven by lower share and industry. Full year 2019 revenue declined 10 percent year-over-year, driven by lower volume.

Asia Pacific Operations' 2019 EBIT was \$466 million lower than a year ago, with a \$23 million loss driven by adverse exchange and unfavorable market factors, offset partially by lower costs. The adverse exchange was driven by the Australian dollar and Thai baht.

Middle East & Africa

	2018	2019	H / (L)
Key Metrics			
Market Share (%)	3.0%	3.2%	0.2 ppts
Wholesale Units* (000)	109	94	(15)
Revenue (\$M)	\$ 2,688	\$ 2,392	\$ (296)
EBIT (\$M)	(7)	(141)	(134)
EBIT Margin (%)	(0.3)%	(5.9)%	(5.6) ppts
Change in EBIT by Causal Factor (in millions)			
2018 Full Year EBIT		\$ (7)	
Volume / Mix		39	
Net Pricing		70	
Cost		(49)	
Exchange		(184)	
Other		(10)	
2019 Full Year EBIT		\$ (141)	

In Middle East & Africa, 2019 wholesales declined 14 percent from a year ago, driven by lower share in South Africa. Full year 2019 revenue declined 11 percent year-over-year, driven by lower volume and adverse exchange.

Middle East & Africa's 2019 EBIT loss was \$134 million higher than a year ago, primarily driven by adverse exchange, offset partially by industry pricing. The adverse exchange was primarily driven by the South African rand.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Definitions and Information Regarding Automotive Causal Factors**

In general, we measure year-over-year change in Automotive segment EBIT using the causal factors listed below, with net pricing and cost variances calculated at present-year volume and mix and exchange:

- **Market Factors** (exclude the impact of unconsolidated affiliate wholesales):
 - *Volume and Mix* – primarily measures EBIT variance from changes in wholesale volumes (at prior-year average contribution margin per unit) driven by changes in industry volume, market share, and dealer stocks, as well as the EBIT variance resulting from changes in product mix, including mix among vehicle lines and mix of trim levels and options within a vehicle line
 - *Net Pricing* – primarily measures EBIT variance driven by changes in wholesale prices to dealers and marketing incentive programs such as rebate programs, low-rate financing offers, special lease offers, and stock adjustments on dealer inventory
- **Cost:**
 - *Contribution Costs* – primarily measures EBIT variance driven by per-unit changes in cost categories that typically vary with volume, such as material costs (including commodity and component costs), warranty expense, and freight and duty costs
 - *Structural Costs* – primarily measures EBIT variance driven by absolute change in cost categories that typically do not have a directly proportionate relationship to production volume. Structural costs include the following cost categories:
 - *Manufacturing, Including Volume-Related* - consists primarily of costs for hourly and salaried manufacturing personnel, plant overhead (such as utilities and taxes), and new product launch expense. These costs could be affected by volume for operating pattern actions such as overtime, attendance, line speed, and shift schedules
 - *Engineering* – consists primarily of costs for engineering personnel, prototype materials, testing, and outside engineering services
 - *Spending-Related* – consists primarily of depreciation and amortization of our manufacturing and engineering assets, but also includes asset retirements and operating leases
 - *Advertising and Sales Promotions* – includes costs for advertising, marketing programs, brand promotions, customer mailings and promotional events, and auto shows
 - *Administrative and Selling* – includes primarily costs for salaried personnel and purchased services related to our staff activities and selling functions, as well as associated information technology costs
 - *Pension and OPEB* – consists primarily of past service pension costs and other postretirement employee benefit costs
- **Exchange** – primarily measures EBIT variance driven by one or more of the following: (i) transactions denominated in currencies other than the functional currencies of the relevant entities, (ii) effects of converting functional currency income to U.S. dollars, (iii) effects of remeasuring monetary assets and liabilities of the relevant entities in currencies other than their functional currency, or (iv) results of our foreign currency hedging
- **Other** – includes a variety of items, such as parts and services earnings, royalties, government incentives, and compensation-related changes

In addition, definitions and calculations used in this report include:

- **Wholesales and Revenue** – wholesale unit volumes include all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships, units manufactured by Ford that are sold to other manufacturers, units distributed by Ford for other manufacturers, and local brand units produced by our China joint venture, Jiangling Motors Corporation, Ltd. (“JMC”), that are sold to dealerships. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volumes. Revenue from certain vehicles in wholesale unit volumes (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue
- **Industry Volume and Market Share** – based, in part, on estimated vehicle registrations; includes medium and heavy duty trucks
- **SAAR** – seasonally adjusted annual rate

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***Mobility Segment**

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility LLC ("FSM"). Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility products and subscription and other services on its own, and collaborates with service providers and technology companies. In 2019, we began recording in the Mobility segment subscription related income previously reported in the Automotive segment. This income is generated from services managed in our Mobility segment.

In our Mobility segment, our 2019 EBIT loss was \$1.2 billion, a \$512 million higher loss than a year ago. Our strategic investments in Mobility in 2019 increased by more than 75 percent year-over-year as we continued to expand our capabilities in mobility and autonomous vehicles.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Ford Credit Segment**

The tables below provide full year 2019 key metrics and the change in full year 2019 EBT compared with full year 2018 by causal factor for the Ford Credit segment. For a description of these causal factors, see *Definitions and Information Regarding Ford Credit Causal Factors*.

	2018	2019	H / (L)
GAAP Financial Measures			
Net Receivables (\$B)	\$ 146	\$ 142	(3)%
Loss-to-Receivables* (bps)	55	52	(3)
Auction Values**	\$ 18,540	\$ 18,150	(2)%
EBT (\$M)	2,627	2,998	\$ 371
ROE (%)	14%	15%	1 ppt

Other Balance Sheet Metrics

	2018	2019	H / (L)
Non-GAAP Financial Measures			
Managed Receivables* (\$B)	\$ 155	\$ 152	(2)%
Managed Leverage** (to 1)	8.8	8.9	0.1

* U.S. retail financing only, previously included both retail financing and operating leases.

** U.S. 36-month off-lease auction values at full-year 2019 mix.

	2018	2019	H / (L)
Change in EBT by Causal Factor (in millions)			
2018 Full Year EBT		\$ 2,627	
Volume / Mix		(38)	
Financing Margin		(86)	
Credit Loss		127	
Lease Residual		249	
Exchange		(71)	
Other		190	
2019 Full Year EBT		\$ 2,998	

Ford Credit's loss metrics reflected healthy and stable consumer credit conditions, and auction values for off-lease vehicles were slightly better than expected. We expect full year 2020 auction values to be about 5 percent lower compared with 2019 at a constant mix, based on third party assessments. Receivables at December 31, 2019 were lower year-over-year.

Ford Credit delivered \$3 billion of EBT in 2019, a 14 percent increase from a year ago, driven by favorable lease residual, credit loss, and derivatives performance.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Definitions and Information Regarding Ford Credit Causal Factors.**

In general, we measure year-over-year changes in Ford Credit's EBT using the causal factors listed below:

- **Volume and Mix:**
 - Volume primarily measures changes in net financing margin driven by changes in average managed receivables at prior period financing margin yield (defined below in financing margin) at prior period exchange rates. Volume changes are primarily driven by the volume of new and used vehicles sold and leased, the extent to which Ford Credit purchases retail financing and operating lease contracts, the extent to which Ford Credit provides wholesale financing, the sales price of the vehicles financed, the level of dealer inventories, Ford-sponsored special financing programs available exclusively through Ford Credit, and the availability of cost-effective funding
 - Mix primarily measures changes in net financing margin driven by period-over-period changes in the composition of Ford Credit's average managed receivables by product within each region
- **Financing Margin:**
 - Financing margin variance is the period-to-period change in financing margin yield multiplied by the present period average managed receivables at prior period exchange rates. This calculation is performed at the product and country level and then aggregated. Financing margin yield equals revenue, less interest expense and scheduled depreciation for the period, divided by average managed receivables for the same period
 - Financing margin changes are driven by changes in revenue and interest expense. Changes in revenue are primarily driven by the level of market interest rates, cost assumptions in pricing, mix of business, and competitive environment. Changes in interest expense are primarily driven by the level of market interest rates, borrowing spreads, and asset-liability management
- **Credit Loss:**
 - Credit loss is the change in the provision for credit losses at prior period exchange rates. For analysis purposes, management splits the provision for credit losses into net charge-offs and the change in the allowance for credit losses
 - Net charge-off changes are primarily driven by the number of repossessions, severity per repossession, and recoveries. Changes in the allowance for credit losses are primarily driven by changes in historical trends in credit losses and recoveries, changes in the composition and size of Ford Credit's present portfolio, changes in trends in historical used vehicle values, and changes in economic conditions. For additional information, refer to the "Critical Accounting Estimates - Allowance for Credit Losses" section of Item 7 of Part II of our 2019 Form 10-K Report
 - As of January 1, 2019, we changed our accounting method for reporting early termination losses related to customer defaults on operating leases. Previously, we presented the early termination loss reserve on operating leases due to customer default events as part of the allowance for credit losses which reduces *Net investment in operating leases* on the balance sheet. We now consider the effects of operating lease early terminations when determining depreciation estimates, which are included as part of accumulated depreciation within *Net investment in operating leases* on the balance sheet. We believe this change in accounting method is preferable as the characterization of these changes is better reflected as depreciation. We have reclassified prior period amounts to reflect these changes.
- **Lease Residual:**
 - Lease residual measures changes to residual performance at prior period exchange rates. For analysis purposes, management splits residual performance primarily into residual gains and losses, and the change in accumulated supplemental depreciation
 - Residual gain and loss changes are primarily driven by the number of vehicles returned to Ford Credit and sold, and the difference between the auction value and the depreciated value (which includes both base and accumulated supplemental depreciation) of the vehicles sold. Changes in accumulated supplemental depreciation are primarily driven by changes in Ford Credit's estimate of the expected auction value at the end of the lease term, and changes in Ford Credit's estimate of the number of vehicles that will be returned to it and sold. With the change in accounting method discussed above, accumulated depreciation now reflects early termination losses on operating leases due to customer default events for all periods presented. For additional information, refer to the "Critical Accounting Estimates - Accumulated Depreciation on Vehicles Subject to Operating Leases" section of Item 7 of Part II of our 2019 Form 10-K Report
- **Exchange:**
 - Reflects changes in EBT driven by the effects of converting functional currency income to U.S. dollars

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**• Other:**

- Primarily includes operating expenses, other revenue, insurance expenses, and other income at prior period exchange rates
- Changes in operating expenses are primarily driven by salaried personnel costs, facilities costs, and costs associated with the origination and servicing of customer contracts
- In general, other income changes are primarily driven by changes in earnings related to market valuation adjustments to derivatives (primarily related to movements in interest rates) and other miscellaneous items

In addition, the following definitions and calculations apply to Ford Credit when used in this report:

- **Cash** (as shown in the Funding Structure, Liquidity, and Leverage tables) – Cash, cash equivalents, and marketable securities, excluding amounts related to insurance activities
- **Debt** (as shown in the Key Metrics and Leverage tables) - Debt on Ford Credit's balance sheet. Includes debt issued in securitizations and payable only out of collections on the underlying securitized assets and related enhancements. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions
- **Earnings Before Taxes (EBT)** – Reflects Ford Credit's income before income taxes
- **Return on Equity (ROE)** (as shown in the Key Metrics table) – Reflects return on equity calculated by annualizing net income for the period and dividing by monthly average equity for the period
- **Securitization Cash** (as shown in the Liquidity table) – Cash held for the benefit of the securitization investors (for example, a reserve fund)
- **Securitizations** (as shown in the Public Term Funding Plan table) – Public securitization transactions, Rule 144A offerings sponsored by Ford Credit, and widely distributed offerings by Ford Credit Canada
- **Term Asset-Backed Securities** (as shown in the Funding Structure table) – Obligations issued in securitization transactions that are payable only out of collections on the underlying securitized assets and related enhancements
- **Total Net Receivables** (as shown in the Key Metrics and Ford Credit Net Receivables Reconciliation To Managed Receivables tables) – Includes finance receivables (retail financing and wholesale) sold for legal purposes and net investment in operating leases included in securitization transactions that do not satisfy the requirements for accounting sale treatment. These receivables and operating leases are reported on Ford Credit's balance sheet and are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations of Ford Credit or the claims of Ford Credit's other creditors

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Corporate Other**

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and gains and losses from our cash, cash equivalents, marketable securities and other investments, and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise, and are not allocated to specific Automotive business units or operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. Our full year 2019 Corporate Other results were a \$359 million loss, compared with a \$373 million loss a year ago. The year-over-year improvement was driven by fair market value adjustments offset partially by higher interest expense on income taxes.

Interest on Debt

Interest on Debt consists of interest expense on Automotive and Other debt. Full year 2019 interest expense on Automotive and Other debt was \$1 billion, which is \$208 million lower than a year ago, more than explained by lower foreign debt interest expense, reflecting our repayment of higher-cost affiliate debt as discussed in the Liquidity and Capital Resources section below, as well as the extinguishment of Ford Sollers debt.

Taxes

Our *Provision for/(Benefit from) income taxes* for full year 2019 was a \$724 million benefit, reflecting an effective tax rate of 113%. This includes a one-time benefit arising from restructuring in our European operations.

Our full year 2019 adjusted effective tax rate, which excludes special items, was 11.2%.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**RESULTS OF OPERATIONS - 2018**

Net income attributable to Ford was \$3.7 billion in 2018. Company adjusted EBIT was \$7 billion.

Our pre-tax and tax special items were as follows (in millions):

	2017	2018
Pension and OPEB Gain / (Loss)		
Pension and OPEB remeasurement	\$ (162)	\$ (851)
Pension curtailment	354	15
Total pension and OPEB gain / (loss)	<u>\$ 192</u>	<u>\$ (836)</u>
Separation-related actions		
	\$ (297)	\$ (537)
Other Items		
San Luis Potosi plant cancellation	\$ 41	\$ —
Next-generation Focus footprint change	(225)	(9)
Focus cancellation	—	(7)
Chariot closure	—	(40)
Total other items	<u>\$ (184)</u>	<u>\$ (56)</u>
Total pre-tax special items	<u><u>\$ (289)</u></u>	<u><u>\$ (1,429)</u></u>
Tax special items	\$ 897	\$ (88)

We recorded \$1.4 billion of special item charges in 2018, including \$851 million for pension and OPEB remeasurement losses and \$537 million for separation-related actions from our Global Redesign.

COMPANY KEY METRICS

The table below shows our full year 2018 key metrics for the Company compared with full year 2017.

	2017	2018	H / (L)
GAAP Financial Measures			
Cash Flows from Operating Activities (\$B)	\$ 18.1	\$ 15.0	\$ (3.1)
Revenue (\$M)	156,776	160,338	2%
Net Income (\$M)	7,731	3,677	\$ (4,054)
Net Income Margin (%)	4.9%	2.3%	(2.6) ppts
EPS (Diluted)	\$ 1.93	\$ 0.92	\$ (1.01)
Non-GAAP Financial Measures*			
Company Adj. Free Cash Flow (\$B)	\$ 4.2	\$ 2.8	\$ (1.4)
Company Adj. EBIT (\$M)	9,638	7,002	(2,636)
Company Adj. EBIT Margin (%)	6.1%	4.4%	(1.7) ppts
Adjusted EPS (Diluted)	\$ 1.78	\$ 1.30	\$ (0.48)
Adjusted ROIC (Trailing Four Qtrs)	11.8%	7.1%	(4.7) ppts

* See Non-GAAP Financial Measure Reconciliations section for reconciliation to GAAP.

For full year 2018, revenue grew 2 percent to \$160.3 billion.

In 2018, our diluted earnings per share of Common and Class B stock was \$0.92 and our diluted adjusted earnings per share was \$1.30.

Net income margin was 2.3 percent and Company adjusted EBIT margin was 4.4 percent for full year 2018, down 2.6 percentage points and 1.7 percentage points, respectively, from 2017.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

The table below shows our full year 2018 net income attributable to Ford and Company adjusted EBIT by segment (in millions).

	2017	2018	H / (L)
Automotive	\$ 8,084	\$ 5,422	\$ (2,662)
Mobility	(299)	(674)	(375)
Ford Credit	2,310	2,627	317
Corporate Other	(457)	(373)	84
Company Adjusted EBIT *	9,638	7,002	(2,636)
Interest on Debt	(1,190)	(1,228)	(38)
Special Items	(289)	(1,429)	(1,140)
Taxes / Noncontrolling Interests	(428)	(668)	(240)
Net Income	<u>\$ 7,731</u>	<u>\$ 3,677</u>	<u>\$ (4,054)</u>

* See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

Net income attributable to Ford and Company adjusted EBIT were driven by our Automotive and Ford Credit segments. Mobility and Corporate Other were losses.

The year-over-year decline in net income was primarily due to the lower Automotive EBIT, the larger mark-to-market adjustment for global pension and OPEB plans due to adverse financial market conditions that occurred late in 2018, and personnel separation-related actions in North America, South America, and Europe.

The lower Automotive EBIT fully explains the \$2.6 billion decline in Company adjusted EBIT, compared with 2017.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Automotive Segment**

The table below shows our full year 2018 Automotive segment EBIT by business unit (in millions).

	2017	2018	H / (L)
North America	\$ 8,057	\$ 7,607	\$ (450)
South America	(753)	(678)	75
Europe	367	(398)	(765)
China	152	(1,545)	(1,697)
Asia Pacific Operations	507	443	(64)
Middle East & Africa	(246)	(7)	239
Automotive Segment	\$ 8,084	\$ 5,422	\$ (2,662)

The tables below and on the following pages provide full year 2018 key metrics and the change in full year 2018 EBIT compared with full year 2017 by causal factor for our Automotive segment and its regional business units. For a description of these causal factors, see *Definitions and Information Regarding Automotive Causal Factors*.

	2017	2018	H / (L)
Key Metrics			
Market Share (%)		7.0%	6.3% (0.7) ppts
Wholesale Units (000)		6,607	5,982 (625)
Revenue (\$M)	\$ 145,653	\$ 148,294	\$ 2,641
EBIT (\$M)		8,084	5,422 (2,662)
EBIT Margin (%)		5.6%	3.7% (1.9) ppts

Change in EBIT by Causal Factor (in millions)

2017 Full Year EBIT	\$ 8,084
Volume / Mix	1,032
Net Pricing	1,971
Cost	(3,965)
Exchange	(1,010)
Other	(690)
2018 Full Year EBIT	\$ 5,422

North America more than explained the Automotive segment's full year 2018 profitability. Automotive EBIT benefited from the largest improvement in market factors since 2015. Volume / Mix as well as net pricing were improved compared to 2017. This benefit was more than offset by cost, including higher net product costs as we were entering a major product refresh cycle, higher tariff-related effects of \$750 million, higher commodities costs of \$1.1 billion unrelated to tariff effects, and higher warranty costs, including \$775 million of costs related to the Takata recalls announced in 2017 in North America. Exchange was unfavorable and other adverse impacts included lower joint venture equity income in China. Compared to 2017, the decline in Automotive EBIT was essentially due to China and Europe.

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***North America**

	2017	2018	H / (L)
Key Metrics			
Market Share (%)	13.9%	13.4%	(0.5) ppts
Wholesale Units (000)	2,967	2,920	(47)
Revenue (\$M)	\$ 93,481	\$ 96,617	\$ 3,136
EBIT (\$M)	8,057	7,607	(450)
EBIT Margin (%)	8.6%	7.9%	(0.7) ppts
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT			\$ 8,057
Volume / Mix			1,587
Net Pricing			425
Cost			(3,046)
Exchange			(11)
Other			595
2018 Full Year EBIT			\$ 7,607

North America's 2018 EBIT declined \$450 million year-over-year, driven by higher net product costs, tariff-related effects, commodities costs, and warranty costs described above under "Automotive Segment."

South America

	2017	2018	H / (L)
Key Metrics			
Market Share (%)	8.9%	8.3%	(0.6) ppts
Wholesale Units (000)	373	365	(8)
Revenue (\$M)	\$ 5,841	\$ 5,288	\$ (553)
EBIT (\$M)	(753)	(678)	75
EBIT Margin (%)	(12.9)%	(12.8)%	0.1 ppts
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT			\$ (753)
Volume / Mix			61
Net Pricing			821
Cost			(423)
Exchange			(451)
Other			67
2018 Full Year EBIT			\$ (678)

In 2018, South America delivered an EBIT improvement of \$75 million compared to 2017.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Europe**

	2017	2018	H / (L)
Key Metrics			
Market Share (%)	7.5%	7.2%	(0.3) ppts
Wholesale Units* (000)	1,582	1,533	(49)
Revenue (\$M)	\$ 29,637	\$ 31,272	\$ 1,635
EBIT (\$M)	367	(398)	(765)
EBIT Margin (%)	1.2%	(1.3)%	(2.5) ppts
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT		\$ 367	
Volume / Mix		(299)	
Net Pricing		916	
Cost		(770)	
Exchange		(418)	
Other		(194)	
2018 Full Year EBIT		\$ (398)	

*Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Turkey (about 78,000 units in 2017 and 44,000 units in 2018). Revenue does not include these sales.

Europe saw a year-over-year EBIT decline of \$765 million in 2018.

China

	2017	2018	H / (L)
Key Metrics			
Market Share (%)	4.2%	2.9%	(1.3) ppts
Wholesale Units* (000)	1,235	732	(503)
Revenue (\$M)	\$ 6,709	\$ 4,619	\$ (2,090)
EBIT (\$M)	152	(1,545)	(1,697)
EBIT Margin (%)	2.3%	(33.4)%	(35.7) ppts
* Wholesale units include Ford brand and JMC brand vehicles produced and sold in China by our unconsolidated affiliates. Revenue does not include these sales.			
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT		\$ 152	
Volume / Mix		(213)	
Net Pricing		(285)	
Cost		72	
Joint Ventures		(1,025)	
Exchange		63	
Other		(309)	
2018 Full Year EBIT		\$ (1,545)	

China's 2018 EBIT declined \$1.7 billion from 2017. The decline was driven by a \$1.3 billion reduction in net equity income and royalties from our China joint ventures and lower net pricing on Explorer and Lincoln imports.

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***Asia Pacific Operations**

	2017	2018	H / (L)
Key Metrics			
Market Share (%)		2.0%	1.9% (0.1) ppts
Wholesale Units* (000)		331	323 (8)
Revenue (\$M)	\$ 7,346	\$ 7,811	\$ 465
EBIT (\$M)		507	443 (64)
EBIT Margin (%)		6.9%	5.7% (1.2) ppts
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT			\$ 507
Volume / Mix			(146)
Net Pricing			35
Cost			106
Exchange			(262)
Other			203
2018 Full Year EBIT			\$ 443

Asia Pacific Operations' 2018 EBIT declined \$64 million from 2017. The decline was driven by adverse exchange, primarily the Thai baht and Australian dollar.

Middle East & Africa

	2017	2018	H / (L)
Key Metrics			
Market Share (%)		3.8%	3.0% (0.8) ppts
Wholesale Units* (000)		119	109 (10)
Revenue (\$M)	\$ 2,639	\$ 2,688	\$ 49
EBIT (\$M)		(246)	(7) 239
EBIT Margin (%)		(9.3)%	(0.3)% 9.0 ppts
Change in EBIT by Causal Factor (in millions)			
2017 Full Year EBIT			\$ (246)
Volume / Mix			42
Net Pricing			59
Cost			96
Exchange			68
Other			(26)
2018 Full Year EBIT			\$ (7)

Middle East & Africa was nearly breakeven in 2018, with a year-over-year EBIT improvement of \$239 million.

Mobility Segment

In our Mobility segment, our 2018 EBIT loss was \$674 million, a \$375 million higher loss than in 2017, due to increased investments for autonomous vehicle business development and mobility services.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Ford Credit Segment**

The tables below provide full year 2018 key metrics and the change in full year 2018 EBT compared with full year 2017 by causal factor for the Ford Credit segment.

	2017	2018	H / (L)
GAAP Financial Measures			
Net Receivables (\$B)	\$ 143	\$ 146	3 %
Loss-to-Receivables* (bps)	62	55	(7)
Auction Values**	\$ 17,815	\$ 18,540	4 %
EBT (\$M)	2,310	2,627	\$ 317
ROE (%)	22%	14%	(8) ppts

Other Balance Sheet Metrics

	2017	2018	H / (L)
Debt (\$B)	\$ 138	\$ 140	2 %
Net Liquidity (\$B)	30	27	(7)%
Financial Statement Leverage (to 1)	8.7	9.4	0.7

* U.S. retail and lease, previously included both retail financing and operating leases.

** U.S. 36-month off-lease auction values at full year 2018 mix.

	2017	2018	H / (L)
Non-GAAP Financial Measures			
Managed Receivables* (\$B)	\$ 151	\$ 155	3%
Managed Leverage** (to 1)	8.0	8.8	0.8

* See Non-GAAP Financial Measure Reconciliations section for reconciliation to GAAP.

** See Liquidity and Capital Resources - Ford Credit Segment section for reconciliation to GAAP.

Change in EBT by Causal Factor (in millions)

2017 Full Year EBT	\$ 2,310
Volume / Mix	262
Financing Margin	(69)
Credit Loss	57
Lease Residual	320
Exchange	(9)
Other	(244)
2018 Full Year EBT	\$ 2,627

Ford Credit generated a full year 2018 EBT of \$2.6 billion, \$317 million higher than 2017. Ford Credit's EBT improvement was led by favorable lease residual performance and favorable volume and mix. This was offset, in part, by unfavorable derivatives market valuation.

Corporate Other

Our full year 2018 Corporate Other results were a \$373 million loss, compared with a \$457 million loss in 2017. This year-over-year improvement was driven by higher interest income and net gains on cash equivalents and marketable securities, offset partially by an increase in corporate governance costs.

Interest on Debt

Our full year 2018 interest expense on Automotive and Other debt was \$1.2 billion, \$38 million higher than in 2017, reflecting primarily higher foreign debt interest expense.

Taxes

Our provision for income taxes for full year 2018 was \$650 million, resulting in an effective tax rate of 15.0%. Our full year 2018 adjusted effective tax rate, which excludes special items, was 9.7%.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**LIQUIDITY AND CAPITAL RESOURCES**

At December 31, 2019, total balance sheet cash, cash equivalents, marketable securities, and restricted cash (including Ford Credit) was \$34.9 billion.

We consider our key balance sheet metrics to be: (i) Company cash, which includes cash equivalents, marketable securities, and restricted cash, excluding Ford Credit's cash, cash equivalents, marketable securities, and restricted cash; and (ii) Company liquidity, which includes Company cash (less restricted cash) and total available committed credit lines, excluding Ford Credit's total available committed credit lines.

Company excluding Ford Credit

	December 31, 2018	December 31, 2019
Balance Sheet (\$B)		
Company Cash	\$ 23.1	\$ 22.3
Liquidity	34.2	35.4
Debt	\$ (14.1)	\$ (15.3)
Cash Net of Debt	8.9	7.0
Pension Funded Status (\$B)		
Funded Plans	\$ (0.3)	\$ (0.4)
Unfunded Plans	<u>(6.0)</u>	<u>(6.4)</u>
Total Global Pension	<u>\$ (6.3)</u>	<u>\$ (6.8)</u>
Total Funded Status OPEB	\$ (5.6)	\$ (6.1)

Liquidity. One of our key priorities is to maintain a strong balance sheet, while at the same time having resources available to invest in and grow our business. Based on our planning assumptions, we believe we have sufficient liquidity and capital resources to continue to invest in new products and services, pay our debts and obligations as and when they come due, pay a regular dividend, and provide protection within an uncertain global economic environment. We will continue to be opportunistic in evaluating sources of capital while maintaining strong balance sheet discipline.

At December 31, 2019, we had \$22.3 billion of Company cash, with 90% held by consolidated entities domiciled in the United States. To be prepared for an economic downturn, we target an ongoing Company cash balance at or above \$20 billion. We expect to have periods when we will be above or below this amount due to: (i) future cash flow expectations, such as for investments in future opportunities, capital investments, debt maturities, pension contributions, or restructuring requirements, (ii) short-term timing differences, and (iii) changes in the global economic environment.

Our Company cash investments primarily include U.S. Department of Treasury obligations, federal agency securities, bank time deposits with investment-grade institutions, investment-grade corporate securities, investment-grade commercial paper, and debt obligations of a select group of non-U.S. governments, non-U.S. governmental agencies, and supranational institutions. The average maturity of these investments is approximately one year and adjusted based on market conditions and liquidity needs. We monitor our Company cash levels and average maturity on a daily basis.

In addition to our Company cash target, we also target to maintain an additional \$10 billion of liquidity available under our corporate credit facility to further protect our Automotive business against a more severe economic downturn and other potential exogenous shocks. We regularly evaluate the appropriate long-term target for total Company liquidity, which is presently \$30 billion including Company cash and the Automotive portion of the corporate credit facility, an amount we believe is sufficient to support our business priorities and to protect our business. At December 31, 2019, we had \$35.4 billion of Company liquidity, an increase of \$1.2 billion from December 31, 2018, reflecting the addition of our supplemental credit facility (described below in *Available Credit Lines*). We may reduce our Company cash and liquidity targets over time, based on improved operating performance and changes in our risk profile.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Changes in Company Cash. In managing our business, we classify changes in Company cash into operating and non-operating items. Operating items include: Company adjusted EBIT excluding Ford Credit EBT, capital spending, depreciation and tooling amortization, changes in working capital, Ford Credit distributions, and all other and timing differences. Non-operating items include: Global Redesign (including separation payments), changes in Automotive and Other debt, contributions to funded pension plans, shareholder distributions, and other items (including acquisitions and divestitures and other transactions with Ford Credit).

With respect to "Changes in working capital," in general we carry relatively low Automotive segment trade receivables compared with our trade payables because the majority of our Automotive wholesales are financed (primarily by Ford Credit) immediately upon sale of vehicles to dealers, which generally occurs shortly after being produced. In contrast, our Automotive trade payables are based primarily on industry-standard production supplier payment terms generally ranging between 30 days to 45 days. As a result, our cash flow tends to improve as wholesale volumes increase, but can deteriorate when wholesale volumes sharply decrease. These working capital balances generally are subject to seasonal changes that can impact cash flow. For example, we typically experience cash flow timing differences associated with inventories and payables due to our annual summer and December shutdown periods when production, and therefore inventories and wholesale volumes, are usually at their lowest levels, while payables continue to come due and be paid. The net impact of this typically results in cash outflows from changes in our working capital balances during these shutdown periods.

Changes in Company cash excluding Ford Credit are summarized below (in billions):

	<u>December 31, 2017</u>	<u>December 31, 2018</u>	<u>December 31, 2019</u>
<u>Company Excluding Ford Credit</u>			
Company Adjusted EBIT* excluding Ford Credit	\$ 7.3	\$ 4.4	\$ 3.4
Capital spending	\$ (7.0)	\$ (7.7)	\$ (7.6)
Depreciation and tooling amortization	5.0	5.4	5.5
Net spending	<u>\$ (2.0)</u>	<u>\$ (2.4)</u>	<u>\$ (2.1)</u>
Changes in working capital	—	(0.9)	(0.6)
Ford Credit distributions	0.4	2.7	2.9
All other and timing differences	(1.5)	(1.1)	(0.8)
Company adjusted free cash flow*	<u>\$ 4.2</u>	<u>\$ 2.8</u>	<u>\$ 2.8</u>
Global Redesign (including separations)	(0.3)	(0.2)	(0.9)
Changes in debt	(0.4)	(1.8)	1.1
Funded pension contributions	(1.4)	(0.4)	(0.7)
Shareholder distributions	(2.7)	(3.1)	(2.6)
All other (including acquisitions and divestitures)	<u>(0.3)</u>	<u>(0.7)</u>	<u>(0.3)</u>
Change in cash	<u>\$ (1.0)</u>	<u>\$ (3.4)</u>	<u>\$ (0.8)</u>

* See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

* Note: Numbers may not sum due to rounding.

As reported on our Consolidated Statement of Cash Flows, our full year 2019 *Net cash provided by/(used in) operating activities* was up \$2.6 billion year-over-year more than explained by higher Ford Credit operating cash flows. Company adjusted free cash flow was flat year-over-year, primarily reflecting improvement in working capital, lower capital spending, and higher distributions from Ford Credit, offset by UAW contract-related bonuses.

Capital spending of \$7.6 billion in 2019 was down 2 percent compared with the prior year. Ongoing capital spending to support product development, growth, and infrastructure is expected to decline further and be in the range of \$6.8 billion to \$7.3 billion in 2020.

Full year 2019 working capital was \$617 million negative, more than explained by lower trade payables.

Full year 2019 all other and timing differences were negative \$825 million, reflecting assorted timing differences, interest payments on Automotive and Other debt, and cash taxes.

Shareholder distributions (including dividends and anti-dilutive share repurchases) were \$2.6 billion in 2019.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Available Credit Lines. Total Company committed credit lines excluding Ford Credit at December 31, 2019 were \$14.9 billion, consisting of \$10.4 billion of our corporate credit facility, \$3.5 billion of our supplemental credit facility, and \$1 billion of local credit facilities. At December 31, 2019, the utilized portion of the corporate credit facility was \$27 million, representing amounts utilized for letters of credit. At December 31, 2019, the utilized portion of the local credit facilities was \$200 million. The utilized portion of our supplemental credit facility is described below.

Lenders under our corporate credit facility have commitments to us totaling \$13.4 billion, with 25% of the commitments maturing on April 30, 2022 and 75% of the commitments maturing on April 30, 2024. We have allocated \$3 billion of commitments to Ford Credit on an irrevocable and exclusive basis to support its liquidity. We would guarantee any borrowings by Ford Credit under the corporate credit facility.

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed-charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of \$4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the facility. If our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P, the guarantees of certain subsidiaries will be required.

In 2019, we entered into a \$3.5 billion supplemental credit facility, further strengthening our liquidity and providing additional financial flexibility. The terms and conditions of the supplemental credit facility are consistent with our corporate credit facility; however, unlike our corporate credit facility, the supplemental facility is intended to be utilized and includes a \$2 billion revolving facility maturing on April 30, 2022 and a \$1.5 billion delayed draw term loan facility maturing on December 31, 2022. We drew all \$1.5 billion under the term loan facility in 2019, and all \$2 billion under the supplemental revolving facility was available for use as of December 31, 2019.

Debt. As shown in Note 20 of the Notes to the Financial Statements, at December 31, 2019, Company debt excluding Ford Credit was \$15.3 billion, including Automotive debt of \$14.7 billion. Both balances were \$1.1 billion higher than at December 31, 2018, and include the \$1.5 billion drawn under the term loan facility described above and our \$750 million and \$800 million unsecured debt (retail bond) issuances in the second quarter and fourth quarter of 2019, respectively. The impact of these transactions is leverage neutral after taking into consideration debt reduction actions we took in late 2018 and in 2019 to repay higher-cost affiliate debt as well as automotive debt maturities over the next several quarters in 2020.

U.S. Department of Energy ("DOE") Advanced Technology Vehicle Manufacturer ("ATVM") Incentive Program. See Note 20 of the Notes to the Financial Statements for information regarding the ATVM loan.

Leverage. We manage Company debt (excluding Ford Credit) levels with a leverage framework to maintain investment grade credit ratings through a normal business cycle. The leverage framework includes a ratio of total company debt (excluding Ford Credit), underfunded pension liabilities, operating leases, and other adjustments, divided by Company adjusted EBIT (excluding Ford Credit EBT), and further adjusted to exclude depreciation and tooling amortization (excluding Ford Credit).

Ford Credit's leverage is calculated as a separate business as described in the Liquidity - Ford Credit Segment section of Item 7. Ford Credit is self-funding and its debt, which is used to fund its operations, is separate from our Automotive and Other debt.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Ford Credit Segment**

Funding Overview. Ford Credit's primary funding objective is to be well capitalized with a strong balance sheet and ample liquidity to support its financing activities and growth under a variety of market conditions, including short-term and long-term market disruptions. Ford Credit's funding strategy remains focused on diversification, and it plans to continue accessing a variety of markets, channels, and investors.

Ford Credit's liquidity profile continues to be diverse, robust, and focused on maintaining liquidity levels that meet its business and funding requirements. Ford Credit annually stress tests its balance sheet and liquidity to ensure that it can continue to meet its financial obligations through economic cycles.

Funding Sources. Ford Credit's funding sources include primarily unsecured debt and securitization transactions (including other structured financings). Ford Credit issues both short-term and long-term debt that is held by both institutional and retail investors, with long-term debt having an original maturity of more than 12 months. Ford Credit sponsors a number of securitization programs that can be structured to provide both short-term and long-term funding through institutional investors and other financial institutions in the United States and international capital markets.

Ford Credit obtains short-term unsecured funding from the sale of demand notes under its Ford Interest Advantage program, through the Retail Deposit program at FCE Bank plc ("FCE"), and by issuing unsecured commercial paper in the United States and other international markets. At December 31, 2019, the principal amount outstanding of Ford Interest Advantage notes, which may be redeemed at any time at the option of the holders thereof without restriction, and FCE Deposits was \$7 billion. At December 31, 2019, the principal amount outstanding of Ford Credit's unsecured commercial paper was \$4 billion, which primarily represents issuance under its commercial paper program in the United States. Ford Credit maintains multiple sources of readily available liquidity to fund the payment of its unsecured short-term debt obligations.

The following table shows funding for Ford Credit's managed receivables (in billions):

	<u>December 31, 2017</u>	<u>December 31, 2018</u>	<u>December 31, 2019</u>
<u>Funding Structure</u>			
Term Debt (incl. Bank Borrowings)	\$ 75	\$ 70	\$ 73
Term Asset-Backed Securities	53	60	57
Commercial Paper	5	4	4
Ford Interest Advantage / Deposits	5	6	7
Other	9	10	9
Equity	16	15	14
Adjustments for Cash	(12)	(10)	(12)
Total Managed Receivables *	\$ 151	\$ 155	\$ 152
Securitized Funding as Percent of Managed Receivables	35%	39%	38%

* See Non-GAAP Financial Measure Reconciliations section for reconciliation to GAAP.

Managed receivables were \$152 billion at December 31, 2019 and were funded primarily with term debt and term asset-backed securities. Securitized funding as a percent of managed receivables was 38%. Ford Credit targets a mix of securitized funding between 35% and 40%. The calendarization of the funding plan will result in quarterly fluctuations of the securitized funding percentage.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Public Term Funding Plan. The following table shows Ford Credit's issuances for full-year 2017, 2018, and 2019, and planned issuances for full-year 2020, excluding short-term funding programs (in billions):

	2017 Actual	2018 Actual	2019 Actual	2020 Forecast
Unsecured - Currency of issuance (USD equivalent)				
USD	\$ 10	\$ 6	\$ 11	\$ 7 - 10
CAD	2	1	1	1 - 2
EUR / GBP	3	4	5	3 - 4
Other	1	1	1	1
Total unsecured	\$ 16	\$ 13	\$ 17	\$ 12 - 17
Securitizations*	15	14	14	12 - 14
Total public	\$ 32	\$ 27	\$ 31	\$ 24 - 31

* See "Ford Credit Segment" section for definitions.

* Note: Numbers may not sum due to rounding.

Ford Credit's total unsecured public term funding plan is categorized by currency of issuance.

In 2019, Ford Credit completed \$31 billion of public term funding. For 2020, Ford Credit projects full-year public term funding in the range of \$24 billion to \$31 billion. Ford Credit plans to continue issuing its eurocurrency-denominated (e.g., euro and sterling) public unsecured debt from the United States. Through February 3, 2020, Ford Credit has completed \$3.5 billion of public term issuances.

Liquidity. The following table shows Ford Credit's liquidity sources and utilization (in billions):

	December 31, 2017	December 31, 2018	December 31, 2019
Liquidity Sources*			
Cash	\$ 11.8	\$ 10.2	\$ 11.7
Committed asset-backed facilities	33.4	35.4	36.6
Other unsecured credit facilities	3.3	3.0	3.0
Ford corporate credit facility allocation	3.0	3.0	3.0
Total liquidity sources	\$ 51.5	\$ 51.6	\$ 54.3

Utilization of Liquidity*

	December 31, 2017	December 31, 2018	December 31, 2019
Utilization of Liquidity*			
Securitization cash	\$ (3.8)	\$ (3.0)	\$ (3.5)
Committed asset-backed facilities	(17.2)	(20.7)	(17.3)
Other unsecured credit facilities	(1.1)	(0.7)	(0.8)
Ford corporate credit facility allocation	—	—	—
Total utilization of liquidity	\$ (22.1)	\$ (24.4)	\$ (21.6)
Gross liquidity	\$ 29.4	\$ 27.2	\$ 32.7
Adjustments	0.1	0.1	0.4
Net liquidity available for use	\$ 29.5	\$ 27.3	\$ 33.1

* See Definitions and Information Regarding Ford Credit Causal Factors section.

Ford Credit's net liquidity available for use will fluctuate quarterly based on factors including near-term debt maturities, receivable growth, and timing of funding transactions. Ford Credit targets liquidity of about \$25 billion. At December 31, 2019, Ford Credit's net liquidity available for use was \$33.1 billion, \$5.8 billion higher than year-end 2018.

Ford Credit's sources of liquidity include cash, committed asset-backed facilities, unsecured credit facilities, and the corporate credit facility allocation. At December 31, 2019, Ford Credit's liquidity sources including cash totaled \$54.3 billion, up \$2.7 billion from year-end 2018.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Ford Credit's balance sheet is inherently liquid because of the short-term nature of its finance receivables, investment in operating leases, and cash. Ford Credit ensures its cumulative debt maturities have a longer tenor than its cumulative asset maturities. This positive maturity profile is intended to provide Ford Credit with additional liquidity after all of its assets have been funded.

Leverage. Ford Credit uses leverage, or the debt-to-equity ratio, to make various business decisions, including evaluating and establishing pricing for finance receivable and operating lease financing, and assessing its capital structure.

The table below shows the calculation of Ford Credit's financial statement leverage and managed leverage (in billions):

	December 31, 2017	December 31, 2018	December 31, 2019
<u>Leverage Calculation</u>			
Debt*	\$ 137.8	\$ 140.1	\$ 140.0
Adjustments for cash	(11.8)	(10.2)	(11.7)
Adjustments for derivative accounting*	—	0.2	(0.5)
Total adjusted debt	<u>\$ 126.0</u>	<u>\$ 130.1</u>	<u>\$ 127.8</u>
Equity**	\$ 15.9	\$ 15.0	\$ 14.3
Adjustments for derivative accounting*	(0.1)	(0.2)	—
Total adjusted equity	<u>\$ 15.8</u>	<u>\$ 14.8</u>	<u>\$ 14.3</u>
Financial statement leverage (to 1) (GAAP)	8.7	9.4	9.8
Managed leverage (to 1) (Non-GAAP)	8.0	8.8	8.9

* Related primarily to market valuation adjustments to derivatives due to movements in interest rates. Adjustments to debt are related to designated fair value hedges and adjustments to equity are related to retained earnings.

** Total shareholder's interest reported on Ford Credit's balance sheet.

Ford Credit plans its managed leverage by considering market conditions and the risk characteristics of its business. At December 31, 2019, Ford Credit's financial statement leverage was 9.8:1, and managed leverage was 8.9:1. Ford Credit targets managed leverage in the range of 8:1 to 9:1.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Total Company**

Pension Plan Contributions and Strategy. Our strategy is to reduce the risk of our funded defined benefit pension plans, including minimizing the volatility of the value of our pension assets relative to pension liabilities and the need for unplanned use of capital resources to fund the plans. The strategy reduces balance sheet, cash flow, and income exposures and, in turn, reduces our risk profile. Going forward, we expect to:

- Limit our pension contributions to offset ongoing service cost or meet regulatory requirements, if any;
- Maintain target asset allocation of about 80% fixed income investments and 20% growth assets, which better matches plan assets to the characteristics of the liabilities, thereby reducing our net exposure; and
- Evaluate strategic actions to reduce pension liabilities, such as plan design changes, curtailments, or settlements

	2018	2019	2019 B / (W) 2018
Pension Funded Status (\$B)			
U.S. Plans	\$ (2.5)	\$ (1.4)	\$ 1.1
Non-U.S. Plans	(3.8)	(5.4)	(1.6)
Total Global Pension	\$ (6.3)	\$ (6.8)	\$ (0.5)

Year-End Discount Rate (Weighted Average)

U.S. Plans	4.29%	3.32%	(0.97) ppts
Non-U.S. Plans	2.48%	1.74%	(0.74) ppts

Actual Asset Returns

U.S. Plans	(3.72)%	20.43%	24.15 ppts
Non-U.S. Plans	(0.10)%	10.72%	10.82 ppts

Pension - Funded Plans Only (\$B)

Funded Status	\$ (0.3)	\$ (0.4)	\$ (0.1)
Contributions for Funded Plans	0.4	0.7	0.3

Worldwide, our defined benefit pension plans were underfunded by \$6.8 billion at December 31, 2019, a deterioration of \$536 million from December 31, 2018, primarily as a result of lower discount rates, offset partially by higher asset returns. Of the \$6.8 billion underfunded status at year-end 2019, \$6.4 billion is associated with our unfunded plans. These are "pay as you go," with benefits paid from Company cash. These unfunded plans primarily include certain plans in Germany, and U.S. defined benefit plans for senior management.

The fixed income mix in our U.S. plans at year-end 2019 was 81%, three percentage points higher than year-end 2018. The fixed income mix in our non-U.S. plans at year-end 2019 was 86%, three percentage points higher than year-end 2018.

In 2019, we contributed \$730 million (including \$140 million in discretionary contributions in the United States) to our global funded pension plans, an increase of \$293 million compared with 2018. During 2020, we expect to contribute between \$600 million and \$800 million of cash to our global funded pension plans. We also expect to make about \$300 million of benefit payments to participants in unfunded plans. Based on current assumptions and regulations, we do not expect to have a legal requirement to fund our major U.S. plans in 2020. Our global funded plans remain fully funded in aggregate, demonstrating the effectiveness of our de-risking strategy and our commitment to a strong balance sheet.

For a detailed discussion of our pension plans, see Note 18 of the Notes to the Financial Statements.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Return on Invested Capital. We analyze total Company performance using an adjusted Return on Invested Capital ("ROIC") financial metric based on an after-tax rolling four quarter average. The following table contains the calculation of our ROIC for the years shown (in billions):

	December 31, 2017	December 31, 2018	December 31, 2019
<u>Adjusted Net Operating Profit After Cash Tax</u>			
Net income attributable to Ford	\$ 7.7	\$ 3.7	\$ 0.0
Add: Noncontrolling interest	0.0	0.0	0.0
Less: Income tax	(0.4)	(0.7)	0.7
Add: Cash tax	(0.6)	(0.8)	(0.6)
Less: Interest on debt	(1.2)	(1.2)	(1.0)
Less: Total pension / OPEB income / (cost)	0.6	(0.4)	(2.6)
Add: Pension / OPEB service costs	(1.1)	(1.2)	(1.0)
Net operating profit after cash tax	\$ 7.0	\$ 4.0	\$ 1.4
Less: Special items (excl. pension / OPEB) pre-tax	(0.5)	(0.6)	(3.5)
Adjusted net operating profit after cash tax	\$ 7.5	\$ 4.6	\$ 4.8

Invested Capital

Equity	\$ 35.6	\$ 36.0	\$ 33.2
Redeemable noncontrolling interest	0.1	0.1	0.0
Debt (excl. Ford Credit)	16.5	14.1	15.3
Net pension and OPEB liability	12.8	11.9	12.9
Invested capital (end of period)	\$ 65.0	\$ 62.1	\$ 61.4
Average invested capital	\$ 63.4	\$ 64.0	\$ 61.7

ROIC*	11.0%	6.2%	2.2%
Adjusted ROIC (Non-GAAP)**	11.8%	7.1%	7.8%

* Calculated as the sum of net operating profit after cash tax from the last four quarters, divided by the average invested capital over the last four quarters.

** Calculated as the sum of adjusted net operating profit after cash tax from the last four quarters, divided by the average invested capital over the last four quarters.

* Note: Numbers may not sum due to rounding.

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)***CREDIT RATINGS**

Our short-term and long-term debt is rated by four credit rating agencies designated as nationally recognized statistical rating organizations ("NRSROs") by the U.S. Securities and Exchange Commission: DBRS, Fitch, Moody's, and S&P.

In several markets, locally-recognized rating agencies also rate us. A credit rating reflects an assessment by the rating agency of the credit risk associated with a corporate entity or particular securities issued by that entity. Rating agencies' ratings of us are based on information provided by us and other sources. Credit ratings are not recommendations to buy, sell, or hold securities, and are subject to revision or withdrawal at any time by the assigning rating agency. Each rating agency may have different criteria for evaluating company risk and, therefore, ratings should be evaluated independently for each rating agency.

The following rating actions were taken by these NRSROs since the filing of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2019.

- On October 25, 2019, S&P downgraded the credit ratings for Ford and Ford Credit (to BBB- from BBB) and revised the outlook to stable from negative.

The following table summarizes certain of the credit ratings and outlook presently assigned by these four NRSROs:

NRSRO RATINGS							
	Ford			Ford Credit			NRSROs
	Issuer Default / Corporate / Issuer Rating	Long-Term Senior Unsecured	Outlook / Trend	Long-Term Senior Unsecured	Short-Term Unsecured	Outlook / Trend	Minimum Long-Term Investment Grade Rating
DBRS	BBB	BBB	Negative	BBB	R-2M	Negative	BBB (low)
Fitch	BBB	BBB	Negative	BBB	F2	Negative	BBB-
Moody's	N/A	Ba1	Stable	Ba1	NP	Stable	Baa3
S&P	BBB-	BBB-	Stable	BBB-	A-3	Stable	BBB-

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**OUTLOOK**

We provided 2020 Company guidance in our earnings release furnished on Form 8-K dated February 4, 2020. The guidance is based on our expectations as of February 4, 2020 and assumes no material change in the current economic environment, including commodities, foreign exchange, and tariffs, and does not include any assumptions for the effects of the coronavirus. Our actual results could differ materially from our guidance due to risks, uncertainties, and other factors, including those set forth in "Risk Factors" in Item 1A of Part I.

	2020 Guidance
Total Company	
Adjusted Free Cash Flow*	\$2.4 - \$3.4 billion
Adjusted EBIT*	\$5.6 - \$6.6 billion
Adjusted EPS*	\$0.94 - \$1.20
Capital spending	\$6.8 - \$7.3 billion
Pension contributions	\$0.6 - \$0.8 billion
Regular Dividend**	\$0.15 / quarter
Adjusted Effective Tax Rate*	Mid-to-High Teens
Global Redesign EBIT charges	\$(0.9) - \$(1.4) billion
Global Redesign cash effects	\$(0.8) - \$(1.3) billion
Ford Credit	
Ford Credit auction values	Down about 5% ***
* When we provide guidance for Adjusted Free Cash Flow, Adjusted EBIT, Adjusted EPS, and Adjusted Effective Tax Rate, we do not provide guidance for the most comparable GAAP measures because, as described in more detail below in "Non-GAAP Measures That Supplement GAAP Measures," they include items that are difficult to predict with reasonable certainty.	
** Subject to approval by our Board of Directors.	
*** On average compared with full year 2019 at constant mix.	

Our guidance assumes at least nominal growth in Automotive, offset by lower EBT from Ford Credit and a modest investment increase in Mobility.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Cautionary Note on Forward-Looking Statements**

Statements included or incorporated by reference herein may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on expectations, forecasts, and assumptions by our management and involve a number of risks, uncertainties, and other factors that could cause actual results to differ materially from those stated, including, without limitation:

- Ford's long-term competitiveness depends on the successful execution of global redesign and fitness actions;
- Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs;
- Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, or new business strategies;
- Operational systems, security systems, and vehicles could be affected by cyber incidents;
- Ford's production, as well as Ford's suppliers' production, could be disrupted by labor issues, natural or man-made disasters, financial distress, production difficulties, or other factors;
- Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints;
- Ford's ability to attract and retain talented, diverse, and highly skilled employees is critical to its success and competitiveness;
- Ford's new and existing products and mobility services are subject to market acceptance;
- Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States;
- With a global footprint, Ford's results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including tariffs and Brexit;
- Industry sales volume in any of our key markets can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event;
- Ford may face increased price competition or a reduction in demand for its products resulting from industry excess capacity, currency fluctuations, competitive actions, or other factors;
- Fluctuations in commodity prices, foreign currency exchange rates, interest rates, and market value of our investments can have a significant effect on results;
- Ford and Ford Credit's access to debt, securitization, or derivative markets around the world at competitive rates or in sufficient amounts could be affected by credit rating downgrades, market volatility, market disruption, regulatory requirements, or other factors;
- Ford's receipt of government incentives could be subject to reduction, termination, or clawback;
- Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles;
- Economic and demographic experience for pension and other postretirement benefit plans (e.g., discount rates or investment returns) could be worse than Ford has assumed;
- Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition;
- Ford could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, perceived environmental impacts, or otherwise;
- Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, autonomous vehicle, and other regulations that may change in the future;
- Ford and Ford Credit could be affected by the continued development of more stringent privacy, data use, and data protection laws and regulations as well as consumer expectations for the safeguarding of personal information; and
- Ford Credit could be subject to new or increased credit regulations, consumer protection regulations, or other regulations.

We cannot be certain that any expectation, forecast, or assumption made in preparing forward-looking statements will prove accurate, or that any projection will be realized. It is to be expected that there may be differences between projected and actual results. Our forward-looking statements speak only as of the date of their initial issuance, and we do not undertake any obligation to update or revise publicly any forward-looking statement, whether as a result of new information, future events, or otherwise. For additional discussion, see "Item 1A. Risk Factors" above.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**NON-GAAP FINANCIAL MEASURES THAT SUPPLEMENT GAAP MEASURES**

We use both generally accepted accounting principles ("GAAP") and non-GAAP financial measures for operational and financial decision making, and to assess Company and segment business performance. The non-GAAP financial measures listed below are intended to be considered by users as supplemental information to their comparable GAAP financial measures, to aid investors in better understanding our financial results. We believe that these non-GAAP financial measures provide useful perspective on underlying business results and trends, and a means to assess our period-over-period results. These non-GAAP financial measures should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP. These non-GAAP financial measures may not be the same as similarly titled measures used by other companies due to possible differences in method and in items or events being adjusted.

- ***Company Adjusted EBIT (Most Comparable GAAP Measure: Net Income Attributable to Ford)*** – Earnings before interest and taxes (EBIT) excludes interest on debt (excl. Ford Credit Debt), taxes, and pre-tax special items. This non-GAAP measure is useful to management and investors because it allows users to evaluate our operating results aligned with industry reporting. Pre-tax special items consist of (i) pension and OPEB remeasurement gains and losses, (ii) significant personnel expenses, dealer-related costs, and facility-related charges stemming from efforts to match production capacity and cost structure to market demand and changing model mix, and (iii) other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities. When we provide guidance for adjusted EBIT, we do not provide guidance on a net income basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.
- ***Company Adjusted EBIT Margin (Most Comparable GAAP Measure: Company Net Income Margin)*** – Company Adjusted EBIT margin is Company adjusted EBIT divided by Company revenue. This non-GAAP measure is useful to management and investors because it allows users to evaluate our operating results aligned with industry reporting.
- ***Adjusted Earnings Per Share (Most Comparable GAAP Measure: Earnings Per Share)*** – Measure of Company's diluted net earnings per share adjusted for impact of pre-tax special items (described above), tax special items, and restructuring impacts in noncontrolling interests. The measure provides investors with useful information to evaluate performance of our business excluding items not indicative of the underlying run rate of our business. When we provide guidance for adjusted earnings per share, we do not provide guidance on an earnings per share basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.
- ***Adjusted Effective Tax Rate (Most Comparable GAAP Measure: Effective Tax Rate)*** – Measure of Company's tax rate excluding pre-tax special items (described above) and tax special items. The measure provides an ongoing effective rate which investors find useful for historical comparisons and for forecasting. When we provide guidance for adjusted effective tax rate, we do not provide guidance on an effective tax rate basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.
- ***Company Adjusted Free Cash Flow (Most Comparable GAAP Measure: Net Cash Provided By / (Used In) Operating Activities)*** – Measure of Company's operating cash flow excluding Ford Credit's operating cash flows. The measure contains elements management considers operating activities, including Automotive and Mobility capital spending, Ford Credit distributions to its parent, and settlement of derivatives. The measure excludes cash outflows for funded pension contributions, global redesign (including separations), and other items that are considered operating cash flows under GAAP. This measure is useful to management and investors because it is consistent with management's assessment of the Company's operating cash flow performance. When we provide guidance for Company adjusted free cash flow, we do not provide guidance for net cash provided by/(used in) operating activities because the GAAP measure will include items that are difficult to quantify or predict with reasonable certainty, including cash flows related to the Company's exposures to foreign currency exchange rates and certain commodity prices (separate from any related hedges), Ford Credit's operating cash flows, and cash flows related to special items, including separation payments, each of which individually or in the aggregate could have a significant impact to our net cash provided by/(used in) our operating activities.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

- *Adjusted Free Cash Flow Conversion (Most Comparable GAAP Measure: Net Cash Provided By / (Used In) Operating Activities divided by Net Income Attributable to Ford)* – Adjusted Free Cash Flow Conversion is Company adjusted free cash flow divided by Company Adjusted EBIT. This non-GAAP measure is useful to management and investors because it allows users to evaluate how much of Ford's Adjusted EBIT is converted into cash flow.
- *Adjusted ROIC* – Calculated as the sum of adjusted net operating profit after cash tax from the last four quarters, divided by the average invested capital over the last four quarters. Adjusted Return on Invested Capital ("ROIC") provides management and investors with useful information to evaluate the Company's after-cash tax operating return on its invested capital for the period presented. Adjusted net operating profit after cash tax measures operating results less special items, interest on debt (excl. Ford Credit Debt), and certain pension/OPEB costs. Average invested capital is the sum of average balance sheet equity, debt (excl. Ford Credit Debt), and net pension/OPEB liability.
- *Ford Credit Managed Receivables (Most Comparable GAAP Measure: Net Finance Receivables plus Net Investment in Operating Leases)* – Measure of Ford Credit's total net receivables and held-for-sale receivables, excluding unearned interest supplements and residual support, allowance for credit losses, and other (primarily accumulated supplemental depreciation). The measure is useful to management and investors as it closely approximates the customer's outstanding balance on the receivables, which is the basis for earning revenue.
- *Ford Credit Managed Leverage (Most Comparable GAAP Measure: Financial Statement Leverage)* – Ford Credit's debt-to-equity ratio adjusted (i) to exclude cash, cash equivalents, and marketable securities (other than amounts related to insurance activities), and (ii) for derivative accounting. The measure is useful to investors because it reflects the way Ford Credit manages its business. Cash, cash equivalents, and marketable securities are deducted because they generally correspond to excess debt beyond the amount required to support operations and on-balance sheet securitization transactions. Derivative accounting adjustments are made to asset, debt, and equity positions to reflect the impact of interest rate instruments used with Ford Credit's term-debt issuances and securitization transactions. Ford Credit generally repays its debt obligations as they mature, so the interim effects of changes in market interest rates are excluded in the calculation of managed leverage.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**NON-GAAP FINANCIAL MEASURE RECONCILIATIONS**

The following tables show our Non-GAAP financial measure reconciliations. The GAAP reconciliation for Ford Credit Managed Leverage can be found in the Ford Credit Segment section of "Liquidity and Capital Resources."

Net Income Reconciliation to Adjusted EBIT (\$M)

	2017	2018	2019
Net income / (loss) attributable to Ford (GAAP)	\$ 7,731	\$ 3,677	\$ 47
Income / (Loss) attributable to noncontrolling interests	26	18	37
Net income / (loss)	<u>\$ 7,757</u>	<u>\$ 3,695</u>	<u>\$ 84</u>
Less: (Provision for) / Benefit from income taxes	(402)	(650)	724
Income / (Loss) before income taxes	\$ 8,159	\$ 4,345	\$ (640)
Less: Special items pre-tax	(289)	(1,429)	(5,999)
Income / (Loss) before special items pre-tax	<u>\$ 8,448</u>	<u>\$ 5,774</u>	<u>\$ 5,359</u>
Less: Interest on debt	(1,190)	(1,228)	(1,020)
Adjusted EBIT (Non-GAAP)	<u><u>\$ 9,638</u></u>	<u><u>\$ 7,002</u></u>	<u><u>\$ 6,379</u></u>

Memo:

Revenue (\$B)	\$ 156.8	\$ 160.3	\$ 155.9
Net income margin (%)	4.9%	2.3%	0.0%
Adjusted EBIT margin (%)	6.1%	4.4%	4.1%

Earnings per Share Reconciliation to Adjusted Earnings per Share

	2017	2018	2019
Diluted After-Tax Results (\$M)			
Diluted after-tax results (GAAP)	\$ 7,731	\$ 3,677	\$ 47
Less: Impact of pre-tax and tax special items	608	(1,517)	(4,676)
Less: Noncontrolling interests impact of Russia restructuring	—	—	(35)
Adjusted net income - Diluted (Non-GAAP)	<u><u>\$ 7,123</u></u>	<u><u>\$ 5,194</u></u>	<u><u>\$ 4,758</u></u>

Basic and Diluted Shares (M)

Basic shares (average shares outstanding)	3,975	3,974	3,972
Net dilutive options, unvested restricted stock units, and restricted stock	23	24	32
Diluted shares	<u><u>3,998</u></u>	<u><u>3,998</u></u>	<u><u>4,004</u></u>

Earnings per share - diluted (GAAP)	\$ 1.93	\$ 0.92	\$ 0.01
Less: Net impact of adjustments	0.15	(0.38)	(1.18)
Adjusted earnings per share - diluted (Non-GAAP)	<u><u>\$ 1.78</u></u>	<u><u>\$ 1.30</u></u>	<u><u>\$ 1.19</u></u>

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Effective Tax Rate Reconciliation to Adjusted Effective Tax Rate**

	2017	2018	2019
<u>Pre-Tax Results (\$M)</u>			
Income / (Loss) before income taxes (GAAP)	\$ 8,159	\$ 4,345	\$ (640)
Less: Impact of special items	(289)	(1,429)	(5,999)
Adjusted earnings before taxes (Non-GAAP)	<u>\$ 8,448</u>	<u>\$ 5,774</u>	<u>\$ 5,359</u>
<u>Taxes (\$M)</u>			
(Provision for) / Benefit from income taxes (GAAP)	\$ (402)	\$ (650)	\$ 724
Less: Impact of special items	897	(88)	1,323
Adjusted (provision for) / benefit from income taxes (Non-GAAP)	<u>\$ (1,299)</u>	<u>\$ (562)</u>	<u>\$ (599)</u>
<u>Tax Rate (%)</u>			
Effective tax rate (GAAP)	4.9%	15.0%	113.1%
Adjusted effective tax rate (Non-GAAP)	15.4%	9.7%	11.2%

Net Cash Provided by/(Used in) Operating Activities Reconciliation to Company Adjusted Free Cash Flow (\$M)

	2017	2018	2019
Net cash provided by / (used in) operating activities (GAAP)	\$ 18,096	\$ 15,022	\$ 17,639
Less: Items not included in Company Adjusted Free Cash Flows			
Ford Credit operating cash flows	9,300	\$ 8,171	\$ 11,531
Funded pension contributions	(1,434)	(437)	(730)
Global Redesign (including separations)	(281)	(196)	(911)
Other, net	(52)	82	390
Add: Items included in Company Adjusted Free Cash Flows			
Automotive and Mobility capital spending	(7,004)	(7,737)	(7,580)
Ford Credit distributions	406	2,723	2,900
Settlement of derivatives	217	132	107
Pivotal conversion to a marketable security	—	263	—
Company adjusted free cash flow (Non-GAAP)	<u>\$ 4,182</u>	<u>\$ 2,781</u>	<u>\$ 2,785</u>
Cash conversion (GAAP)	234%	409%	37,530%
Adjusted free cash flow conversion (Non-GAAP)	43%	40%	44%

* Note: Numbers may not sum due to rounding.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Ford Credit Net Receivables Reconciliation to Managed Receivables (\$B)**

	2017	2018	2019
Ford Credit finance receivables, net (GAAP)*	\$ 108.4	\$ 109.9	\$ 107.4
Net investments in operating leases (GAAP)*	26.7	27.4	27.6
Consolidating adjustments**	7.6	8.9	7.0
Total net receivables	<u>\$ 142.7</u>	<u>\$ 146.2</u>	<u>\$ 142.0</u>
Held-for-sale receivables (GAAP)	—	—	1.5
Ford Credit unearned interest supplements and residual support	6.1	6.8	6.7
Allowance for credit losses	0.6	0.6	0.5
Other, primarily accumulated supplemental depreciation	1.1	1.2	1.0
Total managed receivables (Non-GAAP)	<u><u>\$ 150.5</u></u>	<u><u>\$ 154.9</u></u>	<u><u>\$ 151.7</u></u>

* Includes finance receivables (retail and wholesale) sold for legal purposes and net investment in operating leases included in securitization transactions that do not satisfy the requirements for accounting sale treatment. These receivables and operating leases are reported on Ford Credit's balance sheet and are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations of Ford Credit or the claims of Ford Credit's other creditors.

** Primarily includes Automotive segment receivables purchased by Ford Credit which are classified to *Trade and other receivables* on our consolidated balance sheet. Also includes eliminations of intersegment transactions.

* Note: Numbers may not sum due to rounding.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**2019 SUPPLEMENTAL INFORMATION**

The tables below provide supplemental consolidating financial information and other financial information. Company excluding Ford Credit includes our Automotive and Mobility reportable segments, Corporate Other, Interest on Debt, and Special Items. Eliminations, where presented, primarily represent eliminations of intersegment transactions and deferred tax netting.

Selected Cash Flow Information. The following tables provide supplemental cash flow information (in millions):

	For the Year Ended December 31, 2019			
	Company excluding Ford Credit	Ford Credit	Eliminations	Consolidated
Cash flows from operating activities				
Net income/(loss)	\$ (2,144)	\$ 2,228	\$ —	\$ 84
Depreciation and tooling amortization	6,023	3,666	—	9,689
Other amortization	48	(1,247)	—	(1,199)
Held-for-sale impairment charges	804	—	—	804
Provision for credit and insurance losses	14	399	—	413
Pension and OPEB expense/(income)	2,625	—	—	2,625
Equity investment dividends received in excess of (earnings)/losses	233	(30)	—	203
Foreign currency adjustments	(18)	(36)	—	(54)
Net (gain)/loss on changes in investments in affiliates	(36)	7	—	(29)
Stock compensation	220	8	—	228
Provision for deferred income taxes	(1,407)	37	—	(1,370)
Decrease/(Increase) in finance receivables (wholesale and other)	—	1,554	—	1,554
Decrease/(Increase) in intersegment receivables/payables	(193)	193	—	—
Decrease/(Increase) in accounts receivable and other assets	(971)	155	—	(816)
Decrease/(Increase) in inventory	206	—	—	206
Increase/(Decrease) in accounts payable and accrued and other liabilities	5,228	32	—	5,260
Other	157	(116)	—	41
Interest supplements and residual value support to Ford Credit	(4,681)	4,681	—	—
Net cash provided by/(used in) operating activities	<u>\$ 6,108</u>	<u>\$ 11,531</u>	<u>\$ —</u>	<u>\$ 17,639</u>
Cash flows from investing activities				
Capital spending	\$ (7,580)	\$ (52)	\$ —	\$ (7,632)
Acquisitions of finance receivables and operating leases	—	(55,576)	—	(55,576)
Collections of finance receivables and operating leases	—	50,182	—	50,182
Purchases of marketable and other investments	(11,589)	(5,883)	—	(17,472)
Sales and maturities of marketable and other investments	12,998	3,931	—	16,929
Settlements of derivatives	107	(221)	—	(114)
Other	(34)	(4)	—	(38)
Investing activity (to)/from other segments	2,980	—	(2,980)	—
Net cash provided by/(used in) investing activities	<u>\$ (3,118)</u>	<u>\$ (7,623)</u>	<u>\$ (2,980)</u>	<u>\$ (13,721)</u>
Cash flows from financing activities				
Cash payments for dividends and dividend equivalents	\$ (2,389)	\$ —	\$ —	\$ (2,389)
Purchases of common stock	(237)	—	—	(237)
Net changes in short-term debt	(186)	(1,198)	—	(1,384)
Proceeds from issuance of long-term debt	3,082	44,522	—	47,604
Principal payments on long-term debt	(1,832)	(44,665)	—	(46,497)
Other	(110)	(116)	—	(226)
Financing activity to/(from) other segments	—	(2,980)	2,980	—
Net cash provided by/(used in) financing activities	<u>\$ (1,672)</u>	<u>\$ (4,437)</u>	<u>\$ 2,980</u>	<u>\$ (3,129)</u>
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	\$ (5)	\$ 50	\$ —	\$ 45

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Income Statement Information. The following table provides supplemental income statement information (in millions):

	For the Year Ended December 31, 2019					
	Company excluding Ford Credit					
	Automotive	Mobility	Other (a)	Subtotal	Ford Credit	Consolidated
Revenues	\$ 143,599	\$ 41	\$ —	\$ 143,640	\$ 12,260	\$ 155,900
Total costs and expenses	140,736	1,379	3,739	145,854	9,472	155,326
Operating income/(loss)	2,863	(1,338)	(3,739)	(2,214)	2,788	574
Interest expense on Automotive debt	—	—	963	963	—	963
Interest expense on Other debt	—	—	57	57	—	57
Other income/(loss), net	2,074	140	(2,619)	(405)	179	(226)
Equity in net income of affiliated companies	(11)	12	—	1	31	32
Income/(loss) before income taxes	4,926	(1,186)	(7,378)	(3,638)	2,998	(640)
Provision for/(Benefit from) income taxes	444	(284)	(1,654)	(1,494)	770	(724)
Net income/(loss)	4,482	(902)	(5,724)	(2,144)	2,228	84
Less: Income attributable to noncontrolling interests	37	—	—	37	—	37
Net income/(loss) attributable to Ford Motor Company	\$ 4,445	\$ (902)	\$ (5,724)	\$ (2,181)	\$ 2,228	\$ 47

(a) Other includes Corporate Other, Interest on Debt, and Special Items

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Balance Sheet Information. The following tables provide supplemental balance sheet information (in millions):

	December 31, 2019			
	Company excluding Ford Credit	Ford Credit	Eliminations	Consolidated
Assets				
Cash and cash equivalents	\$ 8,437	\$ 9,067	\$ —	\$ 17,504
Marketable securities	13,851	3,296	—	17,147
Ford Credit finance receivables, net	—	53,651	—	53,651
Trade and other receivables, less allowances	3,618	5,619	—	9,237
Inventories	10,786	—	—	10,786
Assets held for sale	685	1,698	—	2,383
Other assets	2,014	1,325	—	3,339
Receivable from other segments	125	2,228	(2,353)	—
Total current assets	<u>39,516</u>	<u>76,884</u>	<u>(2,353)</u>	<u>114,047</u>
Ford Credit finance receivables, net	—	53,703	—	53,703
Net investment in operating leases	1,612	27,618	—	29,230
Net property	36,257	212	—	36,469
Equity in net assets of affiliated companies	2,396	123	—	2,519
Deferred income taxes	13,856	171	(2,164)	11,863
Other assets	8,736	1,970	—	10,706
Receivable from other segments	9	16	(25)	—
Total assets	<u>\$ 102,382</u>	<u>\$ 160,697</u>	<u>\$ (4,542)</u>	<u>\$ 258,537</u>
Liabilities				
Payables	\$ 19,681	\$ 992	\$ —	\$ 20,673
Other liabilities and deferred revenue	21,340	1,647	—	22,987
Automotive debt payable within one year	1,445	—	—	1,445
Ford Credit debt payable within one year	—	52,371	—	52,371
Other debt payable within one year	130	—	—	130
Liabilities held for sale	481	45	—	526
Payable to other segments	2,353	—	(2,353)	—
Total current liabilities	<u>45,430</u>	<u>55,055</u>	<u>(2,353)</u>	<u>98,132</u>
Other liabilities and deferred revenue	24,280	1,044	—	25,324
Automotive long-term debt	13,233	—	—	13,233
Ford Credit long-term debt	—	87,658	—	87,658
Other long-term debt	470	—	—	470
Deferred income taxes	61	2,593	(2,164)	490
Payable to other segments	25	—	(25)	—
Total liabilities	<u>\$ 83,499</u>	<u>\$ 146,350</u>	<u>\$ (4,542)</u>	<u>\$ 225,307</u>

*Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**Selected Other Information.*

Equity. At December 31, 2018, total equity attributable to Ford was \$35.9 billion, an increase of \$354 million compared with December 31, 2017. At December 31, 2019, total equity attributable to Ford was \$33.2 billion, a decrease of \$2.7 billion compared with December 31, 2018. The detail for the changes is shown below (in billions):

	2018 vs 2017 Increase/ (Decrease)	2019 vs 2018 Increase/ (Decrease)
Net income	\$ 3.7	\$ —
Shareholder distributions	(3.1)	(2.6)
Other comprehensive income	(0.4)	(0.3)
Common stock issued (including share-based compensation impacts)	0.2	0.2
Total	<u>\$ 0.4</u>	<u>\$ (2.7)</u>

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**CRITICAL ACCOUNTING ESTIMATES**

We consider an accounting estimate to be critical if: (1) the accounting estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made, and (2) changes in the estimate that are reasonably likely to occur from period to period, or use of different estimates that we reasonably could have used in the current period, would have a material impact on our financial condition or results of operations.

Management has discussed the development and selection of these critical accounting estimates with the Audit Committee of our Board of Directors. In addition, there are other items within our financial statements that require estimation, but are not deemed critical as defined above. Changes in estimates used in these and other items could have a material impact on our financial statements.

Warranties and Field Service Actions

Nature of Estimates Required. We provide base warranties on the products we sell for specific periods of time and/or mileage, which vary depending upon the type of product and the geographic location of its sale. Separately, we also periodically perform field service actions related to safety recalls, emission recalls, and other product campaigns. Pursuant to these warranties and field service actions, we will repair, replace, or adjust all parts on a vehicle that are defective in factory-supplied materials or workmanship. We accrue the estimated cost of both base warranty coverages and field service actions at the time of sale. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance.

Assumptions and Approach Used. We establish our estimate of base warranty obligations using a patterned estimation model. We use historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We reevaluate our estimate of base warranty obligations on a regular basis. Experience has shown that initial data for any given model year may be volatile; therefore, our process relies on long-term historical averages until sufficient data are available. As actual experience becomes available, we use the data to update the historical averages. We then compare the resulting accruals with present spending rates to assess whether the balances are adequate to meet expected future obligations. Based on this data, we update our estimates as necessary.

Field service actions are distinguishable from warranties in that they may occur in periods beyond the base warranty coverage period. We establish our estimates of field service action obligations using a patterned estimation model. We use historical information regarding the nature, frequency, severity, and average cost of claims for each model year. We assess our obligation for field service actions on a regular basis using actual claims experience and update our estimates as necessary.

Due to the uncertainty and potential volatility of the factors used in establishing our estimates, changes in our assumptions could materially affect our financial condition and results of operations. See Note 27 of the Notes to the Financial Statements for information regarding warranty and product recall related costs.

Pensions and Other Postretirement Employee Benefits

Nature of Estimates Required. The estimation of our defined benefit pension and OPEB plan obligations and expenses requires that we make use of estimates of the present value of the projected future payments to all participants, taking into consideration the likelihood of potential future events such as demographic experience and health care cost increases. Plan obligations and expenses are based on existing retirement plan provisions. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Assumptions and Approach Used. The assumptions used in developing the required estimates include the following key factors:

- **Discount rates.** Our discount rate assumption is based primarily on the results of a cash flow matching analysis, which matches the future cash outflows for each major plan to a yield curve based on high-quality bonds specific to the country of the plan. Benefit payments are discounted at the rates on the curve to determine the year-end obligations.
- **Expected long-term rate of return on plan assets.** Our expected long-term rate of return considers inputs from a range of advisors for capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered where appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.
- **Salary growth.** Our salary growth assumption reflects our actual experience, long-term outlook, and assumed inflation.
- **Inflation.** Our inflation assumption is based on an evaluation of external market indicators, including real gross domestic product growth and central bank inflation targets.
- **Expected contributions.** Our expected amount and timing of contributions are based on an assessment of minimum requirements, cash availability, and other considerations (e.g., funded status, avoidance of regulatory premiums and levies, and tax efficiency).
- **Retirement rates.** Retirement rates are developed to reflect actual and projected plan experience.
- **Mortality rates.** Mortality rates are developed to reflect actual and projected plan experience.
- **Health care cost trends.** Our health care cost trend assumptions are developed based on historical cost data, the near-term outlook, and an assessment of likely long-term trends.

Assumptions are set at each year-end and are generally not changed during the year unless there is a major plan event such as a curtailment or settlement that would trigger a plan remeasurement.

See Note 18 of the Notes to the Financial Statements for more information regarding pension and OPEB costs and assumptions.

Pension Plans

Effect of Actual Results. The year-end 2019 weighted average discount rate was 3.32% for U.S. plans and 1.74% for non-U.S. plans, reflecting decreases of 97 and 74 basis points, respectively, compared with year-end 2018. In 2019, the U.S. actual return on assets was 20.43%, which was higher than the expected long-term rate of return of 6.75%. Non-U.S. actual return on assets was 10.72%, which was higher than the expected long-term rate of return of 4.18%. In total, these differences, in addition to demographic and other updates, resulted in a net remeasurement loss of \$1.9 billion which has been recognized within net periodic benefit cost and reported as a special item.

For 2020, the expected long-term rate of return on assets is 6.50% for U.S. plans, down 25 basis points from 2019, and 3.67% for non-U.S. plans, down 51 basis points compared with a year ago, primarily reflecting an increased allocation to fixed income assets and a lower consensus on capital market return expectations from advisors.

De-risking Strategy. We employ a broad global de-risking strategy which increases the matching characteristics of our assets relative to our obligation as funded status improves. Changes in interest rates (which directly influence changes in discount rates), in addition to other factors, have a significant impact on the value of our pension obligation and fixed income asset portfolio. Our de-risking strategy has increased the allocation to fixed income investments and reduced our funded status sensitivity to changes in interest rates. Changes in interest rates should result in offsetting effects in the value of our pension obligation and the value of the fixed income asset portfolio.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Sensitivity Analysis. The December 31, 2019 pension funded status and 2020 expense are affected by year-end 2019 assumptions. Sensitivities to these assumptions may be asymmetric and are specific to the time periods noted. The effects of changes in the factors which generally have the largest impact on year-end funded status and pension expense are discussed below.

Discount rates and interest rates have the largest impact on our obligations and fixed income assets. The table below estimates the impact on our funded status of an increase/decrease in discount rates and interest rates (in millions):

Factor	Basis Point Change	Increase/(Decrease) in December 31, 2019 Funded Status	
		U.S. Plans	Non-U.S. Plans
Discount rate - obligation	+/- 100 bps	\$4,900/\$(5,900)	\$5,300/\$(6,900)
Interest rate - fixed income assets	+/- 100	(4,700)/5,700	(3,900)/5,000
Net impact on funded status		\$200/\$(200)	\$1,400/\$(1,900)

The fixed income asset sensitivity shown excludes other fixed income return components (e.g., changes in credit spreads, bond coupon and active management excess returns), and growth asset returns. Other factors that impact net funded status (e.g., contributions) are not reflected.

Interest rates and the expected long-term rate of return on assets have the largest impact on pension expense. These assumptions are generally set at each year-end for expense recorded throughout the following year. The table below estimates the impact on pension expense of a higher/lower assumption for these factors (in millions):

Factor	Basis Point Change	Increase/(Decrease) in December 31, 2019 Funded Status	
		U.S. Plans	Non-U.S. Plans
Interest rate - service cost and interest cost	+/- 25 bps	\$40/\$(40)	\$30/\$(30)
Expected long-term rate of return on assets	+/- 25	(110)/110	(70)/70

The impact of changing multiple factors simultaneously cannot be calculated by combining the individual sensitivities. The sensitivity of pension expense to an increase in discount rates assumptions may not be linear.

Other Postretirement Employee Benefits

Effect of Actual Results. The weighted average discount rate used to determine the benefit obligation for worldwide OPEB plans at December 31, 2019 was 3.30%, compared with 4.08% at December 31, 2018, resulting in a worldwide net remeasurement loss of \$551 million which has been recognized within net periodic benefit cost and reported as a special item.

Sensitivity Analysis. Discount rates and interest rates have the largest impact on our OPEB obligation and expense. The table below estimates the impact on 2020 OPEB expense of higher/lower assumptions for these factors (in millions):

Factor	Basis Point Change	Worldwide OPEB	
		(Increase)/Decrease 2019 YE Obligation	Increase/(Decrease) 2019 Expense
Discount rate - obligation	+/- 100 bps	\$700/\$(850)	N/A
Interest rate - service cost and interest cost	+/- 25	N/A	\$5/\$(5)

Income Taxes

Nature of Estimates Required. We must make estimates and apply judgment in determining the provision for income taxes for financial reporting purposes. We make these estimates and judgments primarily in the following areas: (i) the calculation of tax credits, (ii) the calculation of differences in the timing of recognition of revenue and expense for tax and financial statement purposes that will ultimately be reported in tax returns, as well as (iii) the calculation of interest and penalties related to uncertain tax positions. Changes in these estimates and judgments may result in a material increase or decrease to our tax provision, which would be recorded in the period in which the change occurs.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Assumptions and Approach Used. We are subject to the income tax laws and regulations of the many jurisdictions in which we operate. These tax laws and regulations are complex and involve uncertainties in the application to our facts and circumstances that may be open to interpretation. We recognize benefits for these uncertain tax positions based upon a process that requires judgment regarding the technical application of the laws, regulations, and various related judicial opinions. If, in our judgment, it is more likely than not that the uncertain tax position will be settled favorably to us, we estimate an amount that ultimately will be realized. This process is inherently subjective, since it requires our assessment of the probability of future outcomes. We evaluate these uncertain tax positions on a quarterly basis, including consideration of changes in facts and circumstances, such as new regulations or recent judicial opinions, as well as the status of audit activities by taxing authorities. Changes to our estimate of the amount to be realized are recorded in our provision for income taxes during the period in which the change occurred.

We must also assess the likelihood that we will be able to recover our deferred tax assets against future sources of taxable income and reduce the carrying amount of deferred tax assets by recording a valuation allowance if, based on all available evidence, it is more likely than not (defined as a likelihood of more than 50%) that all or a portion of such assets will not be realized.

This assessment, which is completed on a taxing jurisdiction basis, takes into account a number of types of evidence, including the following:

- **Nature, frequency, and severity of current and cumulative financial reporting losses.** A pattern of objectively measured recent financial reporting losses is heavily weighted as a source of negative evidence. We generally consider cumulative pre-tax losses in the three-year period ending with the current quarter to be significant negative evidence regarding future profitability. We also consider the strength and trend of earnings, as well as other relevant factors. In certain circumstances, historical information may not be as relevant due to changes in our business operations;
- **Sources of future taxable income.** Future reversals of existing temporary differences are heavily-weighted sources of objectively verifiable positive evidence. Projections of future taxable income exclusive of reversing temporary differences are a source of positive evidence only when the projections are combined with a history of recent profits and can be reasonably estimated. Otherwise, these projections are considered inherently subjective and generally will not be sufficient to overcome negative evidence that includes relevant cumulative losses in recent years, particularly if the projected future taxable income is dependent on an anticipated turnaround to profitability that has not yet been achieved. In such cases, we generally give these projections of future taxable income no weight for the purposes of our valuation allowance assessment; and
- **Tax planning strategies.** If necessary and available, tax planning strategies would be implemented to accelerate taxable amounts to utilize expiring carryforwards. These strategies would be a source of additional positive evidence and, depending on their nature, could be heavily weighted.

We presently believe that a valuation allowance of \$843 million is required, primarily related to deferred tax assets in various non-U.S. operations. We believe that we ultimately will recover the remaining \$11.3 billion of deferred tax assets. We have assessed recoverability of these assets and concluded that no valuation allowance is required for these assets.

For additional information regarding income taxes, see Note 7 of the Notes to the Financial Statements.

Impairment of Long-Lived Assets

Nature of Estimates Required - Held-and-Used Long-Lived Assets. We test our long-lived asset groups when changes in circumstances indicate their carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues and expenses, present cash flow losses combined with a history of present cash flow losses and a forecast that demonstrates significant continuing losses, significant negative industry or economic trends, a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, a significant adverse change in the manner in which an asset group is used or in its physical condition, or when there is a change in the asset grouping. When a triggering event occurs, a test for recoverability is performed, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the test for recoverability identifies a possible impairment, the asset group's fair value is measured relying primarily on a discounted cash flow method. To the extent available, we will also consider third-party valuations of our long-lived assets that were prepared for other business purposes. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amount of those assets is depreciated over their remaining useful life.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Nature of Estimates Required - Held-for-Sale Operations. We perform an impairment test on a disposal group to be discontinued, held for sale, or otherwise disposed of when we have committed to an action and the action is expected to be completed within one year. We estimate fair value to approximate the expected proceeds to be received less cost to sell and compare it to the carrying value of the disposal group. An impairment charge is recognized when the carrying value exceeds the estimated fair value.

Assumptions and Approach Used - Held-and-Used Long-Lived Assets. We measure the fair value of an asset group based on market prices (i.e., the amount for which the asset could be sold to a third party) when available. When market prices are not available, we generally estimate the fair value of the asset group using the income approach and/or the market approach. The income approach uses cash flow projections. Inherent in our development of cash flow projections are assumptions and estimates derived from a review of our operating results, business plan forecasts, expected growth rates, and cost of capital, similar to those a market participant would use to assess fair value. We also make certain assumptions about future economic conditions and other data. Many of the factors used in assessing fair value are outside the control of management, and these assumptions and estimates may change in future periods.

Changes in assumptions or estimates can materially affect the fair value measurement of an asset group and, therefore, can affect the test results. The following are key assumptions we use in making cash flow projections:

- **Business projections.** We make assumptions about the demand for our products in the marketplace. These assumptions drive our planning assumptions for volume, mix, and pricing. We also make assumptions about our cost levels (e.g., capacity utilization, cost performance). These projections are derived using our internal business plan forecasts that are updated at least annually and reviewed by our Board of Directors.
- **Long-term growth rate.** A growth rate is used to calculate the terminal value of the business and is added to the present value of the debt-free interim cash flows. The growth rate is the expected rate at which a business unit's earnings stream is projected to grow beyond the planning period.
- **Discount rate.** When measuring possible impairment, future cash flows are discounted at a rate that is consistent with a weighted-average cost of capital that we anticipate a potential market participant would use. Weighted-average cost of capital is an estimate of the overall risk-adjusted pre-tax rate of return expected by equity and debt holders of a business enterprise.
- **Economic projections.** Assumptions regarding general economic conditions are included in and affect our assumptions regarding industry sales and pricing estimates for our vehicles. These macroeconomic assumptions include, but are not limited to, industry sales volumes, inflation, interest rates, prices of raw materials (e.g., commodities), and foreign currency exchange rates.

During 2018, we embarked on a comprehensive strategy aimed at strengthening the competitive position and profitability of our operations. As part of this process, we have initiated several key fitness actions aimed at reducing structural costs while at the same time consulting with our key stakeholders and partners with regard to a fundamental redesign of our operations. This redesign includes changes to the Company's vehicle portfolio, expanding offerings and volumes in its most profitable growth vehicle segments, while improving or exiting less profitable vehicle lines and addressing underperforming markets.

Against this backdrop, we determined that there were triggering events related to Asia Pacific Operations, China, and South America business units and tested our long-lived assets for impairment. We also tested the newly formed International Markets Group ("IMG") business unit, which combined our Asia Pacific Operations, and Middle East & Africa business units and also includes the results of our joint venture in Russia. Using our internal economic and business projections, as well as third-party valuations of certain long-lived assets, we determined that the carrying value of the long-lived assets in these business units was recoverable at December 31, 2019. If in future quarters our economic or business projections were to change as a result of our plans or changes in the business environment, there was a significant adverse change in the extent or manner in which a long-lived asset is being used, or there is a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, we would undertake additional testing, as appropriate, which could result in an impairment of long-lived assets.

Assumptions and Approach Used - Held-for-Sale Operations. In the third quarter of 2019, we committed to a plan to sell specific net assets in our India Automotive operations. We entered into a definitive agreement to form a joint venture with Mahindra & Mahindra Limited ("Mahindra"), with Mahindra owning a 51 percent controlling stake and Ford owning a 49 percent stake. Under the terms of the transaction, which is expected to close mid-2020, Ford will sell certain India Automotive operations to the joint venture.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Our commitment to sell the India Automotive operations triggered a held-for-sale impairment test. The fair value of the disposal group is measured using a market approach and estimated based on expected proceeds to be received less cost to sell, which we conclude is most representative of the value of the net assets given the current market conditions, the characteristics of viable market participants, and the pending sales transaction. As a result of the impairment testing, we recognized a pre-tax impairment charge of \$804 million reported in *Cost of sales*.

Allowance for Credit Losses

The allowance for credit losses represents Ford Credit's estimate of the probable credit loss inherent in finance receivables as of the balance sheet date. The adequacy of Ford Credit's allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. Because credit losses can vary substantially over time, estimating credit losses requires a number of assumptions about matters that are uncertain. See Note 11 of the Notes to the Financial Statements for more information regarding allowance for credit losses.

Nature of Estimates Required. Ford Credit estimates the probable credit losses inherent in finance receivables based on several factors.

Consumer Portfolio. Ford Credit estimates the allowance for credit losses on consumer receivables using a combination of measurement models and management judgment. The models consider factors such as historical trends in credit losses and recoveries (including key metrics such as delinquencies, repossessions, and bankruptcies), the composition of Ford Credit's present portfolio (including vehicle brand, term, risk evaluation, and new/used vehicles), trends in historical used vehicle values, and economic conditions. Estimates from these models rely on historical information and may not fully reflect losses inherent in the present portfolio. Therefore, Ford Credit may adjust the estimate to reflect management judgment regarding observable changes in recent economic trends and conditions, portfolio composition, and other relevant factors.

Assumptions Used. Ford Credit's allowance for credit losses is based on its assumptions regarding:

- *Frequency.* The number of finance receivables that are expected to default over the loss emergence period ("LEP"), measured as repossessions; repossession ratio reflects the number of finance receivables that Ford Credit expects will default over a period of time divided by the average number of contracts outstanding; and
- *Loss severity.* The expected difference between the amount a customer owes when the finance contract is charged off and the amount received, net of expenses, from selling the repossessed vehicle.

Collective Allowance for Credit Losses. The collective allowance is evaluated primarily using a collective loss-to-receivables ("LTR") model that, based on historical experience, indicates credit losses have been incurred in the portfolio even though the particular accounts that are uncollectible cannot be specifically identified. The LTR model is based on the most recent years of history. An LTR for each product is calculated by dividing credit losses (i.e., charge-offs net of recoveries) by average net finance receivables, excluding unearned interest supplements, and allowance for credit losses. The average LTR that is calculated for each product is multiplied by the end-of-period balances for that given product.

Ford Credit's largest markets also use a loss projection model to estimate losses inherent in the portfolio. The loss projection model applies recent monthly performance metrics, stratified by contract type (retail installment sale contract or finance lease), contract term (e.g., 60-month), and risk rating to Ford Credit's active portfolio to estimate the losses that have been incurred.

The LEP is an assumption within Ford Credit's models and represents the average amount of time between when a loss event first occurs to when it is charged off. This time period starts when the consumer begins to experience financial difficulty. It is evidenced, typically through delinquency, before eventually resulting in a charge-off. The LEP is a multiplier in the calculation of the collective consumer allowance for credit losses.

For accounts greater than 120 days past due, the uncollectible portion is charged off, such that the remaining recorded investment is equal to the estimated fair value of the collateral less costs to sell.

Specific Allowance for Impaired Receivables. Consumer receivables involved in Troubled Debt Restructurings are specifically assessed for impairment. A specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the contract's original effective interest rate or the fair value of any collateral adjusted for estimated costs to sell.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

After establishing the collective and specific allowance for credit losses, if Ford Credit management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

Sensitivity Analysis. Changes in the assumptions used to derive frequency and severity would affect the allowance for credit losses. The effect of the indicated increase/decrease in the assumptions for Ford Credit's U.S. Ford and Lincoln retail financing is as follows (in millions):

Assumption	Basis Point Change	Increase/(Decrease)
Frequency - repossession ratio	+/- 10 bps	\$27/\$(27)
Loss severity per unit	+/- 100	3/(3)

Non-Consumer Portfolio. Ford Credit estimates the allowance for credit losses for non-consumer receivables based on historical LTR ratios, expected future cash flows, and the fair value of collateral.

Collective Allowance for Credit Losses. Ford Credit estimates an allowance for non-consumer receivables that are not specifically identified as impaired using an LTR model for each financing product based on historical experience. This LTR is an average of the most recent historical experience and is calculated consistent with the consumer receivables LTR approach. All accounts that are specifically identified as impaired are excluded from the calculation of the non-specific or collective allowance.

Specific Allowance for Impaired Receivables. Dealer financing is evaluated by segmenting individual loans by the risk characteristics of the loan (such as the amount of the loan, the nature of the collateral, and the financial status of the debtor). The loans are analyzed to determine whether individual loans are impaired, and a specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the loan's original effective interest rate or the fair value of the collateral adjusted for estimated costs to sell.

After establishing the collective and specific allowance for credit losses, if Ford Credit management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

Changes in Ford Credit's assumptions affect *Ford Credit interest, operating, and other expenses* on our income statement and the allowance for credit losses contained within *Ford Credit finance receivables, net* on our balance sheet.

Accumulated Depreciation on Vehicles Subject to Operating Leases

Accumulated depreciation on vehicles subject to operating leases reduces the value of the leased vehicles in Ford Credit's operating lease portfolio from their original acquisition value to their expected residual value at the end of the lease term.

Ford Credit monitors residual values each month, and it reviews the adequacy of accumulated depreciation on a quarterly basis. If Ford Credit believes that the expected residual values for its vehicles have changed, it revises depreciation to ensure that net investment in operating leases (equal to the acquisition value of the vehicles less accumulated depreciation) will be adjusted to reflect Ford Credit's revised estimate of the expected residual value at the end of the lease term. Such adjustments to depreciation expense would result in a change in the depreciation rates of the vehicles subject to operating leases and are recorded prospectively on a straight-line basis.

Each lease customer has the option to buy the leased vehicle at the end of the lease or to return the vehicle to the dealer.

Nature of Estimates Required. Each operating lease in Ford Credit's portfolio represents a vehicle it owns that has been leased to a customer. At the time Ford Credit purchases a lease, it establishes an expected residual value for the vehicle. Ford Credit estimates the expected residual value by evaluating recent auction values, return volumes for its leased vehicles, industrywide used vehicle prices, marketing incentive plans, and vehicle quality data.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Assumptions Used. Ford Credit's accumulated depreciation on vehicles subject to operating leases is based on assumptions regarding:

- **Auction value.** Ford Credit's projection of the market value of the vehicles when sold at the end of the lease; and
- **Return volume.** Ford Credit's projection of the number of vehicles that will be returned at lease-end.

See Note 13 of the Notes to the Financial Statements for more information regarding accumulated depreciation on vehicles subject to operating leases.

Sensitivity Analysis. For returned vehicles, Ford Credit faces a risk that the amount it obtains from the vehicle sold at auction will be less than its estimate of the expected residual value for the vehicle. The impact of the change in assumptions on future auction values and return volumes would increase or decrease accumulated supplemental depreciation and depreciation expense over the remaining terms of the operating leases. The effect of the indicated increase/decrease in the assumptions for Ford Credit's U.S. Ford and Lincoln operating lease portfolio is as follows (in millions):

Assumption	Basis Point Change	Increase/(Decrease)
Future auction values	+/- 100 bps	\$(132)/\$132
Return volumes	+/- 100	17/(17)

Adjustments to the amount of accumulated supplemental depreciation on operating leases would be reflected on our balance sheet as *Net investment in operating leases* and on the income statement in *Ford Credit interest, operating, and other expenses*.

ACCOUNTING STANDARDS ISSUED BUT NOT YET ADOPTED

The Financial Accounting Standards Board ("FASB") has issued the following Accounting Standards Updates ("ASU") which are not expected to have a material impact (with the exception of ASU 2016-13) to our financial statements or financial statement disclosures. For additional information, see Note 3 of the Notes to the Financial Statements.

ASU	Effective Date (a)
2018-18 Clarifying the Interaction between Collaborative Arrangements and Revenue from Contracts with Customers	January 1, 2020
2018-15 Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement that is a Service Contract	January 1, 2020
2016-13 Credit Losses - Measurement of Credit Losses on Financial Instruments	January 1, 2020 (b)
2020-01 Clarifying the Interaction between Equity Securities, Equity Method and Joint Ventures, and Derivatives and Hedging	January 1, 2021
2019-12 Simplifying the Accounting for Income Taxes	January 1, 2021
2018-12 Targeted Improvements to the Accounting for Long Duration Contracts	January 1, 2022

(a) Early adoption for each of the standards is permitted.

(b) The FASB has issued the following update to the Credit Losses standard: ASU 2019-05 (Targeted Transition Relief). The new Credit Losses standard and the related amendments were effective January 1, 2020.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)**AGGREGATE CONTRACTUAL OBLIGATIONS**

We are party to many contractual obligations involving commitments to make payments to third parties. Most of these are debt obligations incurred by our Ford Credit segment. Long-term debt may have fixed or variable interest rates. For long-term debt with variable-rate interest, we estimate the future interest payments based on projected market interest rates for various floating-rate benchmarks received from third parties. In addition, as part of our normal business practices, we enter into contracts with suppliers for purchases of certain raw materials, components, and services to facilitate adequate supply of these materials and services. These arrangements may contain fixed or minimum quantity purchase requirements.

"Purchase obligations" are defined as off-balance sheet agreements to purchase goods or services that are enforceable and legally binding on the Company and that specify all significant terms.

The table below summarizes our contractual obligations as of December 31, 2019 (in millions):

	Payments Due by Period					Total	
	2020	2021 - 2022	2023 - 2024	Thereafter			
Company excluding Ford Credit							
On-balance sheet							
Long-term debt (a)	\$ 1,169	\$ 2,823	\$ 157	\$ 10,919	\$ 15,068		
Interest payments relating to long-term debt	780	1,466	1,317	10,141	13,704		
Finance leases (b)	96	56	26	10	188		
Operating leases	388	498	245	360	1,491		
Pension funding (c)	181	385	373	—	939		
Off-balance sheet							
Purchase obligations	1,323	1,414	635	200	3,572		
Total Company excluding Ford Credit	3,937	6,642	2,753	21,630	34,962		
Ford Credit							
On-balance sheet							
Long-term debt (a)	38,671	53,016	21,136	13,158	125,981		
Interest payments relating to long-term debt	3,307	3,995	1,840	988	10,130		
Operating leases	18	27	25	27	97		
Off-balance sheet							
Purchase obligations	26	41	18	—	85		
Total Ford Credit	42,022	57,079	23,019	14,173	136,293		
Total Company	\$ 45,959	\$ 63,721	\$ 25,772	\$ 35,803	\$ 171,255		

(a) Excludes unamortized debt discounts/premiums, unamortized debt issuance costs, and fair value adjustments.

(b) Includes interest payments of \$11 million.

(c) Amounts represent our estimate of contractually obligated contributions to U.K. and Ford-Werke plans. See Note 18 of the Notes to the Financial Statements for further information regarding our expected 2020 pension contributions and funded status.

The amount of unrecognized tax benefits for 2019 of \$1.9 billion (see Note 7 of the Notes to the Financial Statements for additional discussion) is excluded from the table above. Final settlement of a significant portion of these obligations will require bilateral tax agreements among us and various countries, the timing of which cannot reasonably be estimated.

For additional information regarding pension and OPEB obligations, operating lease obligations, and long-term debt, see Notes 18, 19, and 20, respectively, of the Notes to the Financial Statements.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

OVERVIEW

We are exposed to a variety of market and other risks, including the effects of changes in foreign currency exchange rates, commodity prices, and interest rates, as well as risks to availability of funding sources, hazard events, and specific asset risks.

These risks affect our Automotive and Ford Credit segments differently. We monitor and manage these exposures as an integral part of our overall risk management program, which includes regular reports to a central management committee, the Global Risk Management Committee ("GRMC"). The GRMC is chaired by our Chief Financial Officer, and the committee includes our Controller and Chief Financial Officer, Automotive, our Treasurer, and other members of senior management.

Our Automotive and Ford Credit segments are exposed to liquidity risk, including the possibility of having to curtail business or being unable to meet financial obligations as they come due because funding sources may be reduced or become unavailable. Our plan is to maintain funding sources to ensure liquidity through a variety of economic or business cycles. As discussed in greater detail in Item 7, our funding sources include sales of receivables in securitizations and other structured financings, unsecured debt issuances, equity and equity-linked issuances, and bank borrowings.

We are exposed to a variety of insurable risks, such as loss or damage to property, liability claims, and employee injury. We protect against these risks through the purchase of commercial insurance that is designed to protect us above our self-insured retentions against events that could generate significant losses.

Direct responsibility for the execution of our market risk management strategies resides with our Treasurer's Office and is governed by written policies and procedures. Separation of duties is maintained between the development and authorization of derivative trades, the transaction of derivatives, and the settlement of cash flows. Regular audits are conducted to ensure that appropriate controls are in place and that they remain effective. In addition, our market risk exposures and our use of derivatives to manage these exposures are approved by the GRMC, and reviewed by the Audit Committee of our Board of Directors.

In accordance with our corporate risk management policies, we use derivative instruments, when available, such as forward contracts, swaps, and options that economically hedge certain exposures (foreign currency, commodity, and interest rates). We do not use derivative contracts for trading, market-making, or speculative purposes. In certain instances, we forgo hedge accounting, and in certain other instances, our derivatives do not qualify for hedge accounting. Either situation results in unrealized gains and losses that are recognized in income. For additional information on our derivatives, see Note 21 of the Notes to the Financial Statements.

The market and counterparty risks of our Automotive and Ford Credit segments are discussed and quantified below.

AUTOMOTIVE MARKET RISK

Our Automotive segment frequently has expenditures and receipts denominated in foreign currencies, including the following: purchases and sales of finished vehicles and production parts, debt and other payables, subsidiary dividends, and investments in foreign operations. These expenditures and receipts create exposures to changes in exchange rates. We also are exposed to changes in prices of commodities used in the production of our vehicles and changes in interest rates.

Foreign currency risk, commodity risk, and interest rate risk are measured and quantified using a model to evaluate the sensitivity of market value to instantaneous, parallel shifts in rates and/or prices.

Foreign Currency Risk. Foreign currency risk is the possibility that our financial results could be worse than planned because of changes in currency exchange rates. Accordingly, our practice is to use derivative instruments to hedge our economic exposure with respect to forecasted revenues and costs, assets, liabilities, and firm commitments denominated in certain foreign currencies consistent with our overall risk management strategy. In our hedging actions, we use derivative instruments commonly used by corporations to reduce foreign exchange risk (e.g., forward contracts).

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

The net fair value of foreign exchange forward contracts (including adjustments for credit risk) as of December 31, 2019, was a liability of \$596 million, compared with an asset of \$363 million as of December 31, 2018. The potential decrease in fair value from a 10% adverse change in the underlying exchange rates, in U.S. dollar terms, would have been \$2.3 billion at December 31, 2019, compared with \$2.5 billion at December 31, 2018. The sensitivity analysis presented is hypothetical and assumes foreign exchange rate changes are instantaneous and adverse across all currencies. In reality, some of our exposures offset and foreign exchange rates move in different magnitudes and at different times, and any changes in fair value would generally be offset by changes in the underlying exposure. See Note 21 of the Notes to the Financial Statements for more information regarding our foreign currency exchange contracts.

Commodity Price Risk. Commodity price risk is the possibility that our financial results could be worse than planned because of changes in the prices of commodities used in the production of motor vehicles, such as base metals (e.g., steel, copper, and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas and electricity), and plastics/resins (e.g., polypropylene). Accordingly, our practice is to use derivative instruments to hedge the price risk with respect to forecasted purchases of certain commodities that we can economically hedge (primarily base metals and precious metals) and consistent with our overall risk management strategy. In our hedging actions, we use derivative instruments commonly used by corporations to reduce commodity price risk (e.g., financially settled forward contracts). The extent to which we hedge is also impacted by our ability to achieve designated hedge accounting.

The net fair value of commodity forward contracts (including adjustments for credit risk) as of December 31, 2019, was a liability of \$24 million, compared with a liability of \$62 million as of December 31, 2018. The potential decrease in fair value from a 10% adverse change in the underlying commodity prices would be \$112 million at December 31, 2019, compared with \$90 million at December 31, 2018.

In addition, our purchasing organization (with guidance from the GRMC, as appropriate) negotiates contracts to ensure continuous supply of raw materials. In some cases, these contracts stipulate minimum purchase amounts and specific prices, and, therefore, play a role in managing commodity price risk.

Interest Rate Risk. Interest rate risk relates to the loss we could incur in our Company cash investment portfolios due to a change in interest rates. Our interest rate sensitivity analysis on the investment portfolios includes cash and cash equivalents and net marketable securities. At December 31, 2019, we had \$22.3 billion in our Company cash investment portfolios, compared to \$23.1 billion at December 31, 2018. We invest the portfolios in securities of various types and maturities, the value of which are subject to fluctuations in interest rates. The investment strategy is based on clearly defined risk and liquidity guidelines to maintain liquidity, minimize risk, and earn a reasonable return on the short-term investments. In investing our Company cash, safety of principal is the primary objective and risk-adjusted return is the secondary objective.

At any time, a rise in interest rates could have a material adverse impact on the fair value of our portfolios. Assuming a hypothetical increase in interest rates of one percentage point, the value of our portfolios would be reduced by \$173 million, as calculated as of December 31, 2019. This compares to \$205 million, as calculated as of December 31, 2018. While these are our best estimates of the impact of the specified interest rate scenario, actual results could differ from those projected. The sensitivity analysis presented assumes interest rate changes are instantaneous, parallel shifts in the yield curve. In reality, interest rate changes of this magnitude are rarely instantaneous or parallel.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)**FORD CREDIT MARKET RISK**

Market risk for Ford Credit is the possibility that changes in interest and currency exchange rates will adversely affect cash flow and economic value.

Interest Rate Risk. Generally, Ford Credit's assets and the related debt have different re-pricing periods, and consequently, respond differently to changes in interest rates.

Ford Credit's assets consist primarily of fixed-rate retail financing and operating lease contracts and floating-rate wholesale receivables. Fixed-rate retail financing and operating lease contracts generally require customers to make equal monthly payments over the life of the contract. Wholesale receivables are originated to finance new and used vehicles held in dealers' inventory and generally require dealers to pay a floating rate.

Debt consists primarily of short- and long-term unsecured and securitized debt. Ford Credit's term debt instruments are principally fixed-rate and require fixed and equal interest payments over the life of the instrument and a single principal payment at maturity.

Ford Credit's interest rate risk management objective is to reduce volatility in its cash flows and volatility in its economic value from changes in interest rates based on an established risk tolerance that may vary by market.

Ford Credit uses economic value sensitivity analysis and re-pricing gap analysis to evaluate potential long-term effects of changes in interest rates. It then enters into interest rate swaps to convert portions of its floating-rate debt to fixed or its fixed-rate debt to floating to ensure that Ford Credit's exposure falls within the established tolerances. Ford Credit also uses pre-tax cash flow sensitivity analysis to monitor the level of near-term cash flow exposure. The pre-tax cash flow sensitivity analysis measures the changes in expected cash flows associated with Ford Credit's interest-rate-sensitive assets, liabilities, and derivative financial instruments from hypothetical changes in interest rates over a twelve-month horizon. Ford Credit's Asset-Liability Committee reviews the re-pricing mismatch and exposure every month and approves interest rate swaps required to maintain exposure within approved thresholds prior to execution.

To provide a quantitative measure of the sensitivity of its pre-tax cash flow to changes in interest rates, Ford Credit uses interest rate scenarios that assume a hypothetical, instantaneous increase or decrease of one percentage point in all interest rates across all maturities (a "parallel shift"), as well as a base case that assumes that all interest rates remain constant at existing levels. In reality, interest rate changes are rarely instantaneous or parallel and rates could move more or less than the one percentage point assumed in Ford Credit's analysis. As a result, the actual impact to pre-tax cash flow could be higher or lower than the results detailed in the table below. These interest rate scenarios are purely hypothetical and do not represent Ford Credit's view of future interest rate movements.

Under these interest rate scenarios, Ford Credit expects more debt and liabilities than assets to re-price in the next twelve months. Other things being equal, this means that during a period of rising interest rates, the interest received on Ford Credit's assets will increase less than the interest paid on Ford Credit's debt, thereby initially decreasing Ford Credit's pre-tax cash flow. During a period of falling interest rates, Ford Credit would expect its pre-tax cash flow to initially increase. Ford Credit's pre-tax cash flow sensitivity to interest rate movement is highlighted in the table below.

Pre-tax cash flow sensitivity at December 31 was as follows (in millions):

Pre-Tax Cash Flow Sensitivity	2018	2019
One percentage point instantaneous <i>increase</i> in interest rates	\$ 51	\$ (26)
One percentage point instantaneous <i>decrease</i> in interest rates (a)	(51)	26

(a) Pre-tax cash flow sensitivity given a one percentage point decrease in interest rates requires an assumption of negative interest rates in markets where existing interest rates are below one percent.

While the sensitivity analysis presented is Ford Credit's best estimate of the impacts of the specified assumed interest rate scenarios, its actual results could differ from those projected. The model Ford Credit uses to conduct this analysis is heavily dependent on assumptions. Embedded in the model are assumptions regarding the reinvestment of maturing asset principal, refinancing of maturing debt, replacement of maturing derivatives, exercise of options embedded in debt and derivatives, and predicted repayment of retail financing and operating lease contracts ahead of contractual maturity. Ford Credit's repayment projections ahead of contractual maturity are based on historical experience. If interest rates or other factors change, Ford Credit's actual prepayment experience could be different than projected.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

Foreign Currency Risk. Ford Credit's policy is to minimize exposure to changes in currency exchange rates. To meet funding objectives, Ford Credit borrows in a variety of currencies, principally U.S. dollars, Canadian dollars, euros, sterling, and renminbi. Ford Credit faces exposure to currency exchange rates if a mismatch exists between the currency of receivables and the currency of the debt funding those receivables. When possible, receivables are funded with debt in the same currency, minimizing exposure to exchange rate movements. When a different currency is used, Ford Credit may use foreign currency swaps and foreign currency forwards to convert substantially all of its foreign currency debt obligations to the local country currency of the receivables. As a result of this policy, Ford Credit believes its market risk exposure, relating to changes in currency exchange rates at December 31, 2019, is insignificant.

Derivative Fair Values. The net fair value of Ford Credit's derivative financial instruments was an asset of \$772 million and \$7 million at December 31, 2019 and 2018, respectively.

COUNTERPARTY RISK

Counterparty risk relates to the loss we could incur if an obligor or counterparty defaulted on an investment or a derivative contract. We enter into master agreements with counterparties that allow netting of certain exposures in order to manage this risk. Exposures primarily relate to investments in fixed income instruments and derivative contracts used for managing interest rate, foreign currency exchange rate, and commodity price risk. We, together with Ford Credit, establish exposure limits for each counterparty to minimize risk and provide counterparty diversification.

Our approach to managing counterparty risk is forward-looking and proactive, allowing us to take risk mitigation actions before risks become losses. Exposure limits are established based on our overall risk tolerance, which is calculated from counterparty credit ratings and market-based credit default swap ("CDS") spreads. The exposure limits are lower for smaller and lower-rated counterparties, counterparties that have relatively higher CDS spreads, and for longer dated exposures. Our exposures are monitored on a regular basis and included in periodic reports to our Treasurer.

Substantially all of our counterparty exposures are with counterparties that have an investment grade rating. Investment grade is our guideline for minimum counterparty long-term ratings.

ITEM 8. Financial Statements and Supplementary Data.

The Report of Independent Registered Public Accounting Firm, our Financial Statements, the accompanying Notes to the Financial Statements, and the Financial Statement Schedule that are filed as part of this Report are listed under "Item 15. Exhibits and Financial Statement Schedules" and are set forth beginning on page FS-1 immediately following the signature pages of this Report.

Selected quarterly financial data for 2018 and 2019 are provided in Note 29 of the Notes to the Financial Statements.

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. James P. Hackett, our Chief Executive Officer (“CEO”), and Tim Stone, our Chief Financial Officer (“CFO”), have performed an evaluation of the Company’s disclosure controls and procedures, as that term is defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, as amended (“Exchange Act”), as of December 31, 2019, and each has concluded that such disclosure controls and procedures are effective to ensure that information required to be disclosed in our periodic reports filed under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified by SEC rules and forms, and that such information is accumulated and communicated to the CEO and CFO to allow timely decisions regarding required disclosures.

Management’s Report on Internal Control Over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). The 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.

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 because the degree of compliance with policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2019. The assessment was based on criteria established in the framework *Internal Control - Integrated Framework* (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2019.

The effectiveness of the Company’s internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report included herein.

Changes in Internal Control Over Financial Reporting. There were no changes in internal control over financial reporting during the quarter ended December 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. Other Information.

None.

PART III.**ITEM 10. Directors, Executive Officers of Ford, and Corporate Governance.**

The information required by Item 10 regarding our directors is incorporated by reference from the information under the captions "Proposal 1. Election of Directors" and "Beneficial Stock Ownership" in our Proxy Statement. The information required by Item 10 regarding our executive officers appears as Item 4A under Part I of this Report. The information required by Item 10 regarding an audit committee financial expert is incorporated by reference from the information under the caption "Corporate Governance – Audit Committee Financial Expert and Auditor Rotation" in our Proxy Statement. The information required by Item 10 regarding the members of our Audit Committee of the Board of Directors is incorporated by reference from the information under the captions "Proxy Summary," "Corporate Governance – Board Committee Functions," "Corporate Governance – Audit Committee Financial Expert and Auditor Rotation," and "Proposal 1 – Election of Directors" in our Proxy Statement. The information required by Item 10 regarding the Audit Committee's review and discussion of the audited financial statements is incorporated by reference from information under the caption "Audit Committee Report" in our Proxy Statement. The information required by Item 10 regarding our codes of ethics is incorporated by reference from the information under the caption "Corporate Governance – Codes of Ethics" in our Proxy Statement. In addition, we have included in Item 1 instructions for how to access our codes of ethics on our website and our Internet address. Amendments to, and waivers granted under, our Code of Ethics for Senior Financial Personnel, if any, will be posted to our website as well.

ITEM 11. Executive Compensation.

The information required by Item 11 is incorporated by reference from the information under the following captions in our Proxy Statement: "Director Compensation in 2019," "Compensation Discussion and Analysis," "Compensation Committee Report," "Compensation Committee Interlocks and Insider Participation," "Compensation of Executive Officers," "Summary Compensation Table," "Grants of Plan-Based Awards in 2019," "Outstanding Equity Awards at 2019 Fiscal Year-End," "Option Exercises and Stock Vested in 2019," "Pension Benefits in 2019," "Nonqualified Deferred Compensation in 2019," and "Potential Payments Upon Termination or Change in Control."

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by Item 12 is incorporated by reference from the information under the captions "Equity Compensation Plan Information" and "Corporate Governance – Beneficial Stock Ownership" in our Proxy Statement.

ITEM 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by Item 13 is incorporated by reference from the information under the captions "Certain Relationships and Related Party Transactions" and "Corporate Governance – Independence of Directors and Relevant Facts and Circumstances" in our Proxy Statement.

ITEM 14. Principal Accounting Fees and Services.

The information required by Item 14 is incorporated by reference from the information under the caption "Proposal 2. Ratification of Independent Registered Public Accounting Firm" in our Proxy Statement.

PART IV.**ITEM 15. Exhibits and Financial Statement Schedules.****(a) 1. Financial Statements – Ford Motor Company and Subsidiaries**

The following are contained in this 2019 Form 10-K Report:

- Report of Independent Registered Public Accounting Firm.
- Consolidated Statement of Cash Flows for the years ended December 31, 2017, 2018, and 2019.
- Consolidated Income Statement for the years ended December 31, 2017, 2018, and 2019.
- Consolidated Statement of Comprehensive Income for the years ended December 31, 2017, 2018, and 2019.
- Consolidated Balance Sheet at December 31, 2018 and 2019.
- Consolidated Statement of Equity for the years ended December 31, 2017, 2018, and 2019.
- Notes to the Financial Statements.

The Report of Independent Registered Public Accounting Firm, the Consolidated Financial Statements, and the Notes to the Financial Statements listed above are filed as part of this Report and are set forth beginning on page FS-1 immediately following the signature pages of this Report.

(a) 2. Financial Statement Schedules

<u>Designation</u>	<u>Description</u>
Schedule II	Valuation and Qualifying Accounts for the years ended 2017, 2018, and 2019

Schedule II is filed as part of this Report and is set forth on page FSS-1 immediately following the Notes to the Financial Statements referred to above. The other schedules are omitted because they are not applicable, the information required to be contained in them is disclosed elsewhere on our Consolidated Financial Statements, or the amounts involved are not sufficient to require submission.

(a) 3. Exhibits

<u>Designation</u>	<u>Description</u>	<u>Method of Filing</u>
<u>Exhibit 3-A</u>	Restated Certificate of Incorporation, dated August 2, 2000.	Filed as Exhibit 3-A to our Annual Report on Form 10-K for the year ended December 31, 2000.*
<u>Exhibit 3-A-1</u>	Certificate of Designations of Series A Junior Participating Preferred Stock filed on September 11, 2009.	Filed as Exhibit 3.1 to our Current Report on Form 8-K filed September 11, 2009.*
<u>Exhibit 3-B</u>	By-laws.	Filed as Exhibit 3.2 to our Form 8-A/A filed on September 11, 2015.*
<u>Exhibit 4-A</u>	Tax Benefit Preservation Plan ("TBPP") dated September 11, 2009 between Ford Motor Company and Computershare Trust Company, N.A.	Filed as Exhibit 4.1 to our Current Report on Form 8-K filed September 11, 2009.*
<u>Exhibit 4-A-1</u>	Amendment No. 1 to TBPP dated September 11, 2012.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 12, 2012.*
<u>Exhibit 4-A-2</u>	Amendment No. 2 to TBPP dated September 9, 2015.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 11, 2015.*
<u>Exhibit 4-A-3</u>	Amendment No. 3 to TBPP dated September 13, 2018.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 14, 2018.*
<u>Exhibit 4-B</u>	Description of Securities.	Filed with this Report.
<u>Exhibit 10-A</u>	Executive Separation Allowance Plan, as amended and restated effective as of January 1, 2018**	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed February 7, 2018.*
<u>Exhibit 10-B</u>	Deferred Compensation Plan for Non-Employee Directors, as amended and restated as of January 1, 2012.**	Filed as Exhibit 10-B to our Annual Report on Form 10-K for the year ended December 31, 2011.*
<u>Exhibit 10-C</u>	2014 Stock Plan for Non-Employee Directors**	Filed as Exhibit 10-C to our Annual Report on Form 10-K for the year ended December 31, 2013.*

Designation	Description	Method of Filing
Exhibit 10-D	Benefit Equalization Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed February 7, 2018.*
Exhibit 10-E	Description of financial counseling services provided to certain executives.**	Filed with this Report.
Exhibit 10-F	Defined Benefit Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.3 to our Current Report on Form 8-K filed February 7, 2018.*
Exhibit 10-F-1	Defined Contribution Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2017.**	Filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2017.*
Exhibit 10-G	Description of Director Compensation as of July 13, 2006.**	Filed as Exhibit 10-G-3 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006.*
Exhibit 10-G-1	Amendment to Description of Director Compensation as of February 8, 2012.**	Filed as Exhibit 10-F-3 to our Annual Report on Form 10-K for the year ended December 31, 2011.*
Exhibit 10-G-2	Amendment to Description of Director Compensation as of July 1, 2013.**	Filed as Exhibit 10-G-2 to our Annual Report on Form 10-K for the year ended December 31, 2013.*
Exhibit 10-G-3	Amendment to Description of Director Compensation as of January 1, 2017.**	Filed as Exhibit 10-G-3 to our Annual Report on Form 10-K for the year ended December 31, 2016.*
Exhibit 10-H	2008 Long-Term Incentive Plan.**	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2008.*
Exhibit 10-I	Description of Matching Gift Program and Vehicle Evaluation Program for Non-Employee Directors.**	Filed as Exhibit 10-I to our Annual Report on Form 10-K/A for the year ended December 31, 2005.*
Exhibit 10-J	Non-Employee Directors Life Insurance and Optional Retirement Plan as amended and restated as of December 31, 2010.**	Filed as Exhibit 10-I to our Annual Report on Form 10-K for the year ended December 31, 2010.*
Exhibit 10-K	Description of Non-Employee Directors Accidental Death, Dismemberment and Permanent Total Disablement Indemnity.**	Filed as Exhibit 10-S to our Annual Report on Form 10-K for the year ended December 31, 1992.*
Exhibit 10-K-1	Description of Amendment to Basic Life Insurance and Accidental Death & Dismemberment Insurance.**	Filed as Exhibit 10-K-1 to our Annual Report on Form 10-K for the year ended December 31, 2013.*
Exhibit 10-L	Description of Compensation Arrangements for Mark Fields.**	Filed as Exhibit 10-L to our Annual Report on Form 10-K for the year ended December 31, 2014.*
Exhibit 10-L-1	Executive Separation Waiver and Release Agreement between Ford Motor Company and Mark Fields dated May 21, 2017.**	Filed as Exhibit 10 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2017.*
Exhibit 10-M	Offer Letter to Tim Stone dated March 11, 2019.**	Filed as Exhibit 99 to our Current Report on Form 8-K filed June 4, 2019.*
Exhibit 10-N	Select Retirement Plan, as amended and restated effective as of January 1, 2018.**	Filed as Exhibit 10.4 to our Current Report on Form 8-K filed February 7, 2018.*
Exhibit 10-O	Deferred Compensation Plan, as amended and restated as of December 31, 2010.**	Filed as Exhibit 10-M to our Annual Report on Form 10-K for the year ended December 31, 2010.*
Exhibit 10-O-1	Suspension of Open Enrollment in Deferred Compensation Plan.**	Filed as Exhibit 10-M-1 to our Annual Report on Form 10-K for the year ended December 31, 2009.*
Exhibit 10-P	Annual Incentive Compensation Plan, as amended and restated effective as of March 1, 2018.**	Filed as Exhibit 10-O-2 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-P-1	Annual Incentive Compensation Plan Metrics for 2018.**	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.*
Exhibit 10-P-2	Annual Incentive Compensation Plan Metrics for 2019.**	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.*
Exhibit 10-P-3	Performance-Based Restricted Stock Unit Metrics for 2016.**	Filed as Exhibit 10-O-9 to our Annual Report on Form 10-K for the year ended December 31, 2015.*
Exhibit 10-P-4	Performance-Based Restricted Stock Unit Metrics for 2017.**	Filed as Exhibit 10-O-10 to our Annual Report on Form 10-K for the year ended December 31, 2016.*
Exhibit 10-P-5	Performance-Based Restricted Stock Unit Metrics for 2018.**	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018.*
Exhibit 10-P-6	Performance-Based Restricted Stock Unit Metrics for 2019.**	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019.*
Exhibit 10-P-7	Executive Compensation Recoupment Policy.**	Filed as Exhibit 10-N-8 to our Annual Report on Form 10-K for the year ended December 31, 2010.*
Exhibit 10-P-8	Incremental Bonus Description.**	Filed as Exhibit 10-N-9 to our Annual Report on Form 10-K for the year ended December 31, 2010.*
Exhibit 10-Q	2018 Long-Term Incentive Plan.**	Filed as Exhibit 4.1 to Registration Statement No. 333-226348.*
Exhibit 10-Q-1	Form of Stock Option Terms and Conditions for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-2 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-2	Form of Stock Option Agreement for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-3 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-3	Form of Stock Option Agreement (ISO) for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-4 to our Annual Report on Form 10-K for the year ended December 31, 2017.*

Designation	Description	Method of Filing
Exhibit 10-Q-4	Form of Stock Option Agreement (U.K. NQO) for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-5 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-5	Form of Stock Option (U.K.) Terms and Conditions for Long-Term Incentive Plan.**	Filed as Exhibit 10-P-6 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-6	Form of Restricted Stock Grant Letter.**	Filed as Exhibit 10-P-7 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-7	Form of Final Award Notification Letter for Performance-Based Restricted Stock Units.**	Filed as Exhibit 10-P-8 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-8	Form of Annual Equity Grant Letter V.1.**	Filed as Exhibit 10-P-9 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-9	Form of Annual Equity Grant Letter V.2.**	Filed as Exhibit 10-P-10 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-10	Long-Term Incentive Plan Restricted Stock Unit Agreement.**	Filed as Exhibit 10-P-11 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-11	Long-Term Incentive Plan Restricted Stock Unit Terms and Conditions.**	Filed as Exhibit 10-P-12 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-12	Form of Final Award Agreement for Performance-Based Restricted Stock Units under Long-Term Incentive Plan.**	Filed as Exhibit 10-P-13 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-13	Form of Final Award Terms and Conditions for Performance-Based Restricted Stock Units under Long-Term Incentive Plan.**	Filed as Exhibit 10-P-14 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-Q-14	Form of Notification Letter for Time-Based Restricted Stock Units.**	Filed as Exhibit 10-P-15 to our Annual Report on Form 10-K for the year ended December 31, 2017.*
Exhibit 10-R	Agreement dated January 13, 1999 between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10-X to our Annual Report on Form 10-K for the year ended December 31, 1998.*
Exhibit 10-R-1	Amendment dated May 5, 2010 to the Consulting Agreement between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2010.*
Exhibit 10-R-2	Amendment dated January 1, 2012 to the Consulting Agreement between Ford Motor Company and Edsel B. Ford II.**	Filed as Exhibit 10-P-2 to our Annual Report on Form 10-K for the year ended December 31, 2011.*
Exhibit 10-S	Amended and Restated Relationship Agreement dated April 30, 2015 between Ford Motor Company and Ford Motor Credit Company LLC.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed May 1, 2015.*
Exhibit 10-T	Form of Trade Secrets/Non-Compete Statement between Ford and certain of its Executive Officers.**	Filed as Exhibit 10-V to our Annual Report on Form 10-K for the year ended December 31, 2003.*
Exhibit 10-U	Arrangement between Ford Motor Company and William C. Ford, Jr., dated February 24, 2009.**	Filed as Exhibit 10-V to our Annual Report on Form 10-K for the year ended December 31, 2008.*
Exhibit 10-V	Description of Company Practices regarding Club Memberships for Executives.**	Filed as Exhibit 10-BB to our Annual Report on Form 10-K for the year ended December 31, 2006.*
Exhibit 10-W	Amended and Restated Credit Agreement dated as of November 24, 2009.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed November 25, 2009.*
Exhibit 10-W-1	Seventh Amendment dated as of March 15, 2012 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed March 15, 2012.*
Exhibit 10-W-2	Ninth Amendment dated as of April 30, 2013 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013.*
Exhibit 10-W-3	Tenth Amendment dated as of April 30, 2014 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014.*
Exhibit 10-W-4	Eleventh Amendment dated as of April 30, 2015 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended, including the Third Amended and Restated Credit Agreement.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed May 1, 2015.*
Exhibit 10-W-5	Twelfth Amendment dated as of April 29, 2016 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 29, 2016.*
Exhibit 10-W-6	Thirteenth Amendment dated as of April 28, 2017 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 28, 2017.*

Designation	Description	Method of Filing
Exhibit 10-W-7	Fourteenth Amendment dated as of April 26, 2018 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 26, 2018.*
Exhibit 10-W-8	Fifteenth Amendment dated as of April 23, 2019 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed April 26, 2019.*
Exhibit 10-X	Revolving Credit Agreement dated as of April 23, 2019.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed April 26, 2019.*
Exhibit 10-Y	Term Loan Credit Agreement dated as of April 23, 2019.	Filed as Exhibit 10.3 to our Current Report on Form 8-K filed April 26, 2019.*
Exhibit 10-Z	Loan Arrangement and Reimbursement Agreement between Ford Motor Company and the U.S. Department of Energy dated as of September 16, 2009.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed September 22, 2009.*
Exhibit 10-AA	Note Purchase Agreement dated as of September 16, 2009 among the Federal Financing Bank, Ford Motor Company, and the U.S. Secretary of Energy.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed September 22, 2009.*
Exhibit 21	List of Subsidiaries of Ford as of January 31, 2020.	Filed with this Report.
Exhibit 23	Consent of Independent Registered Public Accounting Firm.	Filed with this Report.
Exhibit 24	Powers of Attorney.	Filed with this Report.
Exhibit 31.1	Rule 15d-14(a) Certification of CEO.	Filed with this Report.
Exhibit 31.2	Rule 15d-14(a) Certification of CFO.	Filed with this Report.
Exhibit 32.1	Section 1350 Certification of CEO.	Furnished with this Report.
Exhibit 32.2	Section 1350 Certification of CFO.	Furnished with this Report.
Exhibit 101.INS	XBRL Instance Document.	***
Exhibit 101.SCH	XBRL Taxonomy Extension Schema Document.	***
Exhibit 101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	***
Exhibit 101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	***
Exhibit 101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	***
Exhibit 101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	***
Exhibit 104	Cover Page Interactive Data File (formated in Inline XBRL contained in Exhibit 101).	***

* Incorporated by reference as an exhibit to this Report (file number reference 1-3950, unless otherwise indicated).

** Management contract or compensatory plan or arrangement.

*** Submitted electronically with this Report in accordance with the provisions of Regulation S-T.

Instruments defining the rights of holders of certain issues of long-term debt of Ford and of certain consolidated subsidiaries and of any unconsolidated subsidiary, for which financial statements are required to be filed with this Report, have not been filed as exhibits to this Report because the authorized principal amount of any one of such issues does not exceed 10% of the total assets of Ford and our subsidiaries on a consolidated basis. Ford agrees to furnish a copy of each of such instrument to the Securities and Exchange Commission upon request.

ITEM 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, Ford has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

FORD MOTOR COMPANY

By: /s/ Cathy O'Callaghan
 Cathy O'Callaghan, Controller
 (principal accounting officer)

Date: February 5, 2020

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of Ford and in the capacities on the date indicated:

Signature	Title	Date
<u>/s/ WILLIAM CLAY FORD, JR.</u> William Clay Ford, Jr.	Director, Chairman of the Board, Executive Chairman, Chair of the Office of the Chairman and Chief Executive, and Chair of the Finance Committee	February 5, 2020
<u>/s/ JAMES P. HACKETT</u> James P. Hackett	Director, President and Chief Executive Officer (principal executive officer)	February 5, 2020
<u>STEPHEN G. BUTLER*</u> Stephen G. Butler	Director and Chair of the Audit Committee	February 5, 2020
<u>KIMBERLY A. CASIANO*</u> Kimberly A. Casiano	Director	February 5, 2020
<u>ANTHONY F. EARLEY, JR.*</u> Anthony F. Earley, Jr.	Director and Chair of the Compensation Committee	February 5, 2020
<u>EDSEL B. FORD II*</u> Edsel B. Ford II	Director	February 5, 2020
<u>WILLIAM W. HELMAN IV*</u> William W. Helman IV	Director and Chair of the Sustainability and Innovation Committee	February 5, 2020
<u>WILLIAM E. KENNARD*</u> William E. Kennard	Director and Chair of the Nominating and Governance Committee	February 5, 2020
<u>JOHN C. LECHLEITER*</u> John C. Lechleiter	Director	February 5, 2020
<u>BETH E. MOONEY*</u> Beth E. Mooney	Director	February 5, 2020
<u>JOHN L. THORNTON*</u> John L. Thornton	Director	February 5, 2020

Signature	Title	Date
JOHN B. VEIHMEYER*	Director	February 5, 2020
John B. Veihmeyer		
LYNN M. VOJVODICH*	Director	February 5, 2020
Lynn M. Vojvodich		
JOHN S. WEINBERG*	Director	February 5, 2020
John S. Weinberg		
/s/ TIM STONE	Chief Financial Officer (principal financial officer)	February 5, 2020
Tim Stone		
/s/ CATHY O'CALLAGHAN	Controller (principal accounting officer)	February 5, 2020
Cathy O'Callaghan		
<u>*By: /s/ JONATHAN E. OSGOOD</u>		February 5, 2020
Jonathan E. Osgood		
Attorney-in-Fact		

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of
Ford Motor Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of Ford Motor Company and its subsidiaries (the "Company") as of December 31, 2019 and 2018, and the related consolidated statements of income, of comprehensive income, of equity and of cash flows for each of the three years in the period ended December 31, 2019, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited 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 (COSO).

In our opinion, the consolidated financial statements referred to above 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. Also 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 the COSO.

Changes in Accounting Principles

As discussed in Notes 1 and 3 to the consolidated financial statements, the Company changed its method for reporting early termination losses related to customer defaults on Ford Credit's vehicles subject to operating leases and the manner in which it accounts for leases, respectively, in 2019.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated 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.

Consumer Collective Allowance for Credit Losses

As described in Note 11 to the consolidated financial statements, the Company had consumer finance receivables of \$73,560 million collectively evaluated for impairment, for which an allowance of \$478 million was recorded as of December 31, 2019. The consumer collective allowance for credit losses represents the estimate of the probable credit loss inherent in consumer finance receivables as of the balance sheet date. Management estimates the allowance for credit losses on consumer receivables using a combination of measurement models (collective loss-to-receivables and loss projection models) and management judgment. The key assumptions used in the process of estimating the consumer collective allowance for credit losses are frequency, loss severity, and loss emergence period. After establishing the collective and specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

The principal considerations for our determination that performing procedures relating to the consumer collective allowance for credit losses is a critical audit matter are there was significant judgment by management in determining the consumer collective allowance for credit losses, including the frequency, loss severity, and loss emergence period assumptions, which led to a high degree of auditor judgment, subjectivity, and effort in performing procedures over these assumptions. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls related to management's consumer collective allowance for credit losses estimation process. These procedures also included, among others, testing management's process for determining the consumer collective allowance for credit losses, including evaluating the appropriateness of the models used to estimate the allowance, the reasonableness of management's frequency, loss severity, and loss emergence period assumptions, and testing the completeness and accuracy of underlying data supporting the assumptions and models. Additionally, the procedures included the involvement of professionals with specialized skill and knowledge to assist in evaluating the appropriateness of the models.

Defined Benefit Pension Plan Obligations and Benefit Cost

As described in Note 18 to the consolidated financial statements, the Company has defined pension benefit obligations of \$81,045 million (comprised of \$45,672 million and \$35,373 million for its U.S. plans and non-U.S. plans, respectively) as of December 31, 2019, and pre-tax net periodic benefit cost ("benefit cost") of \$1,890 million (comprised of \$(706) million of benefit income and \$2,596 million of benefit cost for its U.S. plans and non-U.S. plans, respectively) for the year ended December 31, 2019. Management remeasures defined benefit pension plan obligations at least annually as of December 31 based on the present value of projected future benefit payments for all participants for services rendered to date. Actuarial gains and losses resulting from plan remeasurement are recognized in net periodic benefit cost in the period of the remeasurement. The measurement of projected future benefits is dependent on the provisions of each specific plan, demographics of the group covered by the plan, and other key measurement assumptions including the discount rate and the average rate of increase in compensation. The assumptions used to determine the benefit cost include discount rate-service cost, effective interest rate on benefit obligation, expected long-term rate of return on assets, and average rate of increase in compensation.

The principal considerations for our determination that performing procedures relating to defined benefit pension plan obligations and benefit cost is a critical audit matter are there was significant judgment by management when developing assumptions used in the estimation of the defined benefit pension obligations and benefit cost, which led to a high degree of auditor judgment, subjectivity, and effort in performing procedures to evaluate the significant assumptions. In addition to the demographics of the group covered by the plan, significant assumptions include the discount rate and the average rate of increase in compensation used in determining the benefit obligation and the discount rate-service cost, the effective interest rate on benefit obligation, and the average rate of increase in compensation used in determining the benefit cost. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the determination of the defined benefit pension plan obligations and benefit cost. These procedures also included, among others, evaluating the Company's historical experience and expectations of future experience to evaluate the reasonableness of the average rate of increase in compensation. Additionally, professionals with specialized skill and knowledge were used to assist in the evaluation of the appropriateness of the actuarial model, as well as the reasonableness of significant assumptions including demographics of the group covered by the plan, the discount rate used in determining the benefit obligation and the discount rate-service cost and the effective interest rate on benefit obligation used in determining the benefit cost.

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Warranty and Field Service Actions Accrual (United States)

As described in Note 27 to the consolidated financial statements, the Company recorded an accrual for estimated future warranty and field service action costs, net of estimated supplier recoveries ("warranty accrual"), of \$5,702 million as of December 31, 2019, of which the United States comprises a significant portion. Management accrues the estimated cost of both base warranty coverages and field service actions at the time of sale. Management establishes their estimate of base warranty obligations using a patterned estimation model, using historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. Management establishes their estimates of field service action obligations using a patterned estimation model, using historical information regarding the nature, frequency, severity, and average cost of claims for each model year.

The principal considerations for our determination that performing procedures relating to the warranty accrual for the United States is a critical audit matter are there was significant judgment by management in the estimation of the accrual and development of the patterned estimation model, which led to a high degree of auditor judgment, subjectivity, and effort in performing procedures to evaluate the estimation model and significant assumptions, including the frequency and average cost of claims. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained from these procedures.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls related to the estimate of the warranty accrual for the United States. These procedures also included, among others, evaluating the reasonableness of significant assumptions used by management to develop the warranty accrual for the United States, including the frequency and average cost of claims, in part by considering the historical experience of the Company. Additionally, professionals with specialized skill and knowledge were used to assist in the evaluation of the appropriateness of the model as well as the reasonableness of certain significant assumptions.

/s/ PricewaterhouseCoopers LLP

Detroit, Michigan
February 5, 2020

We have served as the Company's auditor since 1946.

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FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF CASH FLOWS
(in millions)

	For the years ended December 31,		
	2017	2018	2019
Cash flows from operating activities			
Net income	\$ 7,757	\$ 3,695	\$ 84
Depreciation and tooling amortization	9,241	9,385	9,689
Other amortization	(669)	(972)	(1,199)
Held-for-sale impairment charges	—	—	804
Provision for credit and insurance losses	598	504	413
Pension and other postretirement employee benefits ("OPEB") expense/(income)	(608)	400	2,625
Equity investment dividends received in excess of (earnings)/losses	240	206	203
Foreign currency adjustments	(403)	529	(54)
Net (gain)/loss on changes in investments in affiliates	(7)	(42)	(29)
Stock compensation	246	191	228
Provision for deferred income taxes	(350)	(197)	(1,370)
Decrease/(Increase) in finance receivables (wholesale and other)	(836)	(2,408)	1,554
Decrease/(Increase) in accounts receivable and other assets	(2,297)	(2,239)	(816)
Decrease/(Increase) in inventory	(970)	(828)	206
Increase/(Decrease) in accounts payable and accrued and other liabilities	6,089	6,781	5,260
Other	65	17	41
Net cash provided by/(used in) operating activities	18,096	15,022	17,639
Cash flows from investing activities			
Capital spending	(7,049)	(7,785)	(7,632)
Acquisitions of finance receivables and operating leases	(59,354)	(62,924)	(55,576)
Collections of finance receivables and operating leases	44,641	50,880	50,182
Purchases of marketable securities and other investments	(27,567)	(17,140)	(17,472)
Sales and maturities of marketable and other investments	29,898	20,527	16,929
Settlements of derivatives	100	358	(114)
Other	(29)	(177)	(38)
Net cash provided by/(used in) investing activities	(19,360)	(16,261)	(13,721)
Cash flows from financing activities			
Cash payments for dividends and dividend equivalents	(2,584)	(2,905)	(2,389)
Purchases of common stock	(131)	(164)	(237)
Net changes in short-term debt	1,229	(2,819)	(1,384)
Proceeds from issuance of long-term debt	45,801	50,130	47,604
Principal payments on long-term debt	(40,770)	(44,172)	(46,497)
Other	(151)	(192)	(226)
Net cash provided by/(used in) financing activities	3,394	(122)	(3,129)
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	489	(370)	45
Net increase/(decrease) in cash, cash equivalents, and restricted cash	\$ 2,619	\$ (1,731)	\$ 834
Cash, cash equivalents, and restricted cash at beginning of period (Note 9)	\$ 16,019	\$ 18,638	\$ 16,907
Net increase/(decrease) in cash, cash equivalents, and restricted cash	2,619	(1,731)	834
Cash, cash equivalents, and restricted cash at end of period (Note 9)	\$ 18,638	\$ 16,907	\$ 17,741

The accompanying notes are part of the consolidated financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED INCOME STATEMENT
(in millions, except per share amounts)

	For the years ended December 31,		
	2017	2018	2019
Revenues			
Automotive	\$ 145,653	\$ 148,294	\$ 143,599
Ford Credit	11,113	12,018	12,260
Mobility	10	26	41
Total revenues (Note 4)	156,776	160,338	155,900
Costs and expenses			
Cost of sales	131,321	136,269	134,693
Selling, administrative, and other expenses	11,527	11,403	11,161
Ford Credit interest, operating, and other expenses	9,047	9,463	9,472
Total costs and expenses	151,895	157,135	155,326
Operating income	4,881	3,203	574
Interest expense on Automotive debt	1,133	1,171	963
Interest expense on Other debt	57	57	57
Other income/(loss), net (Note 5)	3,267	2,247	(226)
Equity in net income of affiliated companies	1,201	123	32
Income/(Loss) before income taxes	8,159	4,345	(640)
Provision for/(Benefit from) income taxes (Note 7)	402	650	(724)
Net income	7,757	3,695	84
Less: Income attributable to noncontrolling interests	26	18	37
Net income attributable to Ford Motor Company	\$ 7,731	\$ 3,677	\$ 47

EARNINGS PER SHARE ATTRIBUTABLE TO FORD MOTOR COMPANY COMMON AND CLASS B STOCK (Note 8)

Basic income	\$ 1.94	\$ 0.93	\$ 0.01
Diluted income	1.93	0.92	0.01

Weighted-average shares used in computation of earnings per share

Basic shares	3,975	3,974	3,972
Diluted shares	3,998	3,998	4,004

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
(in millions)

	For the years ended December 31,		
	2017	2018	2019
Net income			
\$ 7,757	\$ 3,695	\$ 84	
Other comprehensive income/(loss), net of tax (Note 25)			
Foreign currency translation	314	(523)	174
Marketable securities	(34)	(11)	130
Derivative instruments	(265)	183	(689)
Pension and other postretirement benefits	37	(56)	23
Total other comprehensive income/(loss), net of tax	52	(407)	(362)
Comprehensive income/(loss)	7,809	3,288	(278)
Less: Comprehensive income/(loss) attributable to noncontrolling interests	24	18	37
Comprehensive income/(loss) attributable to Ford Motor Company	\$ 7,785	\$ 3,270	\$ (315)

The accompanying notes are part of the consolidated financial statements.

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FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEET
(in millions)

	December 31, 2018	December 31, 2019
ASSETS		
Cash and cash equivalents (Note 9)	\$ 16,718	\$ 17,504
Marketable securities (Note 9)	17,233	17,147
Ford Credit finance receivables, net (Note 10)	54,353	53,651
Trade and other receivables, less allowances of \$94 and \$63	11,195	9,237
Inventories (Note 12)	11,220	10,786
Assets held for sale (Note 10 and Note 24)	—	2,383
Other assets	3,930	3,339
Total current assets	114,649	114,047
Ford Credit finance receivables, net (Note 10)	55,544	53,703
Net investment in operating leases (Note 13)	29,119	29,230
Net property (Note 14)	36,178	36,469
Equity in net assets of affiliated companies (Note 15)	2,709	2,519
Deferred income taxes (Note 7)	10,412	11,863
Other assets	7,929	10,706
Total assets	\$ 256,540	\$ 258,537
LIABILITIES		
Payables	\$ 21,520	\$ 20,673
Other liabilities and deferred revenue (Note 17)	20,556	22,987
Automotive debt payable within one year (Note 20)	2,314	1,445
Ford Credit debt payable within one year (Note 20)	51,179	52,371
Other debt payable within one year (Note 20)	—	130
Liabilities held for sale (Note 24)	—	526
Total current liabilities	95,569	98,132
Other liabilities and deferred revenue (Note 17)	23,588	25,324
Automotive long-term debt (Note 20)	11,233	13,233
Ford Credit long-term debt (Note 20)	88,887	87,658
Other long-term debt (Note 20)	600	470
Deferred income taxes (Note 7)	597	490
Total liabilities	220,474	225,307
Redeemable noncontrolling interest (Note 23)	100	—
EQUITY		
Common Stock, par value \$.01 per share (4,011 million shares issued of 6 billion authorized)	40	40
Class B Stock, par value \$.01 per share (71 million shares issued of 530 million authorized)	1	1
Capital in excess of par value of stock	22,006	22,165
Retained earnings	22,668	20,320
Accumulated other comprehensive income/(loss) (Note 25)	(7,366)	(7,728)
Treasury stock	(1,417)	(1,613)
Total equity attributable to Ford Motor Company	35,932	33,185
Equity attributable to noncontrolling interests	34	45
Total equity	35,966	33,230
Total liabilities and equity	\$ 256,540	\$ 258,537

The following table includes assets to be used to settle liabilities of the consolidated variable interest entities ("VIEs"). These assets and liabilities are included in the consolidated balance sheet above. See Note 26 for additional information on our VIEs.

December 31, December 31,

	2018	2019
ASSETS		
Cash and cash equivalents	\$ 2,728	\$ 3,202
Ford Credit finance receivables, net	58,662	58,478
Net investment in operating leases	16,332	14,883
Other assets	27	12
LIABILITIES		
Other liabilities and deferred revenue	\$ 24	\$ 19
Debt	53,269	50,865

The accompanying notes are part of the consolidated financial statements.

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FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF EQUITY
(in millions)

Equity Attributable to Ford Motor Company										
	Capital Stock	Cap. in Excess of Par Value of Stock	Retained Earnings/(Accumulated Deficit)	Accumulated Other Comprehensive Income/(Loss) (Note 25)	Treasury Stock	Total	Equity Attributable to Non-controlling Interests	Total Equity		
Balance at December 31, 2016	\$ 41	\$ 21,630	\$ 16,193	\$ (7,013)	\$ (1,122)	\$ 29,729	\$ 17	\$ 29,746		
Adoption of accounting standards	—	6	566	—	—	572	—	572		
Net income	—	—	7,731	—	—	7,731	26	7,757		
Other comprehensive income/(loss), net of tax	—	—	—	54	—	54	(2)	52		
Common stock issued (including share-based compensation impacts)	—	207	—	—	—	207	—	207		
Treasury stock/other	—	—	—	—	(131)	(131)	(2)	(133)		
Cash dividends declared (a)	—	—	(2,584)	—	—	(2,584)	(11)	(2,595)		
Balance at December 31, 2017	\$ 41	\$ 21,843	\$ 21,906	\$ (6,959)	\$ (1,253)	\$ 35,578	\$ 28	\$ 35,606		
Balance at December 31, 2017	\$ 41	\$ 21,843	\$ 21,906	\$ (6,959)	\$ (1,253)	\$ 35,578	\$ 28	\$ 35,606		
Net income	—	—	3,677	—	—	3,677	18	3,695		
Other comprehensive income/(loss), net of tax	—	—	—	(407)	—	(407)	—	(407)		
Common stock issued (including share-based compensation impacts)	—	163	—	—	—	163	—	163		
Treasury stock/other	—	—	—	—	(164)	(164)	—	(164)		
Dividend and dividend equivalents declared (a)	—	—	(2,915)	—	—	(2,915)	(12)	(2,927)		
Balance at December 31, 2018	\$ 41	\$ 22,006	\$ 22,668	\$ (7,366)	\$ (1,417)	\$ 35,932	\$ 34	\$ 35,966		
Balance at December 31, 2018	\$ 41	\$ 22,006	\$ 22,668	\$ (7,366)	\$ (1,417)	\$ 35,932	\$ 34	\$ 35,966		
Adoption of accounting standards	—	—	13	—	—	13	—	13		
Net income	—	—	47	—	—	47	37	84		
Other comprehensive income/(loss), net of tax	—	—	—	(362)	—	(362)	—	(362)		
Common stock issued (including share-based compensation impacts)	—	159	—	—	—	159	—	159		
Treasury stock/other	—	—	—	—	(196)	(196)	(26)	(222)		
Dividend and dividend equivalents declared (a)	—	—	(2,408)	—	—	(2,408)	—	(2,408)		
Balance at December 31, 2019	\$ 41	\$ 22,165	\$ 20,320	\$ (7,728)	\$ (1,613)	\$ 33,185	\$ 45	\$ 33,230		

(a) We declared dividends per share of Common and Class B Stock of \$0.65, \$0.73, and \$0.60 per share in 2017, 2018, and 2019, respectively.

The accompanying notes are part of the consolidated financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1. PRESENTATION

For purposes of this report, "Ford," the "Company," "we," "our," "us," or similar references mean Ford Motor Company, our consolidated subsidiaries, and our consolidated VIEs of which we are the primary beneficiary, unless the context requires otherwise. We also make reference to Ford Motor Credit Company LLC, herein referenced to as Ford Credit. Our consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles ("GAAP").

Certain Transactions Between Automotive, Mobility, and Ford Credit

Intersegment transactions occur in the ordinary course of business. Additional detail regarding certain transactions and the effect on each segment at December 31 was as follows (in billions):

	2018			2019		
	Automotive	Mobility	Ford Credit	Automotive	Mobility	Ford Credit
Trade and other receivables (a)			\$ 6.8			\$ 4.9
Unearned interest supplements and residual support (b)			(6.8)			(6.7)
Finance receivables and other (c)			2.1			2.1
Intersegment receivables/(payables)	\$ (1.2)	\$ (1.1)		2.3	\$ (2.6)	\$ 0.1
						2.5

(a) Automotive receivables (generated primarily from vehicle and parts sales to third parties) sold to Ford Credit.

(b) Automotive pays amounts to Ford Credit at the point of retail financing or lease origination which represent interest supplements and residual support.

(c) Primarily receivables with entities that are consolidated subsidiaries of Ford.

Change in Accounting

As of January 1, 2019, we changed our accounting method for reporting early termination losses related to customer defaults on Ford Credit's operating leases. Previously, we presented the early termination loss reserve on operating leases due to customer default events as part of the allowance for credit losses within *Net investment in operating leases*. We now consider the effects of operating lease early terminations when determining depreciation estimates, which are included as part of accumulated depreciation within *Net investment in operating leases*. We believe this change in accounting method is preferable as the characterization of these changes is better reflected as depreciation.

We have retrospectively applied this change in accounting method to all prior periods. At December 31, 2018, this reclassification increased accumulated depreciation and decreased allowance for credit losses by \$78 million within *Net investment in operating leases*. This change had no impact on our consolidated income statement, consolidated balance sheet, or total cash flows from operating activities in the consolidated statement of cash flows for the years presented.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

For each accounting topic that is addressed in its own note, the description of the accounting policy may be found in the related note. Other significant accounting policies are described below.

Use of Estimates

The preparation of financial statements requires us to make estimates and assumptions that affect our results. Estimates are used to account for certain items such as marketing accruals, warranty costs, employee benefit programs, etc. Estimates are based on assumptions that we believe are reasonable under the circumstances. Due to the inherent uncertainty involved with estimates, actual results may differ.

Foreign Currency

We remeasure monetary assets and liabilities denominated in a currency that is different than a reporting entity's functional currency from the transactional currency to the legal entity's functional currency. The effect of this remeasurement process and the results of our foreign currency hedging activities are reported in *Cost of sales* and *Other income/(loss), net* and were \$307 million, \$(121) million, and \$108 million, for the years ended 2017, 2018, and 2019, respectively.

Generally, our foreign subsidiaries use the local currency as their functional currency. We translate the assets and liabilities of our foreign subsidiaries from their respective functional currencies to U.S. dollars using end-of-period exchange rates. Changes in the carrying value of these assets and liabilities attributable to fluctuations in exchange rates are recognized in *Foreign currency translation*, a component of *Other comprehensive income/(loss), net of tax*. Upon sale or upon complete or substantially complete liquidation of an investment in a foreign subsidiary, the amount of accumulated foreign currency translation related to the entity is reclassified to income and recognized as part of the gain or loss on the investment.

Cash Equivalents

Cash and cash equivalents are highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal. A debt security is classified as a cash equivalent if it meets these criteria and if it has a remaining time to maturity of three months or less from the date of acquisition. Amounts on deposit and available upon demand, or negotiated to provide for daily liquidity without penalty, are classified as *Cash and cash equivalents*. Time deposits, certificates of deposit, and money market accounts that meet the above criteria are reported at par value on our consolidated balance sheet.

Restricted Cash

Cash and cash equivalents that are restricted as to withdrawal or use under the terms of certain contractual agreements are recorded in *Other assets* in the non-current assets section of our consolidated balance sheet. Our Automotive segment restricted cash balances primarily include various escrow agreements related to legal, insurance, customs, and environmental matters. Our Ford Credit segment restricted cash balances primarily include cash held to meet certain local governmental and regulatory reserve requirements and cash held under the terms of certain contractual agreements. Mobility segment restricted cash balances primarily include cash held under the terms of certain contractual agreements. Restricted cash does not include required minimum balances or cash securing debt issued through securitization transactions.

Marketable Securities

Investments in securities with a maturity date greater than three months at the date of purchase and other securities for which there is more than an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal are classified as *Marketable securities*.

Realized gains and losses and interest income on all of our marketable securities and unrealized gains and losses on securities not classified as available for sale are recorded in *Other income/(loss), net*. Unrealized gains and losses on available for sale securities are recognized in *Unrealized gains and losses on securities*, a component of *Other comprehensive income/(loss), net of tax*. Realized gains and losses and reclassifications of accumulated other comprehensive income into net income are measured using the specific identification method.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

On a quarterly basis, we review our available-for-sale securities for impairment. If we conclude that any of these investments are impaired, we determine whether such impairment is other-than-temporary. Factors we consider to make such determination include the duration and severity of the impairment, the reason for the decline in value, and the potential recovery period and our intent to sell. If any impairment is considered other-than-temporary, we will write down the asset to its fair value and record the corresponding charge in *Other income/(loss), net*.

Trade Receivables

Trade and other receivables consists primarily of Automotive segment receivables from contracts with customers for the sale of vehicles, parts, and accessories. Trade receivables initially are recorded at the transaction amount and are typically outstanding for less than 30 days. Each reporting period, we evaluate the collectibility of the receivables and record an allowance for doubtful accounts representing our estimate of the probable losses. Additions to the allowance for doubtful accounts are made by recording charges to bad debt expense reported in *Selling, administrative, and other expenses*.

Net Intangible Assets and Goodwill

Indefinite-lived intangible assets and goodwill are not amortized but are tested for impairment annually or more frequently if events or circumstances indicate the assets may be impaired. Goodwill impairment testing is also performed following an allocation of goodwill to a business to be disposed or a change in reporting units. We test for impairment by assessing qualitative factors to determine whether it is more likely than not that the fair value of the indefinite-lived intangible asset or the reporting unit allocated the goodwill is less than its carrying amount. If the qualitative assessment indicates a possible impairment, the carrying value of the asset or reporting unit is compared with its fair value. Fair value is measured relying primarily on the income approach by applying a discounted cash flow method, the market approach using market values or multiples, and/or third-party valuations. We capitalize and amortize our finite-lived intangible assets over their estimated useful lives.

Intangible assets are comprised primarily of licensing and advertising agreements, land rights, patents, customer contracts, and technology. The net carrying amount of our intangible assets was \$178 million and \$188 million at December 31, 2018 and 2019, respectively.

The net carrying amount of goodwill was \$264 million and \$278 million at December 31, 2018 and 2019, respectively.

For the periods presented, we have not recorded any material impairments for indefinite-lived intangibles or goodwill.

The carrying amount of intangible assets and goodwill is reported in *Other assets* in the non-current assets section of our consolidated balance sheet.

Held-and-Used Long-Lived Asset Impairment

We test long-lived asset groups for recoverability when changes in circumstances indicate the carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues and expenses, present cash flow losses combined with a history of cash flow losses and a forecast that demonstrates significant continuing losses, significant negative industry or economic trends, a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, a significant adverse change in the manner in which an asset group is used or in its physical condition, or when there is a change in the asset grouping. When a triggering event occurs, a test for recoverability is performed, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the test for recoverability identifies a possible impairment, the asset group's fair value is measured relying primarily on a discounted cash flow method. To the extent available, we will also consider third-party valuations of our long-lived assets that were prepared for other business purposes. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amount of those assets is depreciated over their remaining useful life. For the periods presented, we have not recorded any impairments.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Held-for-Sale Asset Impairment

We perform an impairment test on a disposal group to be discontinued, held for sale, or otherwise disposed when we have committed to an action and the action is expected to be completed within twelve months. We estimate fair value to approximate the expected proceeds to be received, less cost to sell, and compare it to the carrying value of the disposal group. An impairment charge is recognized when the carrying value exceeds the estimated fair value (see Note 24).

Fair Value Measurements

We measure fair value of our financial instruments, including those held within our pension plans, using various valuation methods and prioritize the use of observable inputs. The use of observable and unobservable inputs and their significance in measuring fair value are reflected in our fair value hierarchy.

- Level 1 - inputs include quoted prices for identical instruments and are the most observable
- Level 2 - inputs include quoted prices for similar instruments and observable inputs such as interest rates, currency exchange rates, and yield curves
- Level 3 - inputs include data not observable in the market and reflect management judgment about the assumptions market participants would use in pricing the instruments

Fixed income securities, equities, commingled funds, derivative financial instruments, and alternative assets are remeasured and presented within our consolidated financial statements at fair value on a recurring basis. Finance receivables and debt are measured at fair value for the purpose of disclosure. Other assets and liabilities are measured at fair value on a nonrecurring basis.

Transfers into and transfers out of the hierarchy levels are recognized as if they had taken place at the end of the reporting period.

Valuation Method

Fixed Income Securities. Fixed income securities primarily include government securities, government agency securities, corporate bonds, and asset-backed securities. We generally measure the fair value using prices obtained from pricing services or quotes from dealers that make markets in such securities. Pricing methods and inputs to valuation models used by the pricing services depend on the security type (i.e., asset class). Where possible, fair values are generated using market inputs including quoted prices (the closing price in an exchange market), bid prices (the price at which a buyer stands ready to purchase), and other market information. For fixed income securities that are not actively traded, the pricing services use alternative methods to determine fair value for the securities, including quotes for similar fixed income securities, matrix pricing, discounted cash flow using benchmark curves, or other factors. In certain cases, when market data are not available, we may use broker quotes or pricing services that use proprietary pricing models to determine fair value. The proprietary models incorporate unobservable inputs primarily consisting of prepayment curves, discount rates, default assumptions, recovery rates, yield assumptions, and credit spread assumptions.

An annual review is performed on the security prices received from our pricing services, which includes discussion and analysis of the inputs used by the pricing services to value our securities. The price of certain securities sold close to the quarter end are also compared to the price of the same security at the balance sheet date to ensure the reported fair value is reasonable.

Equities. Equity securities are primarily exchange-traded and are valued based on the closing bid, official close, or last trade pricing on an active exchange. If closing prices are not available, securities are valued at the last quoted bid price or may be valued using the last available price. Securities that are thinly traded or delisted are valued using unobservable pricing data.

Commingled Funds. Fixed income and public equity securities may each be combined into commingled fund investments. Most commingled funds are valued to reflect our interest in the fund based on the reported year-end net asset value ("NAV").

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Derivative Financial Instruments. Exchange-traded derivatives for which market quotations are readily available are valued at the last reported sale price or official closing price as reported by an independent pricing service on the primary market or exchange on which they are traded. Over-the-counter derivatives are not exchange traded and are valued using independent pricing services or industry-standard valuation models such as a discounted cash flow. When discounted cash flow models are used, projected future cash flows are discounted to a present value using market-based expectations for interest rates, foreign exchange rates, commodity prices, and the contractual terms of the derivative instruments. The discount rate used is the relevant benchmark interest rate (e.g., LIBOR, SONIA) plus an adjustment for non-performance risk. The adjustment reflects the full credit default swap ("CDS") spread applied to a net exposure, by counterparty, considering the master netting agreements and any posted collateral. We use our counterparty's CDS spread when we are in a net asset position and our own CDS spread when we are in a net liability position. In cases where market data is not available we use broker quotes and models (e.g., Black-Scholes) to determine fair value. This includes situations where there is lack of liquidity for a particular currency or commodity, or when the instrument is longer dated.

Alternative Assets. Hedge funds generally hold liquid and readily-priced securities, such as public equities, exchange-traded derivatives, and corporate bonds. Private equity and real estate investments are less liquid. External investment managers typically report valuations reflecting initial cost or updated appraisals, which are adjusted for cash flows, and realized and unrealized gains/losses. All alternative assets are valued at the NAV provided by the investment sponsor or third party administrator, as they do not have readily-available market quotations. Valuations may be lagged up to six months. The NAV will be adjusted for cash flows (additional investments or contributions, and distributions) through year end. We may make further adjustments for any known substantive valuation changes not reflected in the NAV.

The Ford-Werke GmbH ("Ford-Werke") defined benefit plan is primarily funded through a group insurance contract (see Note 18). We measure the fair value of the insurance asset by projecting expected future cash flows from the contract and discounting them to present value based on current market rates including an assessment for non-performance risk of the insurance company. The assumptions used to project expected future cash flows are based on actuarial estimates and are unobservable; therefore, the contract is categorized within Level 3 of the hierarchy.

Finance Receivables. We measure finance receivables at fair value using internal valuation models (see Note 10). These models project future cash flows of financing contracts based on scheduled contract payments (including principal and interest). The projected cash flows are discounted to present value based on assumptions regarding credit losses, pre-payment speed, and applicable spreads to approximate current rates. Our assumptions regarding pre-payment speed and credit losses are based on historical performance. The fair value of finance receivables is categorized within Level 3 of the hierarchy.

On a nonrecurring basis, we also measure at fair value retail contracts greater than 120 days past due or deemed to be uncollectible, and individual dealer loans probable of foreclosure. We use the fair value of collateral, adjusted for estimated costs to sell, to determine the fair value of our receivables. The collateral for a retail financing or wholesale receivable is the vehicle financed, and for dealer loans is real estate or other property.

The fair value of collateral for retail receivables is calculated as the outstanding receivable balances multiplied by the average recovery value percentage. The fair value of collateral for wholesale receivables is based on the wholesale market value or liquidation value for new and used vehicles. The fair value of collateral for dealer loans is determined by reviewing various appraisals, which include total adjusted appraised value of land and improvements, alternate use appraised value, broker's opinion of value, and purchase offers.

Debt. We measure debt at fair value using quoted prices for our own debt with approximately the same remaining maturities (see Note 20). Where quoted prices are not available, we estimate fair value using discounted cash flows and market-based expectations for interest rates, credit risk, and the contractual terms of the debt instruments. For certain short-term debt with an original maturity date of one year or less, we assume that book value is a reasonable approximation of the debt's fair value. The fair value of debt is categorized within Level 2 of the hierarchy.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Finance and Lease Incentives

We routinely sponsor special retail financing and lease incentives to dealers' customers who choose to finance or lease Ford or Lincoln vehicles with Ford Credit. The cost for these incentives is included in our estimate of variable consideration when the vehicle is sold to the dealer. Ford Credit records a reduction to the finance receivable or reduces the cost of the vehicle operating lease when it records the underlying finance contract and we transfer to Ford Credit the amount of the incentive on behalf of the dealer's customer. See Note 1 for additional information regarding transactions between Automotive and Ford Credit. The Ford Credit segment recognized interest revenue of \$2 billion, \$2.4 billion, and \$2.5 billion in 2017, 2018, and 2019, respectively, and lower depreciation of \$2.1 billion, \$2.4 billion, and \$2.6 billion in 2017, 2018, and 2019, respectively, associated with these incentives.

Supplier Price Adjustments

We frequently negotiate price adjustments with our suppliers throughout a production cycle, even after receiving production material. These price adjustments relate to changes in design specification or other commercial terms such as economics, productivity, and competitive pricing. We recognize price adjustments when we reach final agreement with our suppliers. In general, we avoid direct price changes in consideration of future business; however, when these occur, our policy is to defer the recognition of any such price change given explicitly in consideration of future business where guaranteed volumes are specified.

Government Incentives

We receive incentives from U.S. and non-U.S. governmental entities in the form of tax rebates or credits, grants, and loans. Government incentives are recorded in our consolidated financial statements in accordance with their purpose as a reduction of expense, a reduction of the cost of the capital investment, or other income. The benefit is generally recorded when all conditions attached to the incentive have been met and there is reasonable assurance of receipt.

Employee Bonus and Lump-Sum Payments

Effective November 15, 2019, we signed a new agreement with the International Union, United Automobile, Aerospace, and Agricultural Implement Workers of America ("UAW") covering approximately 56,000 employees in the United States. The agreement established wages, benefits, and a variety of bonus payments for covered employees over a four-year period.

Performance-based and inflation-protection employee bonuses are accrued throughout the period in which services are provided and the bonuses are earned. Lump-sum cash bonuses paid in connection with signing a union contract are recognized in the period that the contract negotiations are finalized and ratified. These amounts are reported in *Cost of sales*.

Selected Other Costs

Engineering, research, and development expenses are reported in *Cost of sales* and primarily consist of salaries, materials, and associated costs. Engineering, research, and development costs are expensed as incurred when performed internally or when performed by a supplier if we guarantee reimbursement. Advertising costs are reported in *Selling, administrative, and other expenses* and are expensed as incurred. Engineering, research, development, and advertising expenses for the years ended December 31 were as follows (in billions):

	2017	2018	2019
Engineering, research, and development	\$ 8.0	\$ 8.2	\$ 7.4
Advertising	4.1	4.0	3.6

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 3. NEW ACCOUNTING STANDARDS

Adoption of New Accounting Standards

Accounting Standards Update (“ASU”) 2016-02, Leases. On January 1, 2019, we adopted Accounting Standards Codification 842 and all the related amendments (“new lease standard”) using the modified retrospective method. We recognized the cumulative effect of initially applying the new lease standard as an adjustment to the opening balance of retained earnings. The comparative information has not been restated and continues to be reported under the lease accounting standard in effect for those periods. We do not expect the adoption of the new lease standard to have a material impact to our net income on an ongoing basis.

The new lease standard requires all leases to be reported on the balance sheet as right-of-use assets and lease obligations. We elected the practical expedients permitted under the transition guidance of the new standard that retained the lease classification and initial direct costs for any leases that existed prior to adoption of the standard. We did not reassess whether any contracts or land easements entered into prior to adoption are leases or contain leases.

The cumulative effect of the changes made to our consolidated balance sheet at January 1, 2019, for the adoption of ASU 2016-02, *Leases*, was as follows (in millions):

	<u>Balance at December 31, 2018</u>		<u>Adjustments due to ASU 2016-02</u>		<u>Balance at January 1, 2019</u>
Balance sheet					
Assets					
Other assets, current	\$ 3,930		\$ (8)	\$	3,922
Other assets, non-current	7,929		1,324		9,253
Deferred income taxes	10,412		(4)		10,408
Liabilities					
Other liabilities and deferred revenue, current	20,556		316		20,872
Other liabilities and deferred revenue, non-current	23,588		983		24,571
Equity					
Retained earnings	22,668		13		22,681

We also adopted the following ASUs during 2019, none of which had a material impact to our consolidated financial statements or financial statement disclosures:

ASU		Effective Date
2018-17	Targeted Improvements to Related Party Guidance for Variable Interest Entities	January 1, 2019
2018-16	Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes	January 1, 2019
2018-13	Fair Value Measurement - Changes to the Disclosure Requirements for Fair Value Measurement	January 1, 2019
2018-08	Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made	January 1, 2019
2018-07	Stock Compensation - Improvements to Nonemployee Share-Based Payment Accounting	January 1, 2019
2018-02	Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (a)	January 1, 2019
2018-14	Changes to the Disclosure Requirements for Defined Benefit Plans	December 31, 2019

(a) Ford did not elect to reclassify the income tax effects of the Tax Cuts and Jobs Act from *Accumulated other comprehensive income/(loss)* to *Retained earnings*.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 3. NEW ACCOUNTING STANDARDS (*Continued*)

Accounting Standards Issued But Not Yet Adopted

The Company considers the applicability and impact of all ASUs. ASUs not listed below were assessed and determined to be either not applicable or are expected to have minimal impact on our consolidated financial statements.

ASU 2016-13, Credit Losses - Measurement of Credit Losses on Financial Instruments. In June 2016, the Financial Accounting Standards Board ("FASB") issued a new accounting standard which replaces the current incurred loss impairment method with a method that reflects expected credit losses. The new standard and the related amendments were effective on January 1, 2020. Based on our current portfolio and forecasts of future macroeconomic conditions, we estimate that the allowance for credit losses reported in *Ford Credit finance receivables, net* on our consolidated balance sheet will increase by about \$250 million at adoption. We will record the cumulative effect of initially applying the new standard as an adjustment to the opening balance of *Retained earnings*. The increase is primarily for our consumer portfolio, as it will cover expected credit losses over the full remaining expected life of the receivables.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE

The following tables disaggregate our revenue by major source for the years ended December 31 (in millions):

	2017			
	Automotive	Mobility	Ford Credit	Consolidated
Vehicles, parts, and accessories	\$ 140,171	\$ —	\$ —	\$ 140,171
Used vehicles	2,956	—	—	2,956
Extended service contracts	1,236	—	—	1,236
Other revenue	815	10	219	1,044
Revenues from sales and services	145,178	10	219	145,407
Leasing income	475	—	5,552	6,027
Financing income	—	—	5,184	5,184
Insurance income	—	—	158	158
Total revenues	<u>\$ 145,653</u>	<u>\$ 10</u>	<u>\$ 11,113</u>	<u>\$ 156,776</u>
	2018			
	Automotive	Mobility	Ford Credit	Consolidated
Vehicles, parts, and accessories	\$ 142,532	\$ —	\$ —	\$ 142,532
Used vehicles	3,022	—	—	3,022
Extended service contracts	1,323	—	—	1,323
Other revenue	879	26	218	1,123
Revenues from sales and services	147,756	26	218	148,000
Leasing income	538	—	5,795	6,333
Financing income	—	—	5,841	5,841
Insurance income	—	—	164	164
Total revenues	<u>\$ 148,294</u>	<u>\$ 26</u>	<u>\$ 12,018</u>	<u>\$ 160,338</u>
	2019			
	Automotive	Mobility	Ford Credit	Consolidated
Vehicles, parts, and accessories	\$ 137,659	\$ —	\$ —	\$ 137,659
Used vehicles	3,307	—	—	3,307
Extended service contracts	1,376	—	—	1,376
Other revenue	811	41	204	1,056
Revenues from sales and services	143,153	41	204	143,398
Leasing income	446	—	5,899	6,345
Financing income	—	—	5,996	5,996
Insurance income	—	—	161	161
Total revenues	<u>\$ 143,599</u>	<u>\$ 41</u>	<u>\$ 12,260</u>	<u>\$ 155,900</u>

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally this occurs with the transfer of control of our vehicles, parts, accessories, or services. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. Sales, value add, and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense. The expected costs associated with our base warranties and field service actions continue to be recognized as expense when the products are sold (see Note 27). We recognize revenue for vehicle service contracts that extend mechanical and maintenance coverages beyond our base warranties over the life of the contract. We do not have any material significant payment terms as payment is received at or shortly after the point of sale.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE (*Continued*)

Automotive Segment

Vehicles, Parts, and Accessories. For the majority of vehicles, parts, and accessories, we transfer control and recognize a sale when we ship the product from our manufacturing facility to our customer (dealers and distributors). We receive cash equal to the invoice price for most vehicle sales at the time of wholesale. When the vehicle sale is financed by our wholly-owned subsidiary Ford Credit, the dealer pays Ford Credit when it sells the vehicle to the retail customer (see Note 10). Payment terms on part sales to dealers, distributors, and retailers range from 30 to 120 days. The amount of consideration we receive and revenue we recognize varies with changes in return rights and marketing incentives we offer to our customers and their customers. When we give our dealers the right to return eligible parts and accessories, we estimate the expected returns based on an analysis of historical experience. Estimates of marketing incentives are based on expected retail and fleet sales volumes, mix of products to be sold, and incentive programs to be offered. Customer acceptance of products and programs, as well as other market conditions, will impact these estimates. We adjust our estimate of revenue at the earlier of when the value of consideration we expect to receive changes or when the consideration becomes fixed. As a result of changes in our estimate of marketing incentives, during 2017, 2018, and 2019 we recorded a decrease of \$887 million, \$903 million, and \$844 million, respectively, related to revenue recognized in prior annual periods.

Depending on the terms of the arrangement, we may also defer the recognition of a portion of the consideration received because we have to satisfy a future obligation (e.g., free extended service contracts). We use an observable price to determine the stand-alone selling price for separate performance obligations or a cost plus margin approach when one is not available. We have elected to recognize the cost for freight and shipping when control over vehicles, parts, or accessories have transferred to the customer as an expense in *Cost of sales*.

We sell vehicles to daily rental companies and guarantee that we will pay them the difference between an agreed amount and the value they are able to realize upon resale. At the time of transfer of vehicles to the daily rental companies, we record the probable amount we will pay under the guarantee to *Other liabilities and deferred revenue* (see Note 27).

Used Vehicles. We sell used vehicles both at auction and through our consolidated dealerships. Proceeds from the sale of these vehicles are recognized in *Automotive revenues* upon transfer of control of the vehicle to the customer and the related vehicle carrying value is recognized in *Cost of sales*.

Extended Service Contracts. We sell separately priced service contracts that extend mechanical and maintenance coverages beyond our base warranty agreements to vehicle owners. The separately priced service contracts range from 12 to 120 months. We receive payment at contract inception and recognize revenue over the term of the agreement in proportion to the costs we expect to incur in satisfying the contract obligations. We had a balance of \$3.8 billion and \$4 billion of unearned revenue associated with outstanding contracts reported in *Other liabilities and deferred revenue* at December 31, 2017 and 2018, respectively. We recognized \$1.1 billion of the unearned amounts as revenue during each of the years ended December 31, 2018 and 2019. At December 31, 2019, the unearned amount was \$4.2 billion. We expect to recognize approximately \$1.2 billion of the unearned amount in 2020, \$1.1 billion in 2021, and \$1.9 billion thereafter.

We record a premium deficiency reserve to the extent we estimate the future costs associated with these contracts exceed the unrecognized revenue. Amounts paid to dealers to obtain these contracts are deferred and recorded as *Other assets*. These costs are amortized to expense consistent with how the related revenue is recognized. We had a balance of \$247 million and \$270 million in deferred costs as of December 31, 2018 and 2019, respectively. We recognized \$63 million, \$73 million, and \$74 million of amortization during the years ended December 31, 2017, 2018, and 2019, respectively.

Other Revenue. Other revenue consists primarily of net commissions received for serving as the agent in facilitating the sale of a third party's products or services to our customers, payments for vehicle-related design and testing services we perform for others, and revenue associated with various Mobility operations. We have applied the practical expedient to recognize *Automotive revenues* for vehicle-related design and testing services over the two to three year term of these agreements in proportion to the amount we have the right to invoice.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE (*Continued*)

Leasing Income. We sell vehicles to daily rental companies with an obligation to repurchase the vehicles for a guaranteed amount, exercisable at the option of the customer. The transactions are accounted for as operating leases. Upon the transfer of vehicles to the daily rental companies, we record proceeds received in *Other liabilities and deferred revenue*. The difference between the proceeds received and the guaranteed repurchase amount is recorded in *Automotive revenues* over the term of the lease using a straight-line method. The cost of the vehicle is recorded in *Net investment in operating leases* on our consolidated balance sheet and the difference between the cost of the vehicle and the estimated auction value is depreciated in *Cost of sales* over the term of the lease.

Ford Credit Segment

Leasing Income. Ford Credit offers leasing plans to retail consumers through Ford and Lincoln brand dealers who originate the leases. Ford Credit records an operating lease upon purchase of a vehicle subject to a lease from the dealer. The retail consumer makes lease payments representing the difference between Ford Credit's purchase price of the vehicle and the contractual residual value of the vehicle, plus lease fees that we recognize on a straight-line basis over the term of the lease agreement. Depreciation and the gain or loss upon disposition of the vehicle is recorded in *Ford Credit interest, operating, and other expenses*.

Financing Income. Ford Credit originates and purchases finance installment contracts. Financing income represents interest earned on the finance receivables (including sales-type and direct financing leases). Interest is recognized using the interest method and includes the amortization of certain direct origination costs.

Insurance Income. Income from insurance contracts is recognized evenly over the term of the agreement. Insurance commission revenue is recognized on a net basis at the time of sale of the third party's product or service to our customer.

NOTE 5. OTHER INCOME/(LOSS)

The amounts included in *Other income/(loss), net* for the years ended December 31 were as follows (in millions):

	2017	2018	2019
Net periodic pension and OPEB income/(cost), excluding service cost	\$ 1,757	\$ 786	\$ (1,602)
Investment-related interest income	459	667	809
Interest income/(expense) on income taxes	2	33	(29)
Realized and unrealized gains/(losses) on cash equivalents, marketable securities, and other investments	(23)	115	144
Gains/(Losses) on changes in investments in affiliates	14	42	20
Gains/(Losses) on extinguishment of debt	—	—	(55)
Royalty income	678	491	381
Other	380	113	106
Total	\$ 3,267	\$ 2,247	\$ (226)

NOTE 6. SHARE-BASED COMPENSATION

Under our Long-Term Incentive Plans, we may issue restricted stock units ("RSUs"), restricted stock shares ("RSSs"), and stock options. RSUs and RSSs consist of time-based and performance-based awards. The number of shares that may be granted in any year is limited to 2% of our issued and outstanding Common Stock as of December 31 of the prior calendar year. The limit may be increased up to 3% in any year, with a corresponding reduction in shares available for grants in future years. Granted RSUs generally cliff vest or ratably vest over a three-year service period. Performance-based RSUs have two components: one based on internal financial performance metrics, and the other based on total shareholder return relative to an industrial and automotive peer group. At the time of vesting, RSU awards are net settled (shares are withheld to cover the employee tax obligation).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 6. SHARE-BASED COMPENSATION (*Continued*)

The fair value of both the time-based and the internal performance metrics portion of the performance-based RSUs and RSSs is determined using the closing price of our Common Stock at grant date. The weighted average per unit grant date fair value for the years ended December 31, 2017, 2018, and 2019 was \$12.37, \$9.89, and \$8.99, respectively.

The fair value of time-based RSUs and RSSs is expensed over the shorter of the vesting period, using the graded vesting method, or the time period an employee becomes eligible to retain the award at retirement. The fair value of performance-based RSUs and RSSs is expensed over the shorter of the performance or required service periods based on the best available estimate of the number of shares expected to vest as measured against the performance metrics. Changes in estimates are recorded as a cumulative adjustment in the period of change. We have elected to recognize forfeitures as an adjustment to compensation expense for all RSUs and RSSs in the same period as the forfeitures occur. Expense is recorded in *Selling, administrative, and other expenses*.

The fair value of vested RSUs and RSSs as well as the compensation cost for the years ended December 31 was as follows (in millions):

	2017	2018	2019
Fair value of vested shares	\$ 175	\$ 187	\$ 231
Compensation cost (a)	193	162	190

(a) Net of tax benefit of \$52 million, \$29 million, and \$38 million in 2017, 2018, and 2019, respectively.

As of December 31, 2019, there was approximately \$101 million in unrecognized compensation cost related to non-vested RSUs and RSSs. This expense will be recognized over a weighted average period of 1.8 years.

The performance-based RSUs granted in March 2017, 2018, and 2019 include a relative Total Shareholder Return ("TSR") metric. We estimate the fair value of the TSR component of the performance-based RSUs using a Monte Carlo simulation. Inputs and assumptions used to calculate the fair value at grant date were as follows:

	2017	2018	2019
Fair value per stock award	\$ 12.44	\$ 9.03	\$ 9.66
Grant date stock price	12.66	10.40	8.81
Assumptions:			
Ford's stock price expected volatility (a)	23.4%	22.9%	24.1%
Expected average volatility of peer companies (a)	26.0	25.4	25.8
Risk-free interest rate	1.57	2.46	2.57
Dividend yield	4.74	N/A	N/A

(a) Expected volatility based on three years of daily closing share price changes ending on the grant date.

During 2019, activity for RSUs and RSSs was as follows (in millions, except for weighted average fair value):

	Shares	Weighted-Average Fair Value
Outstanding, beginning of year	64.1	\$ 10.80
Granted (a)	31.2	8.99
Vested (a)	(20.0)	11.56
Forfeited	(6.0)	12.24
Outstanding, end of year (b)	69.3	9.90

(a) Includes shares awarded to non-employee directors.

(b) Excludes 848,168 non-employee director shares that were vested, but unissued at December 31, 2019.

Stock Options

As of March 31, 2017, all of our outstanding stock options were fully vested. The last of our outstanding stock options will expire in July 2024, if not exercised sooner. We measure the fair value of our stock options using the Black-Scholes option-pricing model and record expense in *Selling, administrative, and other expenses*.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES

We recognize income tax-related penalties in *Provision for/(Benefit from) income taxes* on our consolidated income statement. We recognize income tax-related interest income and interest expense in *Other income/(loss), net* on our consolidated income statement.

We account for U.S. tax on global intangible low-tax income in the period incurred.

Valuation of Deferred Tax Assets and Liabilities

Deferred tax assets and liabilities are recognized based on the future tax consequences attributable to temporary differences that exist between the financial statement carrying value of assets and liabilities and their respective tax bases, and operating loss and tax credit carryforwards on a taxing jurisdiction basis. We measure deferred tax assets and liabilities using enacted tax rates that will apply in the years in which we expect the temporary differences to be recovered or paid.

Our accounting for deferred tax consequences represents our best estimate of the likely future tax consequences of events that have been recognized on our consolidated financial statements or tax returns and their future probability. In assessing the need for a valuation allowance, we consider both positive and negative evidence related to the likelihood of realization of the deferred tax assets. If, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be realized, we record a valuation allowance.

Components of Income Taxes

Components of income taxes excluding cumulative effects of changes in accounting principles, other comprehensive income, and equity in net results of affiliated companies accounted for after-tax, for the years ended December 31 were as follows:

	2017	2018	2019
Income/(Loss) before income taxes (in millions)			
U.S.	\$ 4,861	\$ 2,051	\$ 2,656
Non-U.S.	3,298	2,294	(3,296)
Total	<u>\$ 8,159</u>	<u>\$ 4,345</u>	<u>\$ (640)</u>
Provision for/(Benefit from) income taxes (in millions)			
Current			
Federal	\$ (125)	\$ 75	\$ (101)
Non-U.S.	868	690	738
State and local	85	(6)	33
Total current	<u>828</u>	<u>759</u>	<u>670</u>
Deferred			
Federal	(1,214)	(360)	(1,190)
Non-U.S.	593	239	(70)
State and local	195	12	(134)
Total deferred	<u>(426)</u>	<u>(109)</u>	<u>(1,394)</u>
Total	<u>\$ 402</u>	<u>\$ 650</u>	<u>\$ (724)</u>
Reconciliation of effective tax rate			
U.S. statutory rate	35.0 %	21.0 %	21.0 %
Non-U.S. tax rates under U.S. rates	(4.9)	(1.2)	46.9
State and local income taxes	2.2	2.0	12.4
General business credits	(3.6)	(9.2)	67.0
Dispositions and restructurings	(11.7)	4.6	45.5
U.S. tax on non-U.S. earnings	(7.0)	8.1	(49.2)
Prior year settlements and claims	(0.2)	1.1	(5.0)
Tax incentives	—	—	20.7
Enacted change in tax laws	(8.2)	(3.0)	(12.5)
Valuation allowances	5.6	(9.6)	(18.7)
Other	<u>(2.3)</u>	<u>1.2</u>	<u>(15.0)</u>
Effective rate	<u>4.9 %</u>	<u>15.0 %</u>	<u>113.1 %</u>

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES (Continued)

On December 22, 2017, the Tax Cuts and Jobs Act (H.R. 1) was signed into law. This act includes, among other items, a permanent reduction to the U.S. corporate income tax rate from 35% to 21% effective January 1, 2018, and requires immediate taxation of accumulated, unremitted non-U.S. earnings. As a result, at December 31, 2017, we recognized a tax benefit of \$739 million from revaluing U.S. net deferred tax liabilities and tax expense of \$219 million to record U.S. tax on unremitted non-U.S. earnings. For the years ended December 31, 2018 and 2019, our tax provision includes additional benefit of \$123 million and additional expense of \$95 million, respectively, related to the impact of the act and subsequently issued Treasury regulations on our global operations.

At December 31, 2019, \$8.1 billion of non-U.S. earnings are considered indefinitely reinvested in operations outside the United States, for which deferred taxes have not been provided. Quantification of the deferred tax liability, if any, associated with indefinitely reinvested basis differences is not practicable.

Components of Deferred Tax Assets and Liabilities

The components of deferred tax assets and liabilities at December 31 were as follows (in millions):

	2018	2019
Deferred tax assets		
Employee benefit plans	\$ 4,039	\$ 4,125
Net operating loss carryforwards	1,825	1,726
Tax credit carryforwards	9,199	9,335
Research expenditures	437	619
Dealer and dealers' customer allowances and claims	1,552	1,724
Other foreign deferred tax assets	648	799
All other	1,765	1,781
Total gross deferred tax assets	19,465	20,109
Less: Valuation allowances	(973)	(843)
Total net deferred tax assets	18,492	19,266
Deferred tax liabilities		
Leasing transactions	3,215	2,694
Depreciation and amortization (excluding leasing transactions)	2,865	3,094
Finance receivables	639	584
Other foreign deferred tax liabilities	948	608
All other	1,010	913
Total deferred tax liabilities	8,677	7,893
Net deferred tax assets/(liabilities)	\$ 9,815	\$ 11,373

At December 31, 2019, we have a valuation allowance of \$843 million primarily related to deferred tax assets in various non-U.S. operations.

Deferred tax assets for net operating losses and other temporary differences related to certain non-U.S. operations have not been recorded as a result of elections to tax these operations simultaneously in U.S. tax returns. Reversal of these elections would result in the recognition of \$9.5 billion of deferred tax assets, subject to valuation allowance testing.

Operating loss carryforwards for tax purposes were \$4.3 billion at December 31, 2019, resulting in a deferred tax asset of \$1.7 billion. There is no expiration date for \$2.5 billion of these losses. A substantial portion of the remaining losses will expire beyond 2023. Tax credits available to offset future tax liabilities are \$9.3 billion. Approximately half of these credits have a remaining carryforward period of seven years or more. Tax benefits of operating loss and tax credit carryforwards are evaluated on an ongoing basis, including a review of historical and projected future operating results, the eligible carryforward period, and available tax planning strategies. In our evaluation, we anticipate making tax elections that change the order of tax credit carryforward utilization on U.S. tax returns.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES (*Continued*)

Other

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31 were as follows (in millions):

	2018	2019
Beginning balance	\$ 2,063	\$ 2,047
Increase – tax positions in prior periods	90	169
Increase – tax positions in current period	45	24
Decrease – tax positions in prior periods	(133)	(239)
Settlements	—	(57)
Lapse of statute of limitations	—	—
Foreign currency translation adjustment	(18)	(1)
Ending balance	<u>\$ 2,047</u>	<u>\$ 1,943</u>

The amount of unrecognized tax benefits that would affect the effective tax rate if recognized was \$2 billion and \$1.9 billion at December 31, 2018 and 2019, respectively.

Examinations by tax authorities have been completed through 2004 in Germany, 2011 in Canada, 2011 in the United States, and 2014 in China and the United Kingdom. Although examinations have been completed in these jurisdictions, limited transfer pricing disputes exist for years dating back to 2005.

Net interest on income taxes was \$2 million and \$33 million of income and \$29 million of expense for the years ended December 31, 2017, 2018, and 2019, respectively. These were reported in *Other income/(loss), net* in our consolidated income statement. Net payables for tax related interest were \$29 million and \$58 million as of December 31, 2018 and 2019, respectively.

Cash paid for income taxes was \$586 million, \$821 million, and \$599 million in 2017, 2018, and 2019, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 8. CAPITAL STOCK AND EARNINGS PER SHARE

All general voting power is vested in the holders of Common Stock and Class B Stock. Holders of our Common Stock have 60% of the general voting power and holders of our Class B Stock are entitled to such number of votes per share as will give them the remaining 40%. Shares of Common Stock and Class B Stock share equally in dividends when and as paid, with stock dividends payable in shares of stock of the class held.

If liquidated, each share of Common Stock is entitled to the first \$0.50 available for distribution to holders of Common Stock and Class B Stock, each share of Class B Stock is entitled to the next \$1.00 so available, each share of Common Stock is entitled to the next \$0.50 so available, and each share of Common and Class B Stock is entitled to an equal amount thereafter.

We present both basic and diluted earnings per share ("EPS") amounts in our financial reporting. Basic EPS excludes dilution and is computed by dividing *Net income attributable to Ford Motor Company* by the weighted-average number of Common and Class B Stock outstanding for the period. Diluted EPS reflects the maximum potential dilution that could occur from our share-based compensation, including "in-the-money" stock options, unvested restricted stock units, and unvested restricted stock shares. Potentially dilutive shares are excluded from the calculation if they have an anti-dilutive effect in the period.

Earnings Per Share Attributable to Ford Motor Company Common and Class B Stock

Basic and diluted income per share were calculated using the following (in millions):

	2017	2018	2019
Basic and Diluted Income Attributable to Ford Motor Company			
Basic income	\$ 7,731	\$ 3,677	\$ 47
Diluted income	7,731	3,677	47
Basic and Diluted Shares			
Basic shares (average shares outstanding)	3,975	3,974	3,972
Net dilutive options, unvested restricted stock units, and unvested restricted stock shares	23	24	32
Diluted shares	<u>3,998</u>	<u>3,998</u>	<u>4,004</u>

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES

The fair values of cash, cash equivalents, and marketable securities measured at fair value on a recurring basis were as follows (in millions):

	Fair Value Level	December 31, 2018			
		Automotive	Mobility	Ford Credit	Consolidated
Cash and cash equivalents					
U.S. government	1	\$ 220	\$ —	\$ 139	\$ 359
U.S. government agencies	2	496	—	25	521
Non-U.S. government and agencies	2	169	—	114	283
Corporate debt	2	174	—	884	1,058
Total marketable securities classified as cash equivalents		1,059	—	1,162	2,221
Cash, time deposits, and money market funds		5,999	53	8,445	14,497
Total cash and cash equivalents		<u>\$ 7,058</u>	<u>\$ 53</u>	<u>\$ 9,607</u>	<u>\$ 16,718</u>

Marketable securities

	1	\$ 3,014	\$ —	\$ 289	\$ 3,303
U.S. government agencies	2	1,953	—	65	2,018
Non-U.S. government and agencies	2	4,674	—	610	5,284
Corporate debt	2	5,614	—	198	5,812
Equities (a)	1	424	—	—	424
Other marketable securities	2	246	—	146	392
Total marketable securities		<u>\$ 15,925</u>	<u>\$ —</u>	<u>\$ 1,308</u>	<u>\$ 17,233</u>

Restricted Cash

	\$ 16	\$ 33	\$ 140	\$ 189
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	Fair Value Level	December 31, 2019			
		Automotive	Mobility	Ford Credit	Consolidated
Cash and cash equivalents					
U.S. government	1	\$ 520	\$ —	\$ —	\$ 520
U.S. government agencies	2	125	—	—	125
Non-U.S. government and agencies	2	601	—	350	951
Corporate debt	2	642	—	604	1,246
Total marketable securities classified as cash equivalents		1,888	—	954	2,842
Cash, time deposits, and money market funds		6,432	117	8,113	14,662
Total cash and cash equivalents		<u>\$ 8,320</u>	<u>\$ 117</u>	<u>\$ 9,067</u>	<u>\$ 17,504</u>

Marketable securities

	1	\$ 2,930	\$ —	\$ 195	\$ 3,125
U.S. government agencies	2	1,548	—	210	1,758
Non-U.S. government and agencies	2	4,217	—	2,408	6,625
Corporate debt	2	4,802	—	193	4,995
Equities (a)	1	81	—	—	81
Other marketable securities	2	273	—	290	563
Total marketable securities		<u>\$ 13,851</u>	<u>\$ —</u>	<u>\$ 3,296</u>	<u>\$ 17,147</u>

Restricted Cash

	\$ 15	\$ 21	\$ 139	\$ 175
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Cash, cash equivalents, and restricted cash in held-for-sale assets

	\$ —	\$ —	\$ 62	\$ 62
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- (a) Net unrealized gains/losses on equities were a \$25 million gain and a \$44 million loss at December 31, 2018 and 2019, respectively.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES (*Continued*)

The cash equivalents and marketable securities accounted for as available-for-sale ("AFS") securities were as follows (in millions):

	December 31, 2018						Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year		After 1 Year through 5 Years	After 5 Years	
					After 1 Year through 5 Years	After 5 Years			
Automotive									
U.S. government	\$ 2,933	\$ 5	\$ (10)	\$ 2,928	\$ 1,714	\$ 1,214	\$ —		
U.S. government agencies	1,920	—	(18)	1,902	797	1,087	18		
Non-U.S. government and agencies	3,841	4	(37)	3,808	194	3,614	—		
Corporate debt	4,010	3	(33)	3,980	1,148	2,830	2		
Other marketable securities	207	—	—	207	1	134	72		
Total	<u>\$ 12,911</u>	<u>\$ 12</u>	<u>\$ (98)</u>	<u>\$ 12,825</u>	<u>\$ 3,854</u>	<u>\$ 8,879</u>	<u>\$ 92</u>		

	December 31, 2019						Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year		After 1 Year through 5 Years	After 5 Years	
					After 1 Year through 5 Years	After 5 Years			
Automotive									
U.S. government	\$ 2,839	\$ 11	\$ (1)	\$ 2,849	\$ 1,028	\$ 1,772	\$ 49		
U.S. government agencies	1,445	2	(1)	1,446	830	589	27		
Non-U.S. government and agencies	3,925	20	(1)	3,944	1,546	2,398	—		
Corporate debt	5,029	53	—	5,082	1,837	3,245	—		
Other marketable securities	230	1	—	231	—	149	82		
Total	<u>\$ 13,468</u>	<u>\$ 87</u>	<u>\$ (3)</u>	<u>\$ 13,552</u>	<u>\$ 5,241</u>	<u>\$ 8,153</u>	<u>\$ 158</u>		

Sales proceeds and gross realized gains/losses from the sale of AFS securities for the years ended December 31 were as follows (in millions):

		2017		2018		2019	
		Sales Proceeds	Gross Realized Gains	Sales Proceeds	Gross Realized Gains	Sales Proceeds	Gross Realized Gains
Automotive							
Sales proceeds				\$ 3,315	\$ 3	\$ 5,512	\$ 1
Gross realized gains					8		21
Gross realized losses							10

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES (*Continued*)

The present fair values and gross unrealized losses for cash equivalents and marketable securities accounted for as AFS securities that were in an unrealized loss position, aggregated by investment category and the length of time that individual securities have been in a continuous loss position, were as follows (in millions):

	December 31, 2018						Total	
	Less than 1 year		1 Year or Greater				Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Automotive								
U.S. government	\$ 199	\$ (1)	\$ 1,637	\$ (9)	\$ 1,836	\$ (10)		
U.S. government agencies	193	(1)	1,596	(17)	1,789	(18)		
Non-U.S. government and agencies	341	(1)	2,445	(36)	2,786	(37)		
Corporate debt	1,816	(16)	856	(17)	2,672	(33)		
Other marketable securities	125	—	—	—	125	—		
Total	<u>\$ 2,674</u>	<u>\$ (19)</u>	<u>\$ 6,534</u>	<u>\$ (79)</u>	<u>\$ 9,208</u>	<u>\$ (98)</u>		
December 31, 2019								
	Less than 1 year		1 Year or Greater				Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Automotive								
U.S. government	\$ 183	\$ (1)	\$ 50	\$ —	\$ 233	\$ (1)		
U.S. government agencies	370	(1)	344	—	714	(1)		
Non-U.S. government and agencies	463	—	390	(1)	853	(1)		
Corporate debt	29	—	53	—	82	—		
Other marketable securities	59	—	17	—	76	—		
Total	<u>\$ 1,104</u>	<u>\$ (2)</u>	<u>\$ 854</u>	<u>\$ (1)</u>	<u>\$ 1,958</u>	<u>\$ (3)</u>		

During the years ended December 31, 2017, 2018, and 2019, we did not recognize any other-than-temporary impairment losses.

Cash, Cash Equivalents, and Restricted Cash

Cash, cash equivalents, and restricted cash as reported in the consolidated statement of cash flows were as follows (in millions):

	December 31, 2018	December 31, 2019
Cash and cash equivalents	\$ 16,718	\$ 17,504
Restricted cash (a)	189	175
Cash, cash equivalents, and restricted cash in held-for-sale assets	—	62
Total cash, cash equivalents, and restricted cash	\$ 16,907	\$ 17,741

(a) Included in *Other assets* in the non-current assets section of our consolidated balance sheet.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES

Ford Credit manages finance receivables as "consumer" and "non-consumer" portfolios. The receivables are generally secured by the vehicles, inventory, or other property being financed.

Finance receivables are recorded at time of origination or purchase at fair value and are subsequently reported at amortized cost, net of any allowance for credit losses.

Consumer Portfolio. Receivables in this portfolio include products offered to individuals and businesses that finance the acquisition of Ford and Lincoln vehicles from dealers for personal or commercial use. Retail financing includes retail installment contracts for new and used vehicles and finance leases with retail customers, government entities, daily rental companies, and fleet customers.

Non-Consumer Portfolio. Receivables in this portfolio include products offered to automotive dealers. Dealer financing includes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer programs. Wholesale financing is approximately 94% of dealer financing.

Finance Receivables Classification

Finance receivables are accounted for as held-for-investment ("HFI") if Ford Credit has the intent and ability to hold the receivables for the foreseeable future or until maturity or payoff. The determination of intent and ability to hold for the foreseeable future is highly judgmental and requires Ford Credit to make good faith estimates based on all information available at the time of origination or purchase. If Ford Credit does not have the intent and ability to hold the receivables, then the receivables are classified as held-for-sale ("HFS").

Each quarter, Ford Credit makes a determination of whether it is probable that finance receivables originated or purchased during the quarter will be held for the foreseeable future based on historical receivables sale experience, internal forecasts and budgets, as well as other relevant, reliable information available through the date of evaluation. For purposes of this determination, probable means at least 70% likely and, consistent with the budgeting and forecasting period, the foreseeable future means twelve months. Ford Credit classifies receivables on a receivable-by-receivable basis. Specific receivables included in off-balance sheet sale transactions are generally not identified until the month in which the sale occurs.

Held-for-Investment. Finance receivables classified as HFI are recorded at the time of origination or purchase at fair value and are subsequently reported at amortized cost, net of any allowance for credit losses. Cash flows from finance receivables, excluding wholesale and other receivables, that were originally classified as HFI are recorded as an investing activity. Cash flows from wholesale and other receivables are recorded as an operating activity.

Held-for-Sale. Finance receivables classified as HFS are carried at the lower of cost or fair value. Cash flows resulting from the origination or purchase and sale of HFS receivables are recorded as an operating activity in *Decrease/(Increase) in finance receivables (wholesale and other)*. Once a decision has been made to sell receivables that were originally classified as HFI, the receivables are reclassified as HFS and carried at the lower of cost or fair value. The valuation adjustment, if applicable, is recorded in *Other income/(loss), net* to recognize the receivables at the lower of cost or fair value.

At December 31, 2019, Ford Credit determined that it is probable that it will not hold certain retail financing and wholesale finance receivables for more than the following twelve months. The value of the finance receivables considered HFS at December 31, 2019 was \$1.5 billion. Included within this amount is \$1.2 billion of Forso Nordic AB ("Forso") finance receivables, whose operations have been classified as HFS (see Note 24).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (*Continued*)

Finance receivables, net at December 31 were as follows (in millions):

	2018	2019
Consumer		
Retail installment contracts, gross	\$ 70,874	\$ 68,905
Finance leases, gross	8,748	8,566
Retail financing, gross	79,622	77,471
Unearned interest supplements	(3,508)	(3,589)
Consumer finance receivables	76,114	73,882
Non-Consumer		
Dealer financing	34,372	33,985
Non-Consumer finance receivables	34,372	33,985
Total recorded investment	<u>\$ 110,486</u>	<u>\$ 107,867</u>
Recorded investment in finance receivables	\$ 110,486	\$ 107,867
Allowance for credit losses	(589)	(513)
Finance receivables, net	<u>\$ 109,897</u>	<u>\$ 107,354</u>
Current portion	\$ 54,353	\$ 53,651
Non-current portion	55,544	53,703
Finance receivables, net	<u>\$ 109,897</u>	<u>\$ 107,354</u>
Net finance receivables subject to fair value (a)	\$ 101,471	\$ 99,168
Fair value (b)	100,877	99,297

- (a) Net finance receivables subject to fair value exclude finance leases. Previously, certain consumer financing products in Europe were classified as retail installment contracts. These products are now classified as finance leases. Comparative information has been revised to reflect this change.
(b) The fair value of finance receivables is categorized within Level 3 of the hierarchy.

Ford Credit's finance leases are comprised of sales-type and direct financing leases. These financings include primarily lease plans for terms of 24 to 60 months. Financing revenue from finance leases was \$375 million and \$380 million for the years ended December 31, 2018 and 2019, respectively, and is included in *Ford Credit revenues* on the consolidated income statement.

The amounts contractually due on Ford Credit's finance lease receivables at December 31 were as follows (in millions):

	2019
2020	\$ 1,911
2021	1,853
2022	1,418
2023	673
2024	83
Thereafter	—
Total future cash payments	5,938
Less: Present value discount	(287)
Finance lease receivables	<u>\$ 5,651</u>

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (*Continued*)

The reconciliation from finance lease receivables to finance leases, gross and finance leases, net at December 31 was as follows (in millions):

	2019
Finance lease receivables	\$ 5,651
Unguaranteed residual assets	2,795
Initial direct costs	120
Finance leases, gross	8,566
Unearned interest supplements from Ford and affiliated companies	(363)
Allowance for credit losses	(17)
Finance leases, net	\$ 8,186

At December 31, 2018 and 2019, accrued interest was \$264 million and \$251 million, respectively, which we report in *Other assets* in the current assets section of our consolidated balance sheet.

Included in the recorded investment in finance receivables at December 31, 2018 and 2019 were consumer receivables of \$40.7 billion and \$38.3 billion, respectively, and non-consumer receivables of \$25.7 billion and \$26.8 billion, respectively, that have been sold for legal purposes in securitization transactions but continue to be reported in our consolidated financial statements. The receivables are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations or the claims of Ford Credit's other creditors. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions (see Note 26).

Aging

For all finance receivables, Ford Credit defines "past due" as any payment, including principal and interest, that is at least 31 days past the contractual due date. The recorded investment of consumer receivables greater than 90 days past due and still accruing interest was \$20 million at December 31, 2018. At December 31, 2019, there were no balances greater than 90 days past due that were still accruing interest.

The aging analysis of Ford Credit's finance receivables balances at December 31 was as follows (in millions):

	2018	2019
Consumer		
31-60 days past due	\$ 859	\$ 839
61-90 days past due	123	126
91-120 days past due	39	40
Greater than 120 days past due	39	35
Total past due	1,060	1,040
Current	75,054	72,842
Consumer finance receivables	76,114	73,882
Non-Consumer		
Total past due	76	62
Current	34,296	33,923
Non-Consumer finance receivables	34,372	33,985
Total recorded investment	<u>\$ 110,486</u>	<u>\$ 107,867</u>

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (*Continued*)

Credit Quality

Consumer Portfolio. When originating consumer receivables, Ford Credit uses a proprietary scoring system that measures credit quality using information in the credit application, proposed contract terms, credit bureau data, and other information. After a proprietary risk score is generated, Ford Credit decides whether to originate a contract using a decision process based on a judgmental evaluation of the applicant, the credit application, the proposed contract terms, credit bureau information (e.g., FICO score), proprietary risk score, and other information. The evaluation emphasizes the applicant's ability to pay and creditworthiness focusing on payment, affordability, applicant credit history, and stability as key considerations.

After origination, Ford Credit reviews the credit quality of retail financing based on customer payment activity. As each customer develops a payment history, an internally developed behavioral scoring model is used to assist in determining the best collection strategies, which allows Ford Credit to focus collection activity on higher-risk accounts. These models are used to refine our risk-based staffing model to ensure collection resources are aligned with portfolio risk. Based on data from this scoring model, contracts are categorized by collection risk. Ford Credit's collection models evaluate several factors, including origination characteristics, updated credit bureau data, and payment patterns.

Credit quality ratings for consumer receivables are based on aging. Consumer receivables credit quality ratings are as follows:

- *Pass* – current to 60 days past due;
- *Special Mention* – 61 to 120 days past due and in intensified collection status; and
- *Substandard* – greater than 120 days past due and for which the uncollectible portion of the receivables has already been charged off, as measured using the fair value of collateral less costs to sell.

Non-Consumer Portfolio. Ford Credit extends credit to dealers primarily in the form of lines of credit to purchase new Ford and Lincoln vehicles as well as used vehicles. Payment is required when the dealer has sold the vehicle. Each non-consumer lending request is evaluated by considering the borrower's financial condition and the underlying collateral securing the loan. Ford Credit uses a proprietary model to assign each dealer a risk rating. This model uses historical dealer performance data to identify key factors about a dealer that are considered most significant in predicting a dealer's ability to meet its financial obligations. Ford Credit also considers numerous other financial and qualitative factors of the dealer's operations, including capitalization and leverage, liquidity and cash flow, profitability, and credit history with ourselves and other creditors.

Dealers are assigned to one of four groups according to risk ratings as follows:

- *Group I* – strong to superior financial metrics;
- *Group II* – fair to favorable financial metrics;
- *Group III* – marginal to weak financial metrics; and
- *Group IV* – poor financial metrics, including dealers classified as uncollectible.

Ford Credit generally suspends credit lines and extend no further funding to dealers classified in Group IV.

Ford Credit regularly reviews the model to confirm the continued business significance and statistical predictability of the model and may make updates to improve the performance of the model. In addition, they regularly audit dealer inventory and dealer sales records to verify that the dealer is in possession of the financed vehicles and is promptly paying each receivable following the sale of the financed vehicle. The frequency of on-site vehicle inventory audits depends primarily on the dealer's risk rating. Under Ford Credit's policies, on-site vehicle inventory audits of low-risk dealers are conducted only as circumstances warrant. On-site vehicle inventory audits of higher-risk dealers are conducted with increased frequency based primarily on the dealer's risk rating, but also considering the results of electronic monitoring of the dealer's performance, including daily payment verifications and monthly analysis of the dealer's financial statements, payoffs, aged inventory, over credit line and delinquency reports. Ford Credit typically performs a credit review of each dealer annually and more frequently reviews certain dealers based on the dealer's risk rating and total exposure. Ford Credit adjusts the dealer's risk rating, if necessary.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES (*Continued*)

The credit quality of dealer financing receivables is evaluated based on our internal dealer risk rating analysis. A dealer has the same risk rating for its entire dealer financing regardless of the type of financing.

The credit quality analysis of dealer financing receivables at December 31 was as follows (in millions):

	2018	2019
Dealer Financing		
Group I	\$ 27,032	\$ 26,281
Group II	5,635	5,407
Group III	1,576	2,108
Group IV	129	189
Total recorded investment	\$ 34,372	\$ 33,985

Impaired Receivables. Impaired consumer receivables include accounts that have been rewritten or modified in reorganization proceedings pursuant to the U.S. Bankruptcy Code that are considered to be Troubled Debt Restructurings ("TDRs"), as well as all accounts greater than 120 days past due. Impaired non-consumer receivables represent accounts with dealers that have weak or poor financial metrics or dealer financing that has been modified in TDRs. The recorded investment of consumer receivables that were impaired at December 31, 2018 and 2019 was \$370 million and \$322 million, or 0.5% and 0.4% of consumer receivables, respectively. The recorded investment of non-consumer receivables that were impaired at December 31, 2018 and 2019 was \$129 million and \$189 million, or 0.4% and 0.6% of non-consumer receivables, respectively. Impaired finance receivables are evaluated both collectively and specifically.

The accrual of revenue is discontinued at the time a receivable is determined to be uncollectible or when it is 90 days past due. Accounts may be restored to accrual status only when a customer settles all past-due deficiency balances and future payments are reasonably assured. For receivables in non-accrual status, subsequent financing revenue is recognized only to the extent a payment is received. Payments are generally applied first to outstanding interest and then to the unpaid principal balance.

A restructuring of debt constitutes a TDR if a concession is granted to a debtor for economic or legal reasons related to the debtor's financial difficulties that Ford Credit otherwise would not consider. Consumer and non-consumer receivables that have a modified interest rate below market rate or that were modified in reorganization proceedings pursuant to the U.S. Bankruptcy Code, except non-consumer receivables that are current with minimal risk of loss, are considered to be TDRs. Ford Credit does not grant concessions on the principal balance of our receivables. If a receivable is modified in a reorganization proceeding, all payment requirements of the reorganization plan need to be met before remaining balances are forgiven. Finance receivables involved in TDRs are specifically assessed for impairment.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES

The allowance for credit losses represents an estimate of the probable credit loss inherent in finance receivables as of the balance sheet date. The adequacy of the allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. Because credit losses may vary substantially over time, estimating credit losses requires a number of assumptions about matters that are uncertain. The majority of credit losses are attributable to Ford Credit's consumer receivables.

Additions to the allowance for credit losses are made by recording charges to *Ford Credit interest, operating, and other expenses* on our consolidated income statement. The uncollectible portion of finance receivables are charged to the allowance for credit losses at the earlier of when an account is deemed to be uncollectible or when an account is 120 days delinquent, taking into consideration the financial condition of the customer or borrower, the value of the collateral, recourse to guarantors, and other factors.

In the event Ford Credit repossesses the collateral, the receivable is charged off and the collateral is recorded at its estimated fair value less costs to sell and reported in *Other assets* on our consolidated balance sheet. Charge-offs on finance receivables include uncollected amounts related to principal, interest, late fees, and other allowable charges. Recoveries on finance receivables previously charged off as uncollectible are credited to the allowance for credit losses.

Consumer

Ford Credit estimates the allowance for credit losses on consumer receivables using a combination of measurement models and management judgment. The models consider factors such as historical trends in credit losses and recoveries (including key metrics such as delinquencies, repossessions, and bankruptcies), the composition of the present portfolio (including vehicle brand, term, risk evaluation, and new/used vehicles), trends in historical used vehicle values, and economic conditions. Estimates from these models rely on historical information and may not fully reflect losses inherent in the present portfolio. Therefore, Ford Credit may adjust the estimate to reflect management judgment regarding observable changes in recent economic trends and conditions, portfolio composition, and other relevant factors.

Ford Credit makes projections of two key assumptions to assist in estimating the consumer allowance for credit losses:

- Frequency - number of finance receivables contracts that are expected to default over the loss emergence period ("LEP"), measured as repossession; and
- Loss severity - expected difference between the amount a customer owes when the finance contract is charged off and the amount received, net of expenses, from selling the repossessed vehicle.

Collective Allowance for Credit Losses. The collective allowance is evaluated primarily using a collective loss-to-receivables ("LTR") model that, based on historical experience, indicates credit losses have been incurred in the portfolio even though the particular accounts that are uncollectible cannot be specifically identified. The LTR model is based on the most recent years of history. An LTR for each product is calculated by dividing credit losses (i.e., charge-offs net of recoveries) by average net finance receivables, excluding unearned interest supplements and allowance for credit losses. The average LTR that is calculated for each product is multiplied by the end-of-period balances for that given product.

The largest markets also use a loss projection model to estimate losses inherent in the portfolio. The loss projection model applies recent monthly performance metrics, stratified by contract type (retail installment sale contract or finance lease), contract term (e.g., 60 months), and risk rating to the active portfolio to estimate the losses that have been incurred.

The LEP is an assumption within the models and represents the average amount of time between when a loss event first occurs to when it is charged off. This time period starts when the consumer begins to experience financial difficulty. It is evidenced, typically through delinquency, before eventually resulting in a charge-off. The LEP is a multiplier in the calculation of the collective consumer allowance for credit losses.

For accounts greater than 120 days past due, the uncollectible portion is charged off, such that the remaining recorded investment is equal to the estimated fair value of the collateral less costs to sell.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES (*Continued*)

Specific Allowance for Impaired Receivables. Consumer receivables involved in TDRs are specifically assessed for impairment. A specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the contract's original effective interest rate or the fair value of any collateral adjusted for estimated costs to sell.

After establishing the collective and specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

Non-Consumer

Ford Credit estimates the allowance for credit losses for non-consumer receivables based on historical LTR ratios, expected future cash flows, and the fair value of collateral.

Collective Allowance for Credit Losses. Ford Credit estimates an allowance for non-consumer receivables that are not specifically identified as impaired using an LTR model for each financing product based on historical experience. This LTR is an average of the most recent historical experience and is calculated consistent with the consumer receivables LTR approach. All accounts that are specifically identified as impaired are excluded from the calculation of the non-specific or collective allowance.

Specific Allowance for Impaired Receivables. Dealer financing is evaluated by segmenting individual loans by the risk characteristics of the loan (such as the amount of the loan, the nature of the collateral, and the financial status of the debtor). The loans are analyzed to determine whether individual loans are impaired, and a specific allowance is estimated based on the present value of the expected future cash flows of the receivable discounted at the loan's original effective interest rate or the fair value of the collateral adjusted for estimated costs to sell.

After establishing the collective and the specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant factors, an adjustment is made based on management judgment.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 11. FORD CREDIT ALLOWANCE FOR CREDIT LOSSES (*Continued*)

An analysis of the allowance for credit losses related to finance receivables for the years ended December 31 was as follows (in millions):

	2018		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	\$ 582	\$ 15	\$ 597
Charge-offs (a)	(528)	(67)	(595)
Recoveries	163	7	170
Provision for credit losses	359	68	427
Other	(10)	—	(10)
Ending balance	<u>\$ 566</u>	<u>\$ 23</u>	<u>\$ 589</u>
Analysis of ending balance of allowance for credit losses			
Collective impairment allowance	\$ 546	\$ 14	\$ 560
Specific impairment allowance	20	9	29
Ending balance	<u>566</u>	<u>23</u>	<u>589</u>
Analysis of ending balance of finance receivables			
Collectively evaluated for impairment	75,744	34,243	109,987
Specifically evaluated for impairment	370	129	499
Recorded investment	<u>76,114</u>	<u>34,372</u>	<u>110,486</u>
Ending balance, net of allowance for credit losses	<u>\$ 75,548</u>	<u>\$ 34,349</u>	<u>\$ 109,897</u>

(a) Non-consumer charge-offs primarily reflect a U.S. dealer's floorplan inventory and dealer loan determined to be uncollectible.

	2019		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	\$ 566	\$ 23	\$ 589
Charge-offs	(527)	(22)	(549)
Recoveries	168	10	178
Provision for credit losses	291	5	296
Other	(2)	1	(1)
Ending balance	<u>\$ 496</u>	<u>\$ 17</u>	<u>\$ 513</u>
Analysis of ending balance of allowance for credit losses			
Collective impairment allowance	\$ 478	\$ 15	\$ 493
Specific impairment allowance	18	2	20
Ending balance	<u>496</u>	<u>17</u>	<u>513</u>
Analysis of ending balance of finance receivables			
Collectively evaluated for impairment	73,560	33,796	107,356
Specifically evaluated for impairment	322	189	511
Recorded investment	<u>73,882</u>	<u>33,985</u>	<u>107,867</u>
Ending balance, net of allowance for credit losses	<u>\$ 73,386</u>	<u>\$ 33,968</u>	<u>\$ 107,354</u>

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 12. INVENTORIES

All inventories are stated at the lower of cost or net realizable value. Cost of our inventories is determined by costing methods that approximate a first-in, first-out ("FIFO") basis. Inventories at December 31 were as follows (in millions):

	2018	2019
Raw materials, work-in-process, and supplies	\$ 4,536	\$ 4,402
Finished products	6,684	6,384
Total inventories	<u>\$ 11,220</u>	<u>\$ 10,786</u>

NOTE 13. NET INVESTMENT IN OPERATING LEASES

Net investment in operating leases consists primarily of lease contracts for vehicles with individuals, daily rental companies, government entities, and fleet customers. Assets subject to operating leases are depreciated using the straight-line method over the term of the lease to reduce the asset to its estimated residual value. Estimated residual values are based on assumptions for used vehicle prices at lease termination and the number of vehicles that are expected to be returned.

The net investment in operating leases at December 31 was as follows (in millions):

	2018	2019
Automotive Segment		
Vehicles, net of depreciation	\$ 1,705	\$ 1,612
Ford Credit Segment		
Vehicles and other equipment, at cost (a)	33,557	33,386
Accumulated depreciation	<u>(6,143)</u>	<u>(5,768)</u>
Total Ford Credit Segment	<u>27,414</u>	<u>27,618</u>
Total	<u><u>\$ 29,119</u></u>	<u><u>\$ 29,230</u></u>

(a) Includes Ford Credit's operating lease assets of \$16.3 billion and \$14.9 billion at December 31, 2018 and 2019, respectively, that have been included in securitization transactions. These net investments in operating leases are available only for payment of the debt or other obligations issued or arising in the securitization transactions; they are not available to pay other obligations or the claims of other creditors.

Ford Credit Segment

Included in *Ford Credit interest, operating, and other expense* is operating lease depreciation expense, which includes gains and losses on disposal of assets. Operating lease depreciation expense for the years ended December 31 was as follows (in millions):

	2017	2018	2019
Operating lease depreciation expense	\$ 4,254	\$ 3,972	\$ 3,635

Included in *Ford Credit revenues* are rents on operating leases. The amounts contractually due for minimum rentals on operating leases at December 31, 2018 were as follows (in millions):

	2019	2020	2021	2022	Thereafter	Total
Minimum rentals on operating leases	\$ 4,708	\$ 2,929	\$ 1,083	\$ 83	\$ 6	\$ 8,809

The amounts contractually due on operating leases at December 31, 2019 were as follows (in millions):

	2020	2021	2022	2023	Thereafter	Total
Operating lease payments	\$ 4,705	\$ 2,898	\$ 1,011	\$ 78	\$ 5	\$ 8,697

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 14. NET PROPERTY

Net property is reported at cost, net of accumulated depreciation, which includes impairments. We capitalize new assets when we expect to use the asset for more than one year. Routine maintenance and repair costs are expensed when incurred.

Property and equipment are depreciated primarily using the straight-line method over the estimated useful life of the asset. Useful lives range from 3 years to 36 years. The estimated useful lives generally are 14.5 years for machinery and equipment, 8 years for software, 30 years for land improvements, and 36 years for buildings. Tooling generally is amortized over the expected life of a product program using a straight-line method.

Net property at December 31 was as follows (in millions):

	2018	2019
Land	\$ 445	\$ 421
Buildings and land improvements	11,477	11,900
Machinery, equipment, and other	38,720	38,939
Software	3,349	3,691
Construction in progress	<u>2,066</u>	<u>1,710</u>
Total land, plant and equipment, and other	56,057	56,661
Accumulated depreciation	<u>(30,243)</u>	<u>(31,020)</u>
Net land, plant and equipment, and other	25,814	25,641
Tooling, net of amortization	10,364	10,828
Total	\$ 36,178	\$ 36,469

Property-related expenses, excluding net investment in operating leases, for the years ended December 31 were as follows (in millions):

	2017	2018	2019
Depreciation and other amortization	\$ 2,292	\$ 2,504	\$ 3,449
Tooling amortization	<u>2,695</u>	<u>2,909</u>	<u>3,409</u>
Total (a)	\$ 4,987	\$ 5,413	\$ 6,858
 Maintenance and rearrangement	 \$ 1,970	 \$ 1,994	 \$ 1,963

(a) Includes impairment of held-for-sale long-lived assets in 2019. See Note 24 for additional information.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 15. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES

We use the equity method of accounting for our investments in entities over which we do not have control, but over whose operating and financial policies we are able to exercise significant influence.

Our carrying value and ownership percentages of our equity method investments at December 31 were as follows (in millions, except percentages):

	Investment Balance		Ownership Percentage
	2018	2019	
Changan Ford Automobile Corporation, Limited (a)	\$ 950	\$ 672	50%
Jiangling Motors Corporation, Limited	543	544	32
AutoAlliance (Thailand) Co., Ltd.	431	435	50
Ford Otomotiv Sanayi Anonim Sirketi	247	274	41
Getrag Ford Transmissions GmbH	236	209	50
Ford Sollers Netherlands B.V. (See Note 22)	—	93	49
FFS Finance South Africa (Pty) Limited	81	88	50
Ionity Holding GmbH & Co. KG	42	58	25
Other	179	146	Various
Total	\$ 2,709	\$ 2,519	

(a) In 2019, Changan Ford Automobile Corporation, Limited recorded a long-lived asset impairment charge, our share of which was \$99 million and is included in *Equity in net income of affiliated companies*.

We recorded \$1.4 billion, \$330 million, and \$244 million of dividends from these affiliated companies for the years ended December 31, 2017, 2018, and 2019, respectively.

A summary of the total financial results, as reported by our equity method investees, in the aggregate at December 31 was as follows (in millions):

Summarized Balance Sheet	2018	2019
Current assets	\$ 8,277	\$ 8,884
Non-current assets	9,733	10,381
Total assets	\$ 18,010	\$ 19,265
Current liabilities	\$ 9,190	\$ 9,357
Non-current liabilities	3,149	4,333
Total liabilities	\$ 12,339	\$ 13,690
Equity attributable to noncontrolling interests	\$ 11	\$ 12

Summarized Income Statement	For the years ended December 31,		
	2017	2018	2019
Total revenue	\$ 35,172	\$ 27,196	\$ 22,750
Income before income taxes	2,980	484	111
Net income	2,584	463	209

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 15. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES (Continued)

In the ordinary course of business, we buy/sell various products and services including vehicles, parts, and components to/from our equity method investees. In addition, we receive royalty income.

Transactions with equity method investees reported for the years ended or at December 31 were as follows (in millions):

	For the years ended December 31,		
	2017	2018	2019
Income Statement			
Sales	\$ 4,481	\$ 4,426	\$ 3,541
Purchases	9,422	10,477	10,106
Royalty income	583	374	250
Balance Sheet		2018	2019
Receivables		\$ 634	\$ 785
Payables		663	694

NOTE 16. OTHER INVESTMENTS

We have investments in entities for which we do not have the ability to exercise significant influence and fair values are not readily available. We have elected to record these investments at cost (less impairment, if any), adjusted for observable price changes in orderly transactions for the identical or a similar investment of the same issuer. We report the carrying value of these investments in *Other assets* in the non-current assets section of our consolidated balance sheet. These investments were \$250 million and \$1.2 billion at December 31, 2018 and 2019, respectively. The increase from December 31, 2018 primarily reflects our investments in Rivian made during 2019. It also includes adjustments for observable price events on our investments, none of which were material.

NOTE 17. OTHER LIABILITIES AND DEFERRED REVENUE

Other liabilities and deferred revenue at December 31 were as follows (in millions):

	2018	2019
Current		
Dealer and dealers' customer allowances and claims	\$ 11,369	\$ 13,113
Deferred revenue	2,095	2,091
Employee benefit plans	1,755	1,857
Accrued interest	988	1,128
OPEB	339	332
Pension	204	185
Operating lease liabilities	—	367
Other	3,806	3,914
Total current other liabilities and deferred revenue	<u>\$ 20,556</u>	<u>\$ 22,987</u>
Non-current		
Pension	\$ 9,423	\$ 9,878
OPEB	5,220	5,740
Dealer and dealers' customer allowances and claims	2,497	1,921
Deferred revenue	3,985	4,191
Operating lease liabilities	—	1,047
Employee benefit plans	1,080	1,104
Other	1,383	1,443
Total non-current other liabilities and deferred revenue	<u>\$ 23,588</u>	<u>\$ 25,324</u>

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS

Defined benefit pension and OPEB plan obligations are remeasured at least annually as of December 31 based on the present value of projected future benefit payments for all participants for services rendered to date. The measurement of projected future benefits is dependent on the provisions of each specific plan, demographics of the group covered by the plan, and other key measurement assumptions. For plans that provide benefits dependent on salary assumptions, we include a projection of salary growth in our measurements. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

Net periodic benefit costs, including service cost, interest cost, and expected return on assets are determined using assumptions regarding the benefit obligation and the fair value of plan assets (where applicable) as of the beginning of each year. We have elected to use a fair value of plan assets to calculate the expected return on assets in net periodic benefit cost. The funded status of the benefit plans, which represents the difference between the benefit obligation and fair value of plan assets, is calculated on a plan-by-plan basis. The benefit obligation and related funded status are determined using assumptions as of the end of each year. Actuarial gains and losses resulting from plan remeasurement are recognized in net periodic benefit cost in the period of the remeasurement. The impact of a retroactive plan amendment is recorded in *Accumulated other comprehensive income/(loss)*, and is amortized as a component of net periodic cost, generally over the remaining service period of the active employees. The service cost component is included in *Cost of sales and Selling, administrative and other expenses*. Other components of net periodic benefit cost/(income) are included in *Other income/(loss), net* on our consolidated income statement.

A curtailment results from an event that significantly reduces the expected years of future service or eliminates the accrual of defined benefits for the future services of a significant number of employees. A curtailment gain is recorded when the employees who are entitled to a benefit terminate their employment, or when a plan suspension or amendment that results in a curtailment gain is adopted. A curtailment loss is recorded when it becomes probable a curtailment loss will occur. We recognize settlement expense when the costs associated with all settlements during the year exceed the interest component of net periodic cost for the affected plan. Expense from curtailments and settlements is recorded in *Other income/(loss), net*.

Defined Benefit Pension Plans. We have defined benefit pension plans covering hourly and salaried employees in the United States, Canada, United Kingdom, Germany, and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. Virtually all of our worldwide defined benefit plans are closed to new participants.

In general, our defined benefit pension plans are funded (i.e., have restricted assets from which benefits are paid). Our unfunded defined benefit pension plans are treated on a "pay as you go" basis with benefit payments from general Company cash. These unfunded plans primarily include certain plans in Germany and the U.S. defined benefit plans for senior management.

OPEB. We have defined benefit OPEB plans, primarily certain health care and life insurance benefits, covering hourly and salaried employees in the United States, Canada, and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. Our OPEB plans are unfunded and the benefits are paid from general Company cash.

Defined Contribution and Savings Plans. We also have defined contribution and savings plans for hourly and salaried employees in the United States and other locations. Company contributions to these plans, if any, are made from general Company cash and are expensed as incurred. The expense for our worldwide defined contribution and savings plans was \$377 million, \$393 million, and \$444 million for the years ended December 31, 2017, 2018, and 2019, respectively. This includes the expense for Company-matching contributions to our primary employee savings plan in the United States of \$142 million, \$143 million, and \$143 million for the years ended December 31, 2017, 2018, and 2019, respectively. The 2019 expense also reflects a one-time contribution of \$33 million to certain eligible employees as part of the UAW collective bargaining agreement.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

Defined Benefit Plans – Expense and Status

The assumptions used to determine benefit obligation and net periodic benefit cost/(income) were as follows:

	Pension Benefits					
	U.S. Plans		Non-U.S. Plans		Worldwide OPEB	
	2018	2019	2018	2019	2018	2019
Weighted Average Assumptions at December 31						
Discount rate	4.29%	3.32%	2.48%	1.74%	4.17%	3.30%
Average rate of increase in compensation	3.50	3.50	3.37	3.37	3.44	3.44
Weighted Average Assumptions Used to Determine Net Benefit Cost for the Year Ended December 31						
Discount rate - Service cost	3.67%	4.17%	2.39%	2.52%	3.70%	4.34%
Effective interest rate on benefit obligation	3.22	3.75	2.02	2.21	3.27	3.87
Expected long-term rate of return on assets	6.75	6.75	4.51	4.18	—	—
Average rate of increase in compensation	3.50	3.50	3.37	3.37	3.44	3.44

The pre-tax net periodic benefit cost/(income) for our defined benefit pension and OPEB plans for the years ended December 31 was as follows (in millions):

	Pension Benefits								
	U.S. Plans			Non-U.S. Plans			Worldwide OPEB		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Service cost	\$ 534	\$ 544	\$ 474	\$ 566	\$ 588	\$ 506	\$ 49	\$ 54	\$ 43
Interest cost	1,525	1,466	1,570	671	684	691	197	195	211
Expected return on assets	(2,734)	(2,887)	(2,657)	(1,375)	(1,295)	(1,124)	—	—	—
Amortization of prior service costs/(credits)	143	143	87	37	25	33	(120)	(109)	(70)
Net remeasurement (gain)/loss	(538)	1,294	(135)	407	(76)	2,084	293	(366)	551
Separation programs/other	74	53	22	18	103	398	2	1	—
Settlements and curtailments	(354)	(15)	(67)	(3)	(2)	8	—	—	—
Net periodic benefit cost/(income)	<u>\$ (1,350)</u>	<u>\$ 598</u>	<u>\$ (706)</u>	<u>\$ 321</u>	<u>\$ 27</u>	<u>\$ 2,596</u>	<u>\$ 421</u>	<u>\$ (225)</u>	<u>\$ 735</u>

As part of our ongoing global redesign activities, we recognized separation pension expense of \$415 million and settlement and curtailment gains of \$104 million related to separation programs in 2019. Until our global redesign actions are completed, we anticipate further adjustments to our plans in subsequent periods.

In the fourth quarter of 2019, we transferred our Netherlands pension obligation and related plan assets to an insurance company, resulting in a settlement loss of \$57 million, offset partially by a curtailment gain of \$12 million.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

The year-end status of these plans was as follows (in millions):

	Pension Benefits						Worldwide OPEB	
	U.S. Plans		Non-U.S. Plans					
	2018	2019	2018	2019	2018	2019		
Change in Benefit Obligation								
Benefit obligation at January 1	\$ 46,340	\$ 42,269	\$ 34,098	\$ 31,079	\$ 6,169	\$ 5,559		
Service cost	544	474	588	506	54	43		
Interest cost	1,466	1,570	684	691	195	211		
Amendments	—	—	135	10	—	—		
Separation programs/other	9	(24)	97	391	1	3		
Curtailments	(15)	—	(2)	(43)	—	—		
Settlements	—	(966)	(16)	(272)	—	—		
Plan participant contributions	25	23	19	17	17	3		
Benefits paid	(2,880)	(2,615)	(1,316)	(1,395)	(372)	(367)		
Foreign exchange translation	—	—	(1,858)	501	(139)	69		
Actuarial (gain)/loss	(3,220)	4,941	(1,350)	3,888	(366)	551		
Benefit obligation at December 31	42,269	45,672	31,079	35,373	5,559	6,072		
Change in Plan Assets								
Fair value of plan assets at January 1	44,160	39,774	29,657	27,273	—	—		
Actual return on plan assets	(1,627)	7,800	21	2,935	—	—		
Company contributions	140	284	629	789	—	—		
Plan participant contributions	25	23	19	17	—	—		
Benefits paid	(2,880)	(2,615)	(1,316)	(1,395)	—	—		
Settlements	—	(966)	(16)	(330)	—	—		
Foreign exchange translation	—	—	(1,708)	678	—	—		
Other	(44)	(47)	(13)	(9)	—	—		
Fair value of plan assets at December 31	39,774	44,253	27,273	29,958	—	—		
Funded status at December 31	\$ (2,495)	\$ (1,419)	\$ (3,806)	\$ (5,415)	\$ (5,559)	\$ (6,072)		
Amounts Recognized on the Balance Sheet								
Prepaid assets	\$ 165	\$ 911	\$ 3,161	\$ 2,318	\$ —	\$ —		
Other liabilities	(2,660)	(2,330)	(6,967)	(7,733)	(5,559)	(6,072)		
Total	\$ (2,495)	\$ (1,419)	\$ (3,806)	\$ (5,415)	\$ (5,559)	\$ (6,072)		
Amounts Recognized in Accumulated Other Comprehensive Loss (pre-tax)								
Unamortized prior service costs/(credits)	\$ 95	\$ 8	\$ 285	\$ 274	\$ 97	\$ 29		
Pension Plans in which Accumulated Benefit Obligation Exceeds Plan Assets at December 31								
Accumulated benefit obligation	\$ 1,965	\$ 2,141	\$ 10,904	\$ 12,421				
Fair value of plan assets	137	156	5,232	5,948				
Accumulated Benefit Obligation at December 31	\$ 41,312	\$ 44,578	\$ 27,787	\$ 32,106				
Pension Plans in which Projected Benefit Obligation Exceeds Plan Assets at December 31								
Projected benefit obligation	\$ 20,529	\$ 22,085	\$ 12,321	\$ 13,864				
Fair value of plan assets	17,872	19,755	5,357	6,131				
Projected Benefit Obligation at December 31	\$ 42,269	\$ 45,672	\$ 31,079	\$ 35,373				

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

The actuarial (gain)/loss for our pension benefit obligations in 2018 and 2019 was primarily related to changes in discount rates.

Pension Plan Contributions

Our policy for funded pension plans is to contribute annually, at a minimum, amounts required by applicable laws and regulations. We may make contributions beyond those legally required.

In 2019, we contributed \$730 million (including \$140 million in discretionary contributions in the United States) to our global funded pension plans and made \$342 million of benefit payments to participants in unfunded plans. During 2020, we expect to contribute between \$600 million and \$800 million of cash to our global funded pension plans. We also expect to make about \$300 million of benefit payments to participants in unfunded plans. Based on current assumptions and regulations, we do not expect to have a legal requirement to contribute to our major U.S. pension plans in 2020.

Expected Future Benefit Payments

The expected future benefit payments at December 31, 2019 were as follows (in millions):

	Benefit Payments			\$	
	Pension		\$		
	U.S. Plans	Non-U.S. Plans			
2020	\$ 2,820	\$ 1,440	\$ 340		
2021	2,790	1,240	330		
2022	2,770	1,250	330		
2023	2,780	1,260	330		
2024	2,810	1,280	330		
2025-2029	13,970	6,670	1,630		

Pension Plan Asset Information

Investment Objective and Strategies. Our investment objectives for the U.S. plans are to minimize the volatility of the value of our U.S. pension assets relative to U.S. pension obligations and to ensure assets are sufficient to pay plan benefits. Our U.S. target asset allocations are 80% fixed income and 20% growth assets (primarily hedge funds, real estate, private equity, and public equity). Our largest non-U.S. plans (United Kingdom and Canada) have similar investment objectives to the U.S. plans.

Investment strategies and policies for the U.S. plans and the largest non-U.S. plans reflect a balance of risk-reducing and return-seeking considerations. The objective of minimizing the volatility of assets relative to obligations is addressed primarily through asset-liability matching, asset diversification, and hedging. The fixed income target asset allocation matches the bond-like and long-dated nature of the pension obligations. Assets are broadly diversified within asset classes to achieve risk-adjusted returns that in total lower asset volatility relative to the obligations. Strategies to address the goal of ensuring sufficient assets to pay benefits include target allocations to a broad array of asset classes, and strategies within asset classes that provide adequate returns, diversification, and liquidity.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (*Continued*)

Derivatives are permitted for fixed income investment and public equity managers to use as efficient substitutes for traditional securities and to manage exposure to interest rate and foreign exchange risks. Interest rate and foreign currency derivative instruments are used for the purpose of hedging changes in the fair value of assets that result from interest rate changes and currency fluctuations. Interest rate derivatives also are used to adjust portfolio duration. Derivatives may not be used to leverage or to alter the economic exposure to an asset class outside the scope of the mandate an investment manager has been given. Alternative investment managers are permitted to employ leverage (including through the use of derivatives or other tools) that may alter economic exposure.

Alternative investments execute diverse strategies that provide exposure to a broad range of hedge fund strategies, equity investments in private companies, and investments in private property funds.

Significant Concentrations of Risk. Significant concentrations of risk in our plan assets relate to interest rates, growth assets, and operating risks. In order to minimize asset volatility relative to the obligations, the majority of plan assets are allocated to fixed income investments which are exposed to interest rate risk. Rate increases generally will result in a decline in the value of fixed income assets, while reducing the present value of the obligations. Conversely, rate decreases generally will increase the value of fixed income assets, offsetting the related increase in the obligations.

In order to ensure assets are sufficient to pay benefits, a portion of plan assets is allocated to growth assets that are expected over time to earn higher returns with more volatility than fixed income investments which more closely match pension obligations. Within growth assets, risk is mitigated by constructing a portfolio that is broadly diversified by asset class, investment strategy, manager, style, and process.

Operating risks include the risks of inadequate diversification and weak controls. To mitigate these risks, investments are diversified across and within asset classes in support of investment objectives. Policies and practices to address operating risks include ongoing manager oversight (e.g., style adherence, team strength, firm health, and internal risk controls), plan and asset class investment guidelines and instructions that are communicated to managers, and periodic compliance reviews to ensure adherence.

At year-end 2019, Ford securities comprised less than 1% of our plan assets.

Expected Long-Term Rate of Return on Assets. The long-term return assumption at year-end 2019 is 6.50% for the U.S. plans, 3.50% for the U.K. plans, and 4.75% for the Canadian plans, and averages 3.67% for all non-U.S. plans. A generally consistent approach is used worldwide to develop this assumption. This approach considers primarily inputs from a range of advisors for long-term capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered where appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of \$340 million and \$115 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

	2018									
	U.S. Plans					Non-U.S. Plans				
	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Asset Category										
Equity										
U.S. companies	\$ 1,246	\$ 17	\$ —	\$ —	\$ 1,263	\$ 1,146	\$ 103	\$ —	\$ —	\$ 1,249
International companies	787	10	1	—	798	894	134	1	—	1,029
Total equity	2,033	27	1	—	2,061	2,040	237	1	—	2,278
Fixed Income										
U.S. government and agencies	7,915	2,317	—	—	10,232	415	148	—	—	563
Non-U.S. government	—	1,073	—	—	1,073	—	14,871	—	—	14,871
Corporate bonds	—	19,905	—	—	19,905	—	2,875	—	—	2,875
Mortgage/other asset-backed	—	474	—	—	474	—	286	—	—	286
Commingled funds	—	94	—	—	94	—	268	—	—	268
Derivative financial instruments, net	9	43	—	—	52	13	(46)	—	—	(33)
Total fixed income	7,924	23,906	—	—	31,830	428	18,402	—	—	18,830
Alternatives										
Hedge funds	—	—	—	3,217	3,217	—	—	—	1,143	1,143
Private equity	—	—	—	2,046	2,046	—	—	—	687	687
Real estate	—	—	—	1,242	1,242	—	—	—	413	413
Total alternatives	—	—	—	6,505	6,505	—	—	—	2,243	2,243
Cash, cash equivalents, and repurchase agreements (b)	354	—	—	—	354	(641)	—	—	—	(641)
Other (c)	(976)	—	—	—	(976)	(685)	—	5,248	—	4,563
Total assets at fair value	\$ 9,335	\$ 23,933	\$ 1	\$ 6,505	\$ 39,774	\$ 1,142	\$ 18,639	\$ 5,249	\$ 2,243	\$ 27,273

- (a) Certain assets 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.
- (b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at \$(1.7) billion in U.S. plans and \$(1.4) billion in non-U.S. plans.
- (c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S. plans, primarily Ford-Werke, plan assets (insurance contract valued at \$4.3 billion at year-end 2018) and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of \$322 million and \$102 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

Asset Category	2019									
	U.S. Plans					Non-U.S. Plans				
	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Equity										
U.S. companies	\$ 1,542	\$ 20	\$ —	\$ —	\$ 1,562	\$ 1,059	\$ 43	\$ —	\$ —	\$ 1,102
International companies	971	9	1	—	981	850	58	3	—	911
Total equity	2,513	29	1	—	2,543	1,909	101	3	—	2,013
Fixed Income										
U.S. government and agencies	8,965	2,823	—	—	11,788	380	94	—	—	474
Non-U.S. government	—	1,321	16	—	1,337	—	18,256	—	—	18,256
Corporate bonds	—	23,717	—	—	23,717	—	3,089	35	—	3,124
Mortgage/other asset-backed	—	527	—	—	527	—	565	69	—	634
Commingled funds	—	191	—	—	191	—	174	1	—	175
Derivative financial instruments, net	(9)	(147)	—	—	(156)	15	103	(56)	—	62
Total fixed income	8,956	28,432	16	—	37,404	395	22,281	49	—	22,725
Alternatives										
Hedge funds	—	—	—	2,961	2,961	—	—	—	1,207	1,207
Private equity	—	—	—	1,884	1,884	—	—	—	695	695
Real estate	—	—	—	1,193	1,193	—	—	—	325	325
Total alternatives	—	—	—	6,038	6,038	—	—	—	2,227	2,227
Cash, cash equivalents, and repurchase agreements (b)	(195)	—	—	—	(195)	(1,765)	—	—	—	(1,765)
Other (c)	(1,537)	—	—	—	(1,537)	(762)	—	5,520	—	4,758
Total assets at fair value	\$ 9,737	\$ 28,461	\$ 17	\$ 6,038	\$ 44,253	\$ (223)	\$ 22,382	\$ 5,572	\$ 2,227	\$ 29,958

- (a) Certain assets 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.
- (b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at \$(1.9) billion in U.S. plans and \$(2.5) billion in non-U.S. plans.
- (c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S. plans, primarily Ford-Werke, plan assets (insurance contract valued at \$4.5 billion at year-end 2019) and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. RETIREMENT BENEFITS (Continued)

The following table summarizes the changes in Level 3 defined benefit pension plan assets measured at fair value on a recurring basis for the years ended December 31 (in millions):

	2018						
	Return on plan assets						
	Fair Value at January 1	Attributable to Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31	
U.S. Plans	\$ 5	\$ —	\$ (5)	\$ 4	\$ (3)	\$ 1	
Non-U.S. Plans (a)	5,633	(384)	1	(1)	—	5,249	

	2019						
	Return on plan assets						
	Fair Value at January 1	Attributable to Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31	
U.S. Plans	\$ 1	\$ 1	\$ —	\$ 15	\$ —	\$ 17	
Non-U.S. Plans (a)	5,249	215	(5)	113	—	5,572	

(a) Primarily Ford-Werke plan assets (insurance contract valued at \$4.3 billion and \$4.5 billion at year-end 2018 and 2019, respectively).

NOTE 19. LEASE COMMITMENTS

We lease land, dealership facilities, offices, distribution centers, warehouses, and equipment under agreements with contractual periods ranging from less than one year to 40 years. Many of our leases contain one or more options to extend. In certain dealership lease agreements, we are the tenant and we sublease the site to a dealer. In the event the sublease is terminated, we have the option to terminate the head lease. We include options that we are reasonably certain to exercise in our evaluation of the lease term after considering all relevant economic and financial factors.

Leases that are economically similar to the purchase of an asset are classified as finance leases. The leased ("right-of-use") assets in finance lease arrangements are reported in *Net property* on our consolidated balance sheet. Otherwise, the leases are classified as operating leases and reported in *Other assets* in the non-current assets section of our consolidated balance sheet.

For the majority of our leases commencing on or after January 1, 2019, we do not separate the non-lease components (e.g., maintenance and operating services) from the lease components to which they relate. Instead, non-lease components are included in the measurement of the lease liabilities. However, we do separate lease and non-lease components for contracts containing a significant service component (e.g., energy performance contracts). We calculate the initial lease liability as the present value of fixed payments not yet paid and variable payments that are based on a market rate or an index (e.g., CPI), measured at commencement. The majority of our leases are discounted using our incremental borrowing rate because the rate implicit in the lease is not readily determinable. All other variable payments are expensed as incurred.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. LEASE COMMITMENTS (*Continued*)

Lease right-of-use assets and liabilities at December 31 were as follows (in millions):

	2019
Operating leases	
Other assets, non-current	\$ 1,415
Other liabilities and deferred revenue, current	\$ 367
Other liabilities and deferred revenue, non-current	<u>1,047</u>
Total operating lease liabilities	<u><u>\$ 1,414</u></u>
Finance leases	
Property and equipment, gross	\$ 252
Accumulated depreciation	<u>(43)</u>
Property and equipment, net	<u><u>\$ 209</u></u>
Automotive debt payable within one year	\$ 92
Automotive long-term debt	<u>85</u>
Total finance lease liabilities	<u><u>\$ 177</u></u>

Minimum non-cancellable operating lease commitments at December 31, 2018 were as follows (in millions):

	Operating Leases
2019	\$ 363
2020	271
2021	193
2022	141
2023	106
Thereafter	<u>437</u>
Total	<u><u>\$ 1,511</u></u>

The amounts contractually due on our lease liabilities as of December 31, 2019 were as follows (in millions):

	Operating Leases	Finance Leases (a)
2020	\$ 406	\$ 96
2021	306	35
2022	219	21
2023	156	16
2024	114	10
Thereafter	<u>387</u>	<u>10</u>
Total	<u>1,588</u>	<u>188</u>
Less: Present value discount	<u>174</u>	<u>11</u>
Total lease liabilities	<u><u>\$ 1,414</u></u>	<u><u>\$ 177</u></u>

(a) Excludes approximately \$400 million in future lease payments for a 20-year finance lease commencing in a future period.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. LEASE COMMITMENTS (Continued)

Supplemental cash flow information related to leases for the year ended December 31 was as follows (in millions):

	2019
Cash paid for amounts included in the measurement of lease liabilities	
Operating cash flows from operating leases	\$ 460
Operating cash flows from finance leases	6
Financing cash flows from finance leases	35
Right-of-use assets obtained in exchange for lease liabilities	
Operating leases	\$ 527
Finance leases	43

The components of lease expense for the year ended December 31 were as follows (in millions):

	2019
Operating lease expense	\$ 467
Variable lease expense	53
Sublease income	(16)
Finance lease expense	
Amortization of right-of-use assets	15
Interest on lease liabilities	6
Total lease expense	\$ 525

The weighted average remaining lease term and weighted average discount rate at December 31 were as follows:

	2019
Weighted average remaining lease term (years)	
Operating leases	6.3
Finance leases	3.0
Weighted average discount rate	
Operating leases	3.4%
Finance leases	3.3%

NOTE 20. DEBT AND COMMITMENTS

Our debt consists of short-term and long-term secured and unsecured debt securities, and secured and unsecured borrowings from banks and other lenders. Debt issuances are placed directly by us or through securities dealers or underwriters and are held by institutional and retail investors. In addition, Ford Credit sponsors securitization programs that provide short-term and long-term asset-backed financing through institutional investors in the U.S. and international capital markets.

Debt is reported on our consolidated balance sheet at par value adjusted for unamortized discount or premium, unamortized issuance costs, and adjustments related to designated fair value hedging (see Note 21). Discounts, premiums, and costs directly related to the issuance of debt are capitalized and amortized over the life of the debt or to the put date and are recorded in interest expense using the effective interest method. Gains and losses on the extinguishment of debt are recorded in *Other income/(loss), net*.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DEBT AND COMMITMENTS (*Continued*)

The carrying value of Automotive, Ford Credit, and Other debt at December 31 was as follows (in millions):

			Interest Rates			
			Average Contractual		Average Effective (a)	
	2018	2019	2018	2019	2018	2019
Automotive						
Debt payable within one year						
Short-term	\$ 614	\$ 315	2.9%	1.5%	2.9%	1.5%
Long-term payable within one year						
U.S. Department of Energy Advanced Technology Vehicles Manufacturing ("DOE ATVM") Incentive Program	591	591				
Other debt	1,125	540				
Unamortized (discount)/premium	(16)	(1)				
Total debt payable within one year	2,314	1,445				
Long-term debt payable after one year						
Public unsecured debt securities	9,033	10,583				
DOE ATVM Incentive Program	1,470	880				
Delayed draw term loan	—	1,500				
Other debt	1,026	547				
Unamortized (discount)/premium	(224)	(161)				
Unamortized issuance costs	(72)	(116)				
Total long-term debt payable after one year	11,233	13,233	5.2% (b)	5.2% (b)	5.7% (b)	5.3% (b)
Total Automotive	<u>\$ 13,547</u>	<u>\$ 14,678</u>				
Fair value of Automotive debt (c)	\$ 13,319	\$ 15,606				
Ford Credit						
Debt payable within one year						
Short-term	\$ 14,705	\$ 13,717	3.5%	2.8%	3.5%	2.8%
Long-term payable within one year						
Unsecured debt	14,373	15,062				
Asset-backed debt	22,130	23,609				
Unamortized (discount)/premium	2	1				
Unamortized issuance costs	(16)	(17)				
Fair value adjustments (d)	(15)	(1)				
Total debt payable within one year	51,179	52,371				
Long-term debt payable after one year						
Unsecured debt	52,409	55,148				
Asset-backed debt	36,844	32,162				
Unamortized (discount)/premium	—	6				
Unamortized issuance costs	(195)	(197)				
Fair value adjustments (d)	(171)	539				
Total long-term debt payable after one year	88,887	87,658	2.8% (b)	3.0% (b)	2.8% (b)	3.0% (b)
Total Ford Credit	<u>\$ 140,066</u>	<u>\$ 140,029</u>				
Fair value of Ford Credit debt (c)	\$ 138,809	\$ 141,678				
Other						
Long-term debt payable within one year	\$ —	\$ 130				
Long-term debt payable after one year						
Unsecured debt	604	474				
Unamortized (discount)/premium	(3)	(3)				
Unamortized issuance costs	(1)	(1)				
Total long-term debt payable after one year	600	470	9.3% (b)	9.3% (b)	9.2% (b)	9.2% (b)

Total Other	\$ 600	\$ 600
Fair value of Other debt	\$ 697	\$ 720

- (a) Average effective rates reflect the average contractual interest rate plus amortization of discounts, premiums, and issuance costs.
- (b) Includes interest on long-term debt payable within one year and after one year.
- (c) At December 31, 2018 and 2019, the fair value of debt includes \$458 million and \$315 million of Automotive short-term debt and \$13.8 billion and \$12.8 billion of Ford Credit short-term debt, respectively, carried at cost which approximates fair value. All debt is categorized within Level 2 of the fair value hierarchy.
- (d) These adjustments relate to designated fair value hedges. The carrying value of hedged debt was \$38 billion and \$39.4 billion at December 31, 2018 and 2019, respectively.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DEBT AND COMMITMENTS (*Continued*)

Cash paid for interest was \$1.1 billion, \$1.2 billion, and \$1 billion in 2017, 2018, and 2019, respectively, on Automotive and Other debt. Cash paid for interest was \$2.9 billion, \$3.5 billion, and \$4.1 billion in 2017, 2018, and 2019, respectively, on Ford Credit debt.

Maturities

Debt maturities at December 31, 2019 were as follows (in millions):

	2020	2021	2022	2023	2024	Thereafter	Adjustments	Total Debt Maturities
Automotive								
Public unsecured debt securities	\$ —	\$ —	\$ 86	\$ —	\$ —	\$ 10,497	\$ (234)	\$ 10,349
DOE ATVM Incentive Program	591	591	289	—	—	—	—	1,471
Delayed draw term loan	—	—	1,500	—	—	—	—	1,500
Short-term and other debt	855	128	100	151	30	138	(44)	1,358
Total	\$ 1,446	\$ 719	\$ 1,975	\$ 151	\$ 30	\$ 10,635	\$ (278)	\$ 14,678
Ford Credit								
Unsecured debt	\$ 27,898	\$ 16,893	\$ 12,827	\$ 7,054	\$ 8,101	\$ 10,273	\$ 395	\$ 83,441
Asset-backed debt	24,490	14,371	8,925	3,476	2,505	2,885	(64)	56,588
Total	\$ 52,388	\$ 31,264	\$ 21,752	\$ 10,530	\$ 10,606	\$ 13,158	\$ 331	\$ 140,029
Other								
Unsecured debt	\$ 130	\$ 180	\$ —	\$ —	\$ —	\$ 294	\$ (4)	\$ 600

Automotive Segment

Public Unsecured Debt Securities

Our public unsecured debt securities outstanding at December 31 were as follows (in millions):

Title of Security	Aggregate Principal Amount Outstanding	
	2018	2019
8 7/8% Debentures due January 15, 2022	\$ 86	\$ 86
7 1/8% Debentures due November 15, 2025	209	209
7 1/2% Debentures due August 1, 2026	193	193
6 5/8% Debentures due February 15, 2028	104	104
6 5/8% Debentures due October 1, 2028 (a)	638	638
6 3/8% Debentures due February 1, 2029 (a)	260	260
7.45% GLOBLS due July 16, 2031 (a)	1,794	1,794
8.900% Debentures due January 15, 2032	151	151
9.95% Debentures due February 15, 2032	4	4
7.75% Debentures due June 15, 2043	73	73
7.40% Debentures due November 1, 2046	398	398
9.980% Debentures due February 15, 2047	181	181
7.70% Debentures due May 15, 2097	142	142
4.346% Notes due December 8, 2026	1,500	1,500
4.75% Notes due January 15, 2043	2,000	2,000
5.291% Notes due December 8, 2046	1,300	1,300
6.20% Notes due June 1, 2059	—	750
6.00% Notes due December 1, 2059	—	800
Total public unsecured debt securities (b)	<u>\$ 9,033</u>	<u>\$ 10,583</u>

- (a) Listed on the Luxembourg Exchange and on the Singapore Exchange.
- (b) Excludes 9.215% *Debentures due September 15, 2021* with an outstanding balance at December 31, 2019 of \$180 million. The proceeds from these securities were on-lent by Ford to Ford Holdings and are reported as *Other long-term debt*.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DEBT AND COMMITMENTS (*Continued*)

DOE ATVM Incentive Program

In September 2009, we entered into a Loan Arrangement and Reimbursement Agreement with the DOE, under which we borrowed through multiple draws \$5.9 billion to finance certain costs for fuel-efficient, advanced-technology vehicles. At December 31, 2019, an aggregate \$1.5 billion was outstanding. The principal amount of the ATVM loan bears interest at a blended rate based on the U.S. Treasury yield curve at the time each draw was made (with the weighted-average interest rate on all such draws being about 2.3% per annum). The ATVM loan is repayable in equal quarterly installments of \$148 million, which began in September 2012 and will end in June 2022.

Automotive Credit Facilities

Total Company committed credit lines, excluding Ford Credit, at December 31, 2019 were \$14.9 billion, consisting of \$10.4 billion of our corporate credit facility, \$3.5 billion of our supplemental credit facility, and \$1 billion of local credit facilities. At December 31, 2019, the utilized portion of the corporate credit facility was \$27 million, representing amounts utilized for letters of credit. At December 31, 2019, the utilized portion of the local credit facilities was \$200 million. The utilized portion of our supplemental credit facility is described below.

Lenders under our corporate credit facility have commitments to us totaling \$13.4 billion, with 25% of the commitments maturing on April 30, 2022 and 75% of the commitments maturing on April 30, 2024. We have allocated \$3 billion of commitments to Ford Credit on an irrevocable and exclusive basis to support its liquidity. We would guarantee any borrowings by Ford Credit under the corporate credit facility.

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of \$4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the facility. If our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P, the guarantees of certain subsidiaries will be required.

In 2019, we entered into a \$3.5 billion supplemental credit facility. The terms and conditions of the supplemental credit facility are consistent with our corporate credit facility; however, unlike our corporate credit facility, the supplemental credit facility is intended to be utilized and includes a \$2 billion revolving facility maturing on April 30, 2022 and a \$1.5 billion delayed draw term loan facility maturing on December 31, 2022. We drew all \$1.5 billion under the term loan facility in 2019.

Ford Credit Segment

Asset-Backed Debt

At December 31, 2019, the carrying value of our asset-backed debt was \$56.6 billion. This secured debt is issued by Ford Credit and includes asset-backed securities used to fund operations and maintain liquidity. Assets securing the related debt issued as part of all our securitization transactions are included in our consolidated results and are based upon the legal transfer of the underlying assets in order to reflect legal ownership and the beneficial ownership of the debt holder. The third-party investors in the securitization transactions have legal recourse only to the assets securing the debt and do not have such recourse to us, except for the customary representation and warranty provisions or when we are counterparty to certain derivative transactions of the special purpose entities ("SPEs"). In addition, the cash flows generated by the assets are restricted only to pay such liabilities; Ford Credit retains the right to residual cash flows. See Note 26 for additional information.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DEBT AND COMMITMENTS (*Continued*)

Although not contractually required, we regularly support our wholesale securitization programs by repurchasing receivables of a dealer from a SPE when the dealer's performance is at risk, which transfers the corresponding risk of loss from the SPE to us. In order to continue to fund the wholesale receivables, we also may contribute additional cash or wholesale receivables if the collateral falls below required levels. There were no balances of cash related to these contributions at December 31, 2018 and 2019. Contributions ranged from \$0 to \$179 million during 2018 and there were none in 2019.

SPEs that are exposed to interest rate or currency risk may reduce their risks by entering into derivative transactions. In certain instances, we have entered into derivative transactions with the counterparty to protect the counterparty from risks absorbed through derivative transactions with the SPEs. Derivative income/(expense) related to the derivative transactions that support Ford Credit's securitization programs were \$60 million, \$(17) million, and \$75 million for the years ended December 31, 2017, 2018, and 2019, respectively. See Note 21 for additional information regarding the accounting for derivatives.

Interest expense on securitization debt was \$955 million, \$1.4 billion, and \$1.6 billion in 2017, 2018, and 2019, respectively.

The assets and liabilities related to our asset-backed debt arrangements included in our consolidated financial statements at December 31 were as follows (in billions):

	2018	2019
Assets		
Cash and cash equivalents	\$ 3.0	\$ 3.5
Finance receivables, net	66.2	64.9
Net investment in operating leases	16.3	14.9
Liabilities		
Debt (a)	\$ 59.8	\$ 56.6

(a) Debt is net of unamortized discount and issuance costs.

Committed Credit Facilities

At December 31, 2019, Ford Credit's committed capacity totaled \$42.6 billion, compared with \$41.4 billion at December 31, 2018. Ford Credit's committed capacity is primarily comprised of unsecured credit facilities with financial institutions, committed asset-backed security lines from bank-sponsored commercial paper conduits and other financial institutions, and allocated commitments under the corporate credit facility.

NOTE 21. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES

In the normal course of business, our operations are exposed to global market risks, including the effect of changes in foreign currency exchange rates, certain commodity prices, and interest rates. To manage these risks, we enter into highly effective derivative contracts:

- Foreign currency exchange contracts, including forwards, that are used to manage foreign exchange exposure;
- Commodity contracts, including forwards, that are used to manage commodity price risk;
- Interest rate contracts, including swaps, that are used to manage the effects of interest rate fluctuations; and
- Cross-currency interest rate swap contracts that are used to manage foreign currency and interest rate exposures on foreign-denominated debt.

Our derivatives are over-the-counter customized derivative transactions and are not exchange-traded. We review our hedging program, derivative positions, and overall risk management strategy on a regular basis.

Derivative Financial Instruments and Hedge Accounting. Derivatives are reported on our consolidated balance sheet at fair value and presented on a gross basis. Derivative assets are reported in *Other assets* and derivative liabilities are reported in *Payables* and *Other liabilities and deferred revenue*.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 21. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES (*Continued*)

We have elected to apply hedge accounting to certain derivatives. Derivatives that are designated in hedging relationships are evaluated for effectiveness using regression analysis at the time they are designated and throughout the hedge period. Some derivatives do not qualify for hedge accounting; for others, we elect not to apply hedge accounting.

Cash Flow Hedges. Our Automotive segment has designated certain forward contracts as cash flow hedges of forecasted transactions with exposure to foreign currency exchange and commodity price risks.

Changes in the fair value of cash flow hedges are deferred in *Accumulated other comprehensive income/(loss)* and are recognized in *Cost of sales* when the hedged item affects earnings. Our policy is to de-designate foreign currency exchange cash flow hedges prior to the time forecasted transactions are recognized as assets or liabilities on the balance sheet and report subsequent changes in fair value through *Cost of sales*. If it becomes probable that the originally forecasted transaction will not occur, the related amount included in *Accumulated other comprehensive income/(loss)* is reclassified and recognized in earnings. The cash flows associated with hedges designated until maturity are reported in *Net cash provided by/(used in) operating activities* on our consolidated statement of cash flows. Our cash flow hedges mature within three years.

Fair Value Hedges. Our Ford Credit segment uses derivatives to reduce the risk of changes in the fair value of debt. We have designated certain receive-fixed, pay-float interest rate swaps as fair value hedges of fixed-rate debt. The risk being hedged is the risk of changes in the fair value of the hedged debt attributable to changes in the benchmark interest rate. If the hedge relationship is deemed to be highly effective, we report the changes in the fair value of the hedged debt related to the risk being hedged in *Ford Credit debt* and *Ford Credit interest, operating, and other expenses*. Net interest settlements and accruals, and the fair value changes on hedging instruments are reported in *Ford Credit interest, operating, and other expenses*. The cash flows associated with fair value hedges are reported in *Net cash provided by/(used in) operating activities* on our consolidated statement of cash flows.

When a fair value hedge is de-designated, or when the derivative is terminated before maturity, the fair value adjustment to the hedged debt continues to be reported as part of the carrying value of the debt and is recognized in *Ford Credit interest, operating, and other expenses* over its remaining life.

Derivatives Not Designated as Hedging Instruments. Automotive reports changes in the fair value of derivatives not designated as hedging instruments through *Cost of sales*. Cash flows associated with non-designated or de-designated derivatives are reported in *Net cash provided by/(used in) investing activities* on our consolidated statement of cash flows.

Our Ford Credit segment reports the gains/(losses) on derivatives not designated as hedging instruments in *Other income/(loss), net*. Cash flows associated with non-designated or de-designated derivatives are reported in *Net cash provided by/(used in) investing activities* on our consolidated statement of cash flows.

Normal Purchases and Normal Sales Classification. We have elected to apply the normal purchases and normal sales classification for physical supply contracts that are entered into for the purpose of procuring commodities to be used in production over a reasonable period in the normal course of our business.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 21. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES (*Continued*)

Income Effect of Derivative Financial Instruments

The gains/(losses), by hedge designation, reported in income for the years ended December 31 were as follows (in millions):

	2017	2018	2019
Cash flow hedges (a)			
Reclassified from AOCI to Cost of sales			
Foreign currency exchange contracts	\$ 456	\$ 50	\$ 29
Commodity contracts	—	—	(32)
Fair value hedges			
Interest rate contracts			
Net interest settlements and accruals on hedging instruments	217	10	(16)
Fair value changes on hedging instruments (b)	(268)	(155)	706
Fair value changes on hedged debt (b)	267	153	(694)
Derivatives not designated as hedging instruments			
Foreign currency exchange contracts (c)	(662)	398	84
Cross-currency interest rate swap contracts	103	(244)	(229)
Interest rate contracts	58	(84)	(13)
Commodity contracts	74	(96)	—
Total	<u>\$ 245</u>	<u>\$ 32</u>	<u>\$ (165)</u>

- (a) For 2017, 2018, and 2019, a \$134 million gain, a \$288 million gain, and a \$839 million loss, respectively, were reported in *Other comprehensive income/(loss), net of tax* related to foreign currency contracts. For 2019, a \$36 million loss was reported in *Other comprehensive income/(loss), net of tax* related to commodity contracts.
- (b) For 2017, the fair value changes on hedging instruments and on hedged debt were reported in *Other income/(loss), net*; effective 2018, these amounts were reported in *Ford Credit interest, operating, and other expenses*.
- (c) For 2017, 2018, and 2019, a \$512 million loss, a \$235 million gain, and a \$32 million gain were reported in *Cost of sales* and a \$150 million loss, a \$163 million gain, and a \$52 million gain were reported in *Other income/(loss), net*, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 21. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES (Continued)

Balance Sheet Effect of Derivative Financial Instruments

Derivative assets and liabilities are reported on our consolidated balance sheet at fair value and are presented on a gross basis. The notional amounts of the derivative instruments do not necessarily represent amounts exchanged by the parties and are not a direct measure of our financial exposure. We also enter into master agreements with counterparties that may allow for netting of exposures in the event of default or breach of the counterparty agreement.

The fair value of our derivative instruments and the associated notional amounts, presented gross, at December 31 were as follows (in millions):

	2018			2019		
	Notional	Fair Value of Assets	Fair Value of Liabilities	Notional	Fair Value of Assets	Fair Value of Liabilities
Cash flow hedges						
Foreign currency exchange contracts	\$ 15,972	\$ 391	\$ 110	\$ 15,349	\$ 47	\$ 493
Commodity contracts	327	—	20	673	5	29
Fair value hedges						
Interest rate contracts	22,989	158	208	26,577	702	19
Derivatives not designated as hedging instruments						
Foreign currency exchange contracts	20,695	202	99	19,350	58	270
Cross-currency interest rate swap contracts	5,235	232	157	5,849	134	67
Interest rate contracts	76,904	235	274	68,914	275	191
Commodity contracts	638	3	45	467	9	9
Total derivative financial instruments, gross (a) (b)	<u>\$ 142,760</u>	<u>\$ 1,221</u>	<u>\$ 913</u>	<u>\$ 137,179</u>	<u>\$ 1,230</u>	<u>\$ 1,078</u>
Current portion	\$ 681	\$ 601		\$ 390	\$ 772	
Non-current portion	540	312		840	306	
Total derivative financial instruments, gross	<u>\$ 1,221</u>	<u>\$ 913</u>		<u>\$ 1,230</u>	<u>\$ 1,078</u>	

- (a) At December 31, 2018 and 2019, we held collateral of \$19 million and \$18 million, and we posted collateral of \$59 million and \$78 million, respectively.
 (b) At December 31, 2018 and 2019, the fair value of assets and liabilities available for counterparty netting was \$434 million and \$269 million, respectively. All derivatives are categorized within Level 2 of the fair value hierarchy.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 22. EMPLOYEE SEPARATION ACTIONS AND EXIT AND DISPOSAL ACTIVITIES

We record costs associated with voluntary separations at the time of employee acceptance, unless the acceptance requires explicit approval by the Company. We record costs associated with involuntary separation programs when management has approved the plan for separation, the affected employees are identified, and it is unlikely that actions required to complete the separation plan will change significantly. Costs associated with benefits that are contingent on the employee continuing to provide service are accrued over the required service period.

Automotive Segment

As previously announced, we are executing a global redesign of our business. Redesign-related activities, including employee separation costs, payments to dealers and suppliers, and other charges, are recorded in *Cost of sales* and *Selling, administrative, and other expenses*. Below are actions we have initiated as part of the redesign.

Brazil. In February 2019, Ford Motor Company Brasil Ltda. ("Ford Brazil"), our subsidiary in Brazil, committed to a plan to exit the commercial heavy truck business in South America. As a result, Ford Brazil ceased production at the São Bernardo do Campo plant in Brazil during 2019.

Russia. In March 2019, Ford Sollers Netherlands B.V. ("Ford Sollers"), a joint venture between Ford and Sollers PJSC ("Sollers") in which Ford had control, announced its plan to restructure its business in Russia to focus exclusively on commercial vehicles and to exit the passenger car segment. As a result of these actions, Ford acquired 100% ownership of Ford Sollers and ceased production at the Naberezhnye Chelny and St. Petersburg vehicle assembly plants and the Elabuga engine plant during the second quarter of 2019.

Subsequent to completion of the restructuring actions, in July 2019, Ford sold a 51% controlling interest in the restructured entity to Sollers, which resulted in deconsolidation of the Ford Sollers subsidiary. Our continued involvement in Ford Sollers is accounted for as an equity method investment.

United Kingdom. In June 2019, Ford Motor Company Limited ("Ford of Britain"), a subsidiary of Ford, announced its plan to exit the Ford Bridgend plant in South Wales in 2020.

India. In the third quarter of 2019, Ford committed to a plan to sell specific net assets in our India Automotive operations. See Note 24 for more information concerning this plan.

Other Global Redesign Actions. In 2018, we announced our plan to end production at the Ford Aquitane Industries plant in Bordeaux, France, and in March 2019, we announced our plan to phase-out the production of the C-Max at the Saarlouis Body and Assembly Plant in Germany. Furthermore, we are reducing our global workforce and taking other restructuring actions.

The following table summarizes the redesign-related activities for the year ended December 31, which are recorded in *Other liabilities and deferred revenue* (in millions):

	2019
Beginning balance	\$ 291
Changes in accruals (a)	1,382
Payments	(911)
Foreign currency translation	(28)
Ending balance	\$ 734

(a) Excludes pension costs of \$311 million in 2019.

We also recorded \$1.4 billion in 2019 for the impairment of our held-for-sale India Automotive operations, accelerated depreciation, and other non-cash items. We estimate that we will incur total charges in 2020 that range between \$900 million and \$1.4 billion related to the actions above, primarily attributable to employee separations, accelerated depreciation, and dealer and supplier settlements.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 23. REDEEMABLE NONCONTROLLING INTEREST

We formed the Ford Sollers joint venture with Sollers in October 2011 to operate in Russia. The value of the redeemable noncontrolling interest, reflecting redemption features embedded in the 50% equity interest in the joint venture held by Sollers, reported in the mezzanine section of our consolidated balance sheet at December 31, 2018 was \$100 million. The redeemable noncontrolling interest became exercisable beginning on January 1, 2019, and Sollers exercised its option in March 2019 for a value of \$135 million. The \$35 million increase in value from December 2018 was reported in *Income/(Loss) attributable to noncontrolling interests* on our consolidated income statement during the first quarter of 2019. We purchased the noncontrolling interest from Sollers in the second quarter of 2019, derecognized the redeemable noncontrolling interest balance, and restructured our Russian operations. Subsequent to completion of the restructuring actions, in July 2019, we sold a 51% controlling interest in the restructured operations to Sollers, which resulted in deconsolidation of our Ford Sollers subsidiary. See Note 22 for more information concerning the restructuring of our business in Russia.

NOTE 24. HELD-FOR-SALE OPERATIONS

Automotive Segment

In the third quarter of 2019, we committed to a plan to sell specific net assets in our India Automotive operations. We entered into a definitive agreement to form a joint venture with Mahindra & Mahindra Limited ("Mahindra"), with Mahindra owning a 51% controlling stake and Ford owning a 49% stake. Under the terms of the transaction, which is expected to close mid-2020, we will sell certain India Automotive operations to the joint venture. Accordingly, we have reported the assets and liabilities of these operations as held for sale and ceased depreciation and amortization of those assets.

The assets and liabilities of our India Automotive operations classified as held for sale for the year ended December 31 were as follows (in millions):

	2019
Assets	
Trade and other receivables, net	\$ 269
Inventories	208
Other assets, current	147
Net property	279
Other assets, non-current	10
Total assets of held-for-sale operations	913
Less: Intercompany asset balances	(228)
Automotive segment total assets of held-for-sale operations (a)	<u><u>\$ 685</u></u>
Liabilities	
Payables	\$ 461
Other liabilities and deferred revenue, current	71
Automotive debt payable within one year	90
Other liabilities and deferred revenue, non-current	28
Total liabilities of held-for-sale operations	650
Less: Intercompany liability balances	(169)
Automotive segment total liabilities of held-for-sale operations (a)	<u><u>\$ 481</u></u>

(a) As of December 31, 2019, intercompany items and transactions have been eliminated on the consolidated balance sheet. Upon closing, the buyer will assume the intercompany assets and liabilities. Accordingly, we have presented those balances in the table for informational purposes.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 24. HELD-FOR-SALE OPERATIONS (*Continued*)

We recognized a pre-tax impairment charge of \$804 million reported in *Cost of sales* in 2019 to adjust the carrying value of the held-for-sale assets to fair value less cost to sell. The value is measured on a nonrecurring basis and categorized within Level 3 of the fair value hierarchy. We determined fair value using a market approach, estimated based on expected proceeds to be received, which we conclude is most representative of the value of the assets given the current market conditions, the characteristics of viable market participants, and the pending sales transaction. The transaction is subject to regulatory approvals and satisfaction of other closing conditions that may impact the final proceeds received.

Ford Credit Segment

In the fourth quarter of 2019, Ford Credit committed to a plan to sell its operations in Forso, a wholly owned subsidiary of Ford Credit, which provides retail and dealer financing in Denmark, Finland, Norway, and Sweden. Ford Credit expects to complete the sale of Forso in the first quarter of 2020.

The assets and liabilities of the Forso operations classified as held for sale for the year ended December 31 were as follows (in millions):

	2019	
Assets		
Cash and cash equivalents	\$	61
Ford Credit finance receivables, net, current		516
Trade and other receivables, net		8
Other assets, current		106
Ford Credit finance receivables, net, non-current		715
Net property		2
Deferred income taxes		9
Other assets, non-current		1
Total assets of held-for-sale operations		1,418
Less: Intercompany asset balances		(2)
Ford Credit segment total assets of held-for-sale operations (a)	<u>\$</u>	<u>1,416</u>
Liabilities		
Payables	\$	34
Other liabilities and deferred revenue, current		8
Ford Credit long-term debt		1,254
Deferred income taxes		23
Total liabilities of held-for-sale operations		1,319
Less: Intercompany liability balances		(1,274)
Ford Credit segment total liabilities of held-for-sale operations (a)	<u>\$</u>	<u>45</u>

(a) As of December 31, 2019, intercompany items and transactions have been eliminated on the consolidated balance sheet. Upon closing, the buyer will assume the intercompany assets and liabilities. Accordingly, we have presented those balances in the table for informational purposes.

Ford Credit recognized a pre-tax fair value impairment charge of \$20 million, reported in *Other income/(loss), net*, as a result of the pending sale. The fair value is measured on a non-recurring basis and categorized within Level 3 of the fair value hierarchy. We determined fair value using a market approach, estimated based on our expected proceeds to be received, which we conclude is most representative of the value of the assets.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 25. ACCUMULATED OTHER COMPREHENSIVE INCOME/(LOSS)

The changes in the balances for each component of accumulated other comprehensive income/(loss) attributable to Ford Motor Company for the years ended December 31 were as follows (in millions):

	2017	2018	2019
Foreign currency translation			
Beginning balance	\$ (4,593)	\$ (4,277)	\$ (4,800)
Gains/(Losses) on foreign currency translation	38	(435)	181
Less: Tax/(Tax benefit) (a)	(294)	91	6
Net gains/(losses) on foreign currency translation	332	(526)	175
(Gains)/Losses reclassified from AOCI to net income (b)	(16)	3	(1)
Other comprehensive income/(loss), net of tax	316	(523)	174
Ending balance	\$ (4,277)	\$ (4,800)	\$ (4,626)
Marketable securities			
Beginning balance	\$ (14)	\$ (48)	\$ (59)
Gains/(Losses) on available for sale securities	(53)	(37)	173
Less: Tax/(Tax benefit)	(15)	(8)	40
Net gains/(losses) on available for sale securities	(38)	(29)	133
(Gains)/Losses reclassified from AOCI to net income	5	20	(3)
Less: Tax/(Tax benefit)	1	2	—
Net (gains)/losses reclassified from AOCI to net income	4	18	(3)
Other comprehensive income/(loss), net of tax	(34)	(11)	130
Ending balance	\$ (48)	\$ (59)	\$ 71
Derivative instruments			
Beginning balance	\$ 283	\$ 18	\$ 201
Gains/(Losses) on derivative instruments	134	288	(875)
Less: Tax/(Tax benefit)	80	65	(180)
Net gains/(losses) on derivative instruments	54	223	(695)
(Gains)/Losses reclassified from AOCI to net income	(456)	(50)	3
Less: Tax/(Tax benefit)	(137)	(10)	(3)
Net (gains)/losses reclassified from AOCI to net income (c)	(319)	(40)	6
Other comprehensive income/(loss), net of tax	(265)	183	(689)
Ending balance	\$ 18	\$ 201	\$ (488)
Pension and other postretirement benefits			
Beginning balance	\$ (2,689)	\$ (2,652)	\$ (2,708)
Prior service (costs)/credits arising during the period	5	(135)	(15)
Less: Tax/(Tax benefit)	—	(23)	(2)
Net prior service (costs)/credits arising during the period	5	(112)	(13)
Amortization and recognition of prior service costs/(credits) (d)	60	59	50
Less: Tax/(Tax benefit)	20	13	10
Net prior service costs/(credits) reclassified from AOCI to net income	40	46	40
Translation impact on non-U.S. plans	(8)	10	(4)
Other comprehensive income/(loss), net of tax	37	(56)	23
Ending balance	\$ (2,652)	\$ (2,708)	\$ (2,685)
Total AOCI ending balance at December 31	\$ (6,959)	\$ (7,366)	\$ (7,728)

- (a) We do not recognize deferred taxes for a majority of the foreign currency translation gains and losses because we do not anticipate reversal in the foreseeable future. However, we have made elections to tax certain non-U.S. operations simultaneously in U.S. tax returns, and have recorded deferred taxes for temporary differences that will reverse, independent of repatriation plans, on U.S. tax returns. Taxes or tax benefits resulting from foreign currency translation of the temporary differences are recorded in *Other comprehensive income/(loss), net of tax*.
- (b) Reclassified to *Other income/(loss), net*.

- (c) Reclassified to *Cost of sales*. During the next twelve months we expect to reclassify existing net losses on cash flow hedges of \$344 million. See Note 21 for additional information.
- (d) *Amortization and recognition of prior service costs/(credits)* is included in the computation of net periodic pension cost/(income). See Note 18 for additional information.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 26. VARIABLE INTEREST ENTITIES

A VIE is an entity that either (i) has insufficient equity to permit the entity to finance its activities without additional subordinated financial support, or (ii) has equity investors who lack the characteristics of a controlling financial interest. We consolidate VIEs of which we are the primary beneficiary. We consider ourselves the primary beneficiary of a VIE when we have both the power to direct the activities that most significantly impact the entity's economic performance and the obligation to absorb losses or the right to receive benefits from the entity that could potentially be significant to the VIE. Assets recognized as a result of consolidating these VIEs do not represent additional assets that could be used to satisfy claims against our general assets. Liabilities recognized as a result of consolidating these VIEs do not represent additional claims on our general assets; rather, they represent claims against the specific assets of the consolidated VIEs.

We have the power to direct the significant activities of an entity when our management has the ability to make key operating decisions, such as decisions regarding capital or product investment or manufacturing production schedules. For securitization entities, we have the power to direct significant activities when we have the ability to exercise discretion in the servicing of financial assets (including general collection activity on current and non-current accounts and loss mitigation efforts including repossession and sale of collateral), issue additional debt, exercise a unilateral call option, add assets to revolving structures, or control investment decisions.

VIEs of Which We are Not the Primary Beneficiary

Certain of our joint ventures are VIEs, in which the power to direct economically significant activities is shared with the joint venture partner. Our investments in these joint ventures are accounted for as equity method investments. Our maximum exposure to any potential losses associated with these joint ventures is limited to our investment, including loans, and was \$237 million and \$209 million at December 31, 2018 and 2019, respectively.

VIEs of Which We are the Primary Beneficiary

Securitization Entities. Through Ford Credit, we securitize, transfer, and service financial assets associated with consumer finance receivables, operating leases, and wholesale loans. Our securitization transactions typically involve the legal transfer of financial assets to bankruptcy remote SPEs. We generally retain economic interests in the asset-backed securitization transactions, which are retained in the form of senior or subordinated interests, cash reserve accounts, residual interests, and servicing rights. For accounting purposes, we are precluded from recording the transfers of assets in securitization transactions as sales.

In most cases, the bankruptcy remote SPEs meet the definition of VIEs for which we have determined we have both the power to direct the activities of the entity that most significantly impact the entity's performance and the obligation to absorb losses or the right to receive benefits of the entity that could be significant, and would therefore also be consolidated. We account for all securitization transactions as if they were secured financing and therefore the assets, liabilities, and related activity of these transactions are consolidated in our financial results and are included in amounts presented on the face of our consolidated balance sheet. See Note 20 for additional information on the accounting for asset-backed debt and the assets securing this debt.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 27. COMMITMENTS AND CONTINGENCIES

Commitments and contingencies primarily consist of guarantees and indemnifications, litigation and claims, and warranty.

Guarantees and Indemnifications

The maximum potential payments and the carrying value of recorded liabilities related to guarantees and limited indemnities at December 31 were as follows (in millions):

	2018	2019
Maximum potential payments	\$ 1,163	\$ 749
Carrying value of recorded liabilities related to guarantees and limited indemnities	351	233

Guarantees and indemnifications are recorded at fair value at their inception. We regularly review our performance risk under these arrangements, and in the event it becomes probable we will be required to perform under a guarantee or indemnity, the amount of probable payment is recorded.

We guarantee the resale value of vehicles sold in certain arrangements to daily rental companies. The maximum potential payment of \$582 million as of December 31, 2019 included in the table above represents the total proceeds we guarantee the rental company will receive on re-sale. Reflecting our present estimate of proceeds the rental companies will receive on resale from third parties, we have recorded \$199 million as our best estimate of the amount we will have to pay under the guarantee.

We also guarantee debt and lease obligations of certain joint ventures, as well as certain financial obligations of outside third parties, including suppliers, to support our business and economic growth. Expiration dates vary through 2033, and guarantees will terminate on payment and/or cancellation of the underlying obligation. A payment by us would be triggered by failure of the joint venture or other third party to fulfill its obligation covered by the guarantee. In some circumstances, we are entitled to recover from a third party amounts paid by us under the guarantee. However, our ability to enforce these rights is sometimes stayed until the guaranteed party is paid in full, and may be limited in the event of insolvency of the third party or other circumstances.

In the ordinary course of business, we execute contracts involving indemnifications standard in the industry and indemnifications specific to a transaction, such as the sale of a business. These indemnifications might include and are not limited to claims relating to any of the following: environmental, tax, and shareholder matters; intellectual property rights; power generation contracts; governmental regulations and employment-related matters; dealer, supplier, and other commercial contractual relationships; and financial matters, such as securitizations. Performance under these indemnities generally would be triggered by a breach of terms of the contract or by a third-party claim. While some of these indemnifications are limited in nature, many of them do not limit potential payment. Therefore, we are unable to estimate a maximum amount of future payments that could result from claims made under these unlimited indemnities.

Litigation and Claims

Various legal actions, proceedings, and claims (generally, "matters") are pending or may be instituted or asserted against us. These include but are not limited to matters arising out of alleged defects in our products; product warranties; governmental regulations relating to safety, emissions, and fuel economy or other matters; government incentives; tax matters; alleged illegal acts resulting in fines or penalties; financial services; employment-related matters; dealer, supplier, and other contractual relationships; intellectual property rights; environmental matters; shareholder or investor matters; and financial reporting matters. Certain of the pending legal actions are, or purport to be, class actions. Some of the matters involve or may involve claims for compensatory, punitive, or antitrust or other treble damages in very large amounts, or demands for field service actions, environmental remediation programs, sanctions, loss of government incentives, assessments, or other relief, which, if granted, would require very large expenditures.

The extent of our financial exposure to these matters is difficult to estimate. Many matters do not specify a dollar amount for damages, and many others specify only a jurisdictional minimum. To the extent an amount is asserted, our historical experience suggests that in most instances the amount asserted is not a reliable indicator of the ultimate outcome.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 27. COMMITMENTS AND CONTINGENCIES (*Continued*)

We accrue for matters when losses are deemed probable and reasonably estimable. In evaluating matters for accrual and disclosure purposes, we take into consideration factors such as our historical experience with matters of a similar nature, the specific facts and circumstances asserted, the likelihood that we will prevail, and the severity of any potential loss. We reevaluate and update our accruals as matters progress over time.

For the majority of matters, which generally arise out of alleged defects in our products, we establish an accrual based on our extensive historical experience with similar matters. We do not believe there is a reasonably possible outcome materially in excess of our accrual for these matters.

For the remaining matters, where our historical experience with similar matters is of more limited value (i.e., "non-pattern matters"), we evaluate the matters primarily based on the individual facts and circumstances. For non-pattern matters, we evaluate whether there is a reasonable possibility of a material loss in excess of any accrual that can be estimated. Our estimate of reasonably possible loss in excess of our accruals for all material matters currently reflects indirect tax and customs matters, for which we estimate the aggregate risk to be a range of up to about \$500 million. In addition, we have a reasonably possible risk of loss for an emission matter. At this stage, we cannot estimate the risk of loss or predict the outcome, and cannot provide reasonable assurance that it will not have a material adverse effect on us.

As noted, the litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. Our assessments are based on our knowledge and experience, but the ultimate outcome of any matter could require payment substantially in excess of the amount that we have accrued and/or disclosed.

Warranties and Field Service Actions

We accrue the estimated cost of both base warranty coverages and field service actions at the time of sale. We establish our estimate of base warranty obligations using a patterned estimation model, using historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We establish our estimates of field service action obligations using a patterned estimation model, using historical information regarding the nature, frequency, severity, and average cost of claims for each model year. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance. Warranty and field service action obligations are reported in *Other liabilities and deferred revenue*. We reevaluate the adequacy of our accruals on a regular basis.

We recognize the benefit from a recovery of the costs associated with our warranty and field service actions when specifics of the recovery have been agreed with our supplier and the amount of the recovery is virtually certain. Recoveries are reported in *Trade and other receivables* and *Other assets*.

The estimate of our future warranty and field service action costs, net of estimated supplier recoveries, for the years ended December 31 was as follows (in millions):

	2018	2019
Beginning balance	\$ 5,296	\$ 5,137
Payments made during the period	(4,360)	(4,561)
Changes in accrual related to warranties issued during the period	2,584	3,182
Changes in accrual related to pre-existing warranties	1,758	1,941
Foreign currency translation and other	(141)	3
Ending balance	<u><u>\$ 5,137</u></u>	<u><u>\$ 5,702</u></u>

Changes to our estimated costs are reported as changes in accrual related to pre-existing warranties in the table above.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 28. SEGMENT INFORMATION

We report segment information consistent with the way our chief operating decision maker evaluates the operating results and performance of the Company. Accordingly, we analyze the results of our business through the following segments: Automotive, Mobility, and Ford Credit. Below is a description of our reportable segments and other activities.

Automotive Segment

Our Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs. The segment includes the following regional business units: North America, South America, Europe, China (including Taiwan), Asia Pacific Operations, and Middle East & Africa.

Mobility Segment

Our Mobility segment primarily includes development costs related to our autonomous vehicles and our investment in mobility through Ford Smart Mobility LLC ("FSM"). Autonomous vehicles includes self-driving systems development and vehicle integration, autonomous vehicle research and advanced engineering, autonomous vehicle transportation-as-a-service network development, user experience, and business strategy and business development teams. FSM designs and builds mobility products and subscription and other services on its own, and collaborates with service providers and technology companies. In 2019, we began recording in the Mobility segment subscription related income previously reported in the Automotive segment. This income is generated from services managed in our Mobility segment.

Ford Credit Segment

The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

Corporate Other

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and gains and losses from our cash, cash equivalents, marketable securities, and other investments, and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise, and are not allocated to specific Automotive business units or operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. The underlying assets and liabilities associated with these activities remain with the respective Automotive and Mobility segments.

Interest on Debt

Interest on Debt is presented as a separate reconciling item and consists of interest expense on Automotive and Other debt. The underlying liability is reported in the Automotive segment and in Corporate Other.

Special Items

Special Items are presented as a separate reconciling item. They consist of (i) pension and OPEB remeasurement gains and losses, (ii) significant personnel expenses, dealer-related costs, and facility-related charges stemming from efforts to match production capacity and cost structure to market demand and changing model mix, and (iii) other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities. Our management excludes these items from its review of the results of the operating segments for purposes of measuring segment profitability and allocating resources. We also report these special items separately to help investors track amounts related to these activities and to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 28. SEGMENT INFORMATION (Continued)

Key financial information for the years ended or at December 31 was as follows (in millions):

	Automotive	Mobility	Ford Credit	Corporate Other	Interest on Debt	Special Items	Adjustments	Total
2017								
Revenues	\$ 145,653	\$ 10	\$ 11,113	\$ —	\$ —	\$ —	\$ —	\$ 156,776
Income/(loss) before income taxes	8,084	(299)	2,310	(457)	(1,190)	(289)	—	8,159
Depreciation and tooling amortization	4,963	—	4,278	—	—	—	—	9,241
Interest expense	—	—	3,174	—	1,190	—	—	4,364
Investment-related interest income	93	—	118	248	—	—	—	459
Equity in net income/(loss) of affiliated companies	1,169	—	32	—	—	—	—	1,201
Cash outflow for capital spending	7,001	3	45	—	—	—	—	7,049
Cash, cash equivalents, marketable securities, and restricted cash	26,499	11	12,563	—	—	—	—	39,073
Total assets	103,573	96	160,594	—	—	—	(5,767) (a)	258,496
2018								
Revenues	\$ 148,294	\$ 26	\$ 12,018	\$ —	\$ —	\$ —	\$ —	\$ 160,338
Income/(loss) before income taxes	5,422	(674)	2,627	(373)	(1,228)	(1,429)	—	4,345
Depreciation and tooling amortization	5,368	16	4,001	—	—	—	—	9,385
Interest expense	—	—	3,929	—	1,228	—	—	5,157
Investment-related interest income	109	—	201	357	—	—	—	667
Equity in net income/(loss) of affiliated companies	95	—	28	—	—	—	—	123
Cash outflow for capital spending	7,677	60	48	—	—	—	—	7,785
Cash, cash equivalents, marketable securities, and restricted cash	22,999	86	11,055	—	—	—	—	34,140
Total assets	100,105	558	161,678	—	—	—	(5,801) (a)	256,540
2019								
Revenues	\$ 143,599	\$ 41	\$ 12,260	\$ —	\$ —	\$ —	\$ —	\$ 155,900
Income/(loss) before income taxes	4,926	(1,186)	2,998	(359)	(1,020)	(5,999)	—	(640)
Depreciation and tooling amortization	6,798	29	3,666	—	—	—	—	10,493
Interest expense	—	—	4,389	—	1,020	—	—	5,409
Investment-related interest income	167	—	306	336	—	—	—	809
Equity in net income/(loss) of affiliated companies	(11)	12	31	—	—	—	—	32
Cash outflow for capital spending	7,481	99	52	—	—	—	—	7,632
Cash, cash equivalents, marketable securities, and restricted cash	22,186	138	12,564	—	—	—	—	34,888
Total assets	101,348	1,034	160,697	—	—	—	(4,542) (a)	258,537

(a) Includes deferred tax netting and eliminations of intersegment transactions occurring in the ordinary course of business.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 28. SEGMENT INFORMATION (Continued)

Geographic Information

We report revenue on a "where-sold" basis, which reflects the revenue within the country in which the ultimate sale or financing is made to our external customer.

Total Company revenues and long-lived assets, split geographically by our country of domicile (the United States) and other countries where our major subsidiaries are domiciled, for the years ended December 31 were as follows (in millions):

	2017		2018		2019	
	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)
United States	\$ 93,844	\$ 42,504	\$ 97,546	\$ 44,940	\$ 98,729	\$ 46,434
Canada	10,580	4,771	10,541	4,604	10,855	4,842
United Kingdom	9,619	1,691	9,703	1,650	8,899	1,541
Germany	7,265	3,182	7,894	3,593	7,930	3,225
All Other	35,468	11,414	34,654	10,510	29,487	9,657
Total Company	<u>\$ 156,776</u>	<u>\$ 63,562</u>	<u>\$ 160,338</u>	<u>\$ 65,297</u>	<u>\$ 155,900</u>	<u>\$ 65,699</u>

(a) Includes Net property and Net investment in operating leases from our consolidated balance sheet.

NOTE 29. SELECTED QUARTERLY FINANCIAL DATA (unaudited)

Selected financial data by calendar quarter were as follows (in millions, except per share amounts):

	2018				2019			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Total revenues	\$ 41,959	\$ 38,920	\$ 37,666	\$ 41,793	\$ 40,342	\$ 38,853	\$ 36,990	\$ 39,715
Income/(Loss) before income taxes	1,919	1,349	1,094	(17)	1,610	205	(19)	(2,436)
Amounts Attributable to Ford Motor Company Common and Class B Shareholders								
Net income/(loss)	\$ 1,736	\$ 1,066	\$ 991	\$ (116)	\$ 1,146	\$ 148	\$ 425	\$ (1,672)
Common and Class B per share from income from continuing operations								
Basic	\$ 0.44	\$ 0.27	\$ 0.25	\$ (0.03)	\$ 0.29	\$ 0.04	\$ 0.11	\$ (0.42)
Diluted	0.43	0.27	0.25	(0.03)	0.29	0.04	0.11	(0.42)

Certain of the quarterly results identified in the table above include material unusual or infrequently occurring items as follows on a pre-tax basis, except for tax items:

The fourth quarter 2018 results include a pension and OPEB net remeasurement loss of \$877 million.

The first, second, third, and fourth quarter 2019 results each include global redesign related activities, including employee separation costs, payments to dealers and suppliers, and impairment and other charges, of \$514 million, \$1.2 billion, \$1 billion, and \$413 million, respectively (see Note 22).

The third quarter 2019 net income includes a one-time tax benefit of \$278 million arising from restructuring in our European operations.

The third and fourth quarter 2019 results include pension and OPEB net remeasurement losses of \$306 million and \$2.2 billion, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
Schedule II — Valuation and Qualifying Accounts
(in millions)

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions	Balance at End of Period
For the Year Ended December 31, 2017				
Allowances deducted from assets				
Credit losses	\$ 503	\$ 476	\$ 371 (a)	\$ 608
Doubtful receivables	377	24	(3) (b)	404
Inventories (primarily service part obsolescence)	201	42 (c)	—	243
Deferred tax assets	909	583 (d)	—	1,492
Total allowances deducted from assets	<u>\$ 1,990</u>	<u>\$ 1,125</u>	<u>\$ 368</u>	<u>\$ 2,747</u>
For the Year Ended December 31, 2018				
Allowances deducted from assets				
Credit losses	\$ 608	\$ 419	\$ 435 (a)	\$ 592
Doubtful receivables	404	5	315 (b)	94
Inventories (primarily service part obsolescence)	243	130 (c)	—	373
Deferred tax assets	1,492	(519) (d)	—	973
Total allowances deducted from assets	<u>\$ 2,747</u>	<u>\$ 35</u>	<u>\$ 750</u>	<u>\$ 2,032</u>
For the Year Ended December 31, 2019				
Allowances deducted from assets				
Credit losses	\$ 592	\$ 310	\$ 372 (a)	\$ 530
Doubtful receivables	94	18	63 (b)	49
Inventories (primarily service part obsolescence)	373	89 (c)	—	462
Deferred tax assets	973	41 (d)	171	843
Total allowances deducted from assets	<u>\$ 2,032</u>	<u>\$ 458</u>	<u>\$ 606</u>	<u>\$ 1,884</u>

- (a) Finance receivables deemed to be uncollectible and other changes, principally amounts related to finance receivables sold and translation adjustments.
- (b) Accounts and notes receivable deemed to be uncollectible as well as translation adjustments.
- (c) Net change in inventory allowances, including translation adjustments.
- (d) Includes \$127 million, \$(101) million, and \$(78) million in 2017, 2018, and 2019, respectively, of valuation allowance for deferred tax assets through *Accumulated other comprehensive income/(loss)*, including translation adjustments and \$456 million, \$(418) million, and \$(52) million in 2017, 2018, and 2019, respectively, of valuation allowance for deferred tax assets through the income statement.

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