UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021

Or

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

For the transition period from to

Commission file number: 001-32877

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Mastercard Incorporated

(Exact name of registrant as specified in its charter)

Delaware	13-4172551
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification Number)
2000 Purchase Street Purchase, NY	10577
(Address of principal executive offices)	(Zip Code)

(914) 249-2000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange of which registered
Class A Common Stock, par value $0.0001 per share	MA	New York Stock Exchange
1.1% Notes due 2022	MA22	New York Stock Exchange
2.1% Notes due 2027	MA27	New York Stock Exchange
2.5% Notes due 2030	MA30	New York Stock Exchange

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

Class B common stock, par value $0.0001 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rul
of the Securities Act.

Indicate by check mark if the registrant is not required to file reports pursuant to Section
Section 15(d) of the Act.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed
Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 montl
for such shorter period that the registrant was required to file such reports), and (2) has b
subject to such filing requirements for the past 90 days.

Indicate by check mark whether the registrant has submitted electronically every Interact
Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of th
chapter) during the preceding 12 months (or for such shorter period that the registrant wa
required to submit such files).

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

Large accelerated filer	☒		☐	Accelerated filer
Non-accelerated filer	☐	(do not check if a smaller reporting company)	☐	Smaller reporting company
			☐	Emerging growth company

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

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

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

The aggregate market value of the registrant's Class A common stock, par value $0.0001 per share, held by non-affiliates (using the New York Stock Exchange closing price as of June 30, 2021, the last business day of the registrant's most recently completed second fiscal quarter) was approximately $317.9 billion. There is currently no established public trading market for the registrant's Class B common stock, par value $0.0001 per share. As of February 8, 2022, there were 969,729,455 shares outstanding of the registrant's Class A common stock, par value $0.0001 per share and 7,746,984 shares outstanding of the registrant's Class B common stock, par value $0.0001 per share.

Portions of the registrant's definitive proxy statement for the 2022 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

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MASTERCARD INCORPORATED FISCAL YEAR 2021 FORM 10-K ANNUAL REPORT

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In this Report on Form 10-K ("Report"), references to the "Company," "Mastercard," "we," "us" or "our" refer to the business conducted by Mastercard Incorporated and its consolidated subsidiaries, including our operating subsidiary, Mastercard International Incorporated, and to the Mastercard brand.

Forward-Looking Statements

This Report contains forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts may be forward-looking statements. When used in this Report, the words "believe", "expect", "could", "may", "would", "will", "trend" and similar words are intended to identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements that relate to the Company's future prospects, developments and business strategies.

Many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved. Any one of those factors could cause our actual results to differ materially from those expressed or implied in writing in any forward-looking statements made by Mastercard or on its behalf, including, but not limited to, the following factors:

- regulation directly related to the payments industry (including regulatory, legislative and litigation activity with respect to interchange rates and surcharging)
- the impact of preferential or protective government actions
- regulation of privacy, data, security and the digital economy
- regulation that directly or indirectly applies to us based on our participation in the global payments industry (including anti-money laundering, counter financing of terrorism, economic sanctions and anti-corruption, account-based payments systems, and issuer practice regulation)
- the impact of changes in tax laws, as well as regulations and interpretations of such laws or challenges to our tax positions
- potential or incurred liability and limitations on business related to any litigation or litigation settlements
- the impact of the global COVID-19 pandemic and measures taken in response
- the impact of competition in the global payments industry (including disintermediation and pricing pressure)
- the challenges relating to rapid technological developments and changes
- the challenges relating to operating a real-time account-based payments system and to working with new customers and end users
- the impact of information security incidents, account data breaches or service disruptions
- issues related to our relationships with our stakeholders (including loss of substantial business from significant customers, competitor relationships with our customers, banking industry consolidation, merchants' continued focus on acceptance costs and unique risks from our work with governments)
- exposure to loss or illiquidity due to our role as guarantor and other contractual obligations
- the impact of global economic, political, financial and societal events and conditions, including adverse currency fluctuations and foreign exchange controls
- reputational impact, including impact related to brand perception and lack of visibility of our brands in products and services
- the inability to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture
- issues related to acquisition integration, strategic investments and entry into new businesses
- issues related to our Class A common stock and corporate governance structure

Please see “Risk Factors” in Part I, Item 1A for a complete discussion of these risk factors. We caution you that the important factors referenced above may not contain all of the factors that are important to you. Our forward-looking statements speak only as of the date of this Report or as of the date they are made, and we undertake no obligation to update our forward-looking statements.

PART I

Item 1. Business
Item 1A. Risk factors
Item 1B. Unresolved staff comments
Item 2. Properties
Item 3. Legal proceedings
Item 4. Mine safety disclosures
Information about our executive officers

Item 1. Business

Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known and trusted brands, including Mastercard®, Maestro® and Cirrus®. We operate a multi-rail payments network that provides choice and flexibility for consumers and merchants. Through our unique and proprietary core global payments network, we switch (authorize, clear and settle) payment transactions. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). Using these capabilities, we offer integrated payment products and services and capture new payment flows. Our value-added services include, among others, cyber and intelligence solutions to allow all parties to transact easily and with confidence, as well as other services that provide proprietary insights, drawing on our principled use of consumer and merchant data**.** Our franchise model sets the standards and ground-rules that balance value and risk across all stakeholders and allows for interoperability among them. Our payment solutions are designed to ensure safety and security for the global payments ecosystem.

For a full discussion of our business, please see page 9.

Our Performance

The following are our key financial and operational highlights for 2021, including growth rates over the prior year:

GAAP		
Net revenue **$18.9B** up 23%	Net income **$8.7B** up 35%	Diluted EPS **$8.76** up 38%
Non-GAAP [1] (currency-neutral)		
Net revenue **$18.9B** up 22%	Adjusted net income **$8.3B** up 28%	Adjusted diluted EPS **$8.40** up 30%
$7.6B in capital returned to stockholders	**$5.9B** Repurchased shares **$1.7B** Dividends paid	**$9.5B** cash flows from operations
Gross dollar volume (growth on a local currency basis) $7.7T up 21%	Cross-border volume (growth on a local currency basis) up 32%	Switched transactions 112.1B up 25%

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ma-20211231_g4.jpg
ma-20211231_g5.jpg

[1] Non-GAAP results exclude the impact of gains and losses on equity investments, Special Items and/or foreign currency. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results Overview" in Part II, Item 7 for the reconciliation to the most direct comparable GAAP financial measures.

For a full discussion of our results of operations, including impacts of the COVID-19 pandemic, see "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item II, Part 7.

Our Strategy

We remain committed to our strategy to grow our core payments network, diversify our customers and geographies and build new capabilities through a combination of organic and inorganic strategic initiatives. We are executing on this strategy through a focus on three key priorities:

- expand in payments for consumers, businesses and governments
- extend our services to enhance transactions and drive customer value
- embrace new network opportunities to enable open banking, digital identity and other adjacent network capabilities

Each of our priorities supports and builds upon each other and are fundamentally interdependent.

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Our Key Strategic Priorities

Expand in payments. We continue to focus on expanding upon our core payments network to enable payment flows for consumers, businesses, governments and others, providing them with choice and flexibility to transact across multiple payment rails (including cards, real-time payments and account-to-account) while ensuring that all payments are done safely, securely and seamlessly. We do so by:

- ***Driving growth in consumer purchases*** with a focus on accelerating digitization, growing acceptance and pursuing an expanded set of use cases, including through partnerships

- ***Capturing new payment flows*** by expanding our multi-rail capabilities and applications to penetrate key flows such as disbursements and remittances (through Mastercard Send™ and Cross-Border Services), business-to-business ("B2B") (including Mastercard Track Business Payment Service™ ("Track BPS") and areas beyond payments such as enablement of supply chain financing) and consumer bill payments
- ***Leaning into new payment innovations*** such as our planned launch in 2022 of Mastercard Installments, our buy-now-pay-later solution, and developing solutions that support digital currencies and blockchain applications

Extend our services. Our services drive value for our customers and the broader payments ecosystem. We continue to do that as well as diversify our business, by extending our services, which include cyber and intelligence solutions, insights and analytics, test and learn, consulting, managed services, loyalty, processing and payment gateway solutions for e-commerce merchants. As we drive value, our services help accelerate our top-line financial performance by supporting revenue growth in our core payments network. We extend our services by:

- ***Enhancing the value of payments*** by making payments safe, secure, intelligent and seamless
- ***Expanding services to new segments and use cases*** to address the needs of a larger set of customers, including financial institutions, merchants, governments, digital players and others, while expanding our geographic reach
- ***Supporting and strengthening new network capabilities,*** including expanding services associated with digital identities and deploying our expertise in open banking and open data, including with improved analytics

Embrace new network opportunities. We are building and managing new adjacent network capabilities to power commerce, creating new opportunities to develop and embed services. We do so by:

- ***Applying our open banking solutions*** to help institutions and individuals exchange data securely and easily, by enabling the reliable access, transmission and management of consumer data (including for opening new accounts, securing loans, increasing credit scores and enabling consumer choice in money movement and personal finance management)
- ***Enabling digital identity solutions,*** including device intelligence, document proofing, internet protocol ("IP") intelligence, biometrics, transaction fraud data, location, identity attributes and payment authorization to make transactions across individual devices and accounts efficient, safe and secure

Each of our priorities supports and builds upon each other and are fundamentally interdependent:

- ***Payments*** provide data and distribution to drive scale and differentiation in services and enable the development and adoption of new network capabilities
- ***Services*** improve the security, efficiency and intelligence of payments, improve portfolio performance, differentiate our offerings and strengthen our customer relationships. They also power our open banking and digital identity platforms
- ***New network opportunities*** strengthen our digital payments value proposition, including improved authentication with digital identity, and new opportunities to develop and embed services in our expanding product offerings

Powering Our Success

These priorities are supported by six key drivers:

People. Our success is driven by the skills, experience, integrity and mindset of the talent we hire. We attract and retain top talent from diverse backgrounds and industries. Our people and our winning culture is based on decency, respect and inclusion where people have opportunities to perform purpose-driven work that impacts communities, customers and co-workers on a global scale. The diversity and skill sets of our people underpin everything we do.

Brand. Our brands and brand identities (including our sonic brand identity) serve as a differentiator for our business, representing our values and enabling us to accelerate growth in new areas.

Data. We use our data assets, infrastructure and platforms to create a range of products and services for our customers, while incorporating our data principles in how we design, implement and deliver those solutions. Our Privacy by Design and Data by Design processes have been developed to ensure we embed privacy, security and data controls in all of our products and services, keeping a clear focus on protecting customers' and individuals' data.

Technology. Our technology provides resiliency, scalability and flexibility in how we serve customers. It enables broader reach to scale digital payment services to multiple channels, including mobile devices. Our technology standards, services and governance model help us to serve as the connection that allows financial institutions, financial technology companies (fintechs) and others to interoperate and enable consumers, businesses, governments and merchants to engage through digital channels.

Franchise. We manage an ecosystem of stakeholders who participate in our network. Our franchise creates and sustains a comprehensive series of value exchanges across our ecosystem. We provide a balanced ecosystem where all participants benefit from the availability, innovation and safety and security of our network and platforms. Our franchise enables the scale of our payments network and helps ensure our multiple payment capabilities operate under a single governance structure, which can be extended to new opportunities.

Doing Well by Doing Good. We apply the full breadth of our technology, insights, partnerships and people to build a more financially inclusive and sustainable digital economy, with a commitment to diversity, equity and inclusion and a focus on a sustainable future. We are committed to our core values of operating ethically, responsibly and with decency. This commitment is directly connected to our continuing success as a business. We refer you to our most recently published Sustainability Report and Proxy Statement (each located on our website) for our efforts and initiatives in the area of sustainability.

Our Business

Our Multi-Rail Network and Payment Capabilities

We enable a wide variety of payment capabilities (including integrated products and value-added service solutions) over our multi-rail network among account holders, merchants, financial institutions, businesses, governments and others, offering our customers one partner for their payment needs.

Core Network

Our core network links issuers and acquirers around the globe to facilitate the switching of transactions, permitting account holders to use a Mastercard product at tens of millions of acceptance locations worldwide. This network facilitates an efficient, safe and secure means for receiving payments, a convenient, quick and secure payment method for consumers to access their funds and a channel for businesses to receive insight through information that is derived from our network. We enable transactions for our customers through our core network in more than 150 currencies and in more than 210 countries and territories.

Core Network Transactions. Our core network supports what is often referred to as a "four-party" payments network and includes the following participants: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution).

We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our customers.

The following graphic depicts a typical transaction on our core network, and our role in that transaction:

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In a typical transaction, an account holder purchases goods or services from a merchant using one of our payment products. After the transaction is authorized by the issuer, the issuer pays the acquirer an amount equal to the value of the transaction, minus the interchange fee (described below) and other applicable fees, and then posts the transaction to the account holder's account. The acquirer pays the amount of the purchase, net of a discount (referred to as the "merchant discount" rate), to the merchant.

- ***Interchange Fees.*** Interchange fees reflect the value merchants receive from accepting our products and play a key role in balancing the costs and benefits that consumers and merchants derive. Generally, interchange fees are collected from acquirers and paid to issuers to reimburse the issuers for a portion of the costs incurred. These costs are incurred by issuers in providing services that benefit all participants in the system, including acquirers and merchants, whose participation in the network enables increased sales to their existing and new customers, efficiencies in the delivery of existing and new products, guaranteed payments and improved experience for the customers. We (or, alternatively, financial institutions) establish "default interchange fees" that apply when there are no other established settlement terms in place between an issuer and an acquirer. We administer the collection and remittance of interchange fees through the settlement process.
- ***Additional Four-Party System Fees.*** The merchant discount rate is established by the acquirer to cover its costs of both participating in the four-party system and providing services to merchants. The rate takes into consideration the amount of the interchange fee which the acquirer generally pays to the issuer. Additionally, acquirers may charge merchants processing and related fees in addition to the merchant discount rate. Issuers may also charge account holders fees for the transaction, including, for example, fees for extending revolving credit.

Switched Transactions

- ***Authorization, Clearing and Settlement.*** Through our core network, we enable the routing of a transaction to the issuer for its approval, facilitate the exchange of financial transaction information between issuers and acquirers after a successfully conducted transaction, and settle the transaction by facilitating the exchange of funds between parties via settlement banks chosen by us and our customers.
- ***Cross-Border and Domestic.*** Our core network switches transactions throughout the world when the merchant country and country of issuance are different ("cross-border transactions"), providing account holders with the ability to use, and merchants

to accept, our products and services across country borders. We also provide switched transaction services to customers where the merchant country and the country of issuance are the same ("domestic transactions"). We switch over 60% of all transactions for Mastercard and Maestro-branded cards, including nearly all cross-border transactions.

We guarantee the settlement of many of the transactions from issuers to acquirers to ensure the integrity of our core network. We refer to the amount of this guarantee as our settlement exposure. We do not, however, guarantee payments to merchants by their acquirers or the availability of unspent prepaid account holder account balances.

Core Network Architecture. Our core network features a globally integrated structure that provides scale for our issuers, enabling them to expand into regional and global markets. It is based largely on a distributed (peer-to-peer) architecture that enables the network to adapt to the needs of each transaction. The network accomplishes this by performing intelligent routing and applying multiple value-added services (such as fraud scoring, tokenization services, etc.) to appropriate transactions in real time. This architecture enables us to connect all parties regardless of where or how the transaction is occurring. It has 24-hour a day availability and world-class response time.

Additional Payment Capabilities

ACH Batch and Real-Time Account-Based Payments Infrastructure and Applications. We offer ACH batch and real-time account-based payments capabilities, enabling payments for ACH transactions between bank accounts in real-time. These capabilities provide consumers and businesses the ability to make instant (faster) payments while providing enhanced data and messaging capabilities. We build, implement, enhance and operate real-time clearing and settlement infrastructure, payment platforms and direct debit systems for jurisdictions globally. As of December 31, 2021, we either operated or were implementing real-time payments infrastructure in 12 of the top 50 markets as measured by GDP. We also apply our real-time payments capabilities to new payment flows, such as consumer bill payments using our real-time bill pay solutions.

Account to Account. We enable consumers, businesses, governments and merchants to send and receive money directly from account to account. We apply these capabilities to help these stakeholders with various disbursements and remittances.

We discuss below under "Our Payment Products and Applications" the ways in which we apply our real-time account-based and account to account payment capabilities to capture new payment flows.

Security and Franchise

Payments System Security. We have a multi-layered approach to protect the global payments ecosystem. As part of this approach, we have a robust program to protect our network from cyber and information security threats. Our network and platforms incorporate multiple layers of protection, providing greater resiliency and best-in-class security protection. Our programs are assessed by third parties and incorporate benchmarking and other data from peer companies and consultants. We engage in many efforts to mitigate information security challenges, including maintaining an information security program, an enterprise resilience program and insurance coverage, as well as regularly testing our systems to address potential vulnerabilities. Through the combined efforts of our Security Operations Centers, Fusion Centers and the Mastercard Intelligence Center, we work with experts across the organization (as well as through other sources such as public-private partnerships) to monitor and respond quickly to a range of cyber and physical threats.

As another feature of our multi-layered approach to protect the global payments ecosystem, we work with issuers, acquirers, merchants, governments and payments industry associations to develop and put in place technical standards (such as EMV standards for chips and smart payment cards) for safe and secure transactions and we provide solutions and products that are designed to ensure safety and security for the global payments ecosystem. We discuss specific cyber and intelligence solutions that we offer to our customers in "Our Value-Added Services".

Our Franchise. We manage an ecosystem of stakeholders that participate in our network and payments platforms. Our franchise creates and sustains a comprehensive series of value exchanges across our ecosystem. We ensure a balanced ecosystem where all participants benefit from the

availability, innovation, safety and security of our network. We achieve this through the following key activities:

- ***Participant Onboarding.*** We ensure the capability of new customers to use our network and define the roles and responsibilities for their operations once on the network
- ***Safety and Security.*** We establish the core principles, including ensuring consumer protections and integrity, so participants feel confident to transact on the network
- ***Operating Standards.*** We define the operational, technical and financial policies to which network participants are required to adhere

- ***Responsible Stewardship.*** We establish performance standards to support ecosystem growth and optimization and establish proactive monitoring to ensure participant performance
- ***Issue Resolution.*** We operate a framework to enable the resolution of disputes for both customers and consumers

Our Payment Products and Applications

We provide a wide variety of integrated products and services that support payment products that customers can offer to consumers and merchants. These offerings facilitate transactions across our multi-rail payments network and platforms among account holders, merchants, financial institutions, digital partners, businesses, governments and other organizations in markets globally.

ma-20211231_g8.jpg**Core Payment Products**

Consumer Credit. We offer a number of products that enable issuers to provide consumers with credit, allowing them to defer payment. These programs are designed to meet the needs of our customers around the world and address standard, premium and affluent consumer segments.

How We Benefit Consumers

We enable our customers to benefit consumers by:

- making electronic payments more convenient, secure and efficient
- delivering better, seamless consumer experiences
- providing consumers choice, empowering them to make and receive payments in the ways that best meet their daily needs
- protecting consumers and all other participants in a transaction, as well as consumer data
- providing loyalty rewards

Consumer Debit. We support a range of payment products and solutions that allow our customers to provide consumers with convenient access to funds in deposit and other accounts. Our debit and deposit access programs can be used to make purchases and to obtain cash in bank branches, at ATMs and, in some cases, at the point of sale. Our branded debit programs consist of Mastercard (including standard, premium and affluent offerings), Maestro (the only PIN-based solution that operates globally) and Cirrus (our primary global cash access solution).

Prepaid. Prepaid accounts are a type of electronic payment that enables consumers to pay in advance whether or not they previously had a bank account or a credit history. These accounts can be tailored to meet specific program, customer or consumer needs, such as paying bills, sending person-to-person payments or withdrawing cash from an ATM. Our focus ranges from digital accounts (such as fintech and gig economy platforms) to business programs such as employee payroll, health savings accounts and solutions for small business owners. Our prepaid programs also offer opportunities in the private and public sectors to drive financial inclusion of previously unbanked individuals through social security payments, unemployment benefits and salary cards.

We also provide prepaid program management services, primarily outside of the United States, that provide processing and end-to-end services on behalf of issuers or distributor partners such as airlines, foreign exchange bureaus and travel agents.

Commercial Credit and Debit. We offer commercial credit and debit payment products and solutions that meet the payment needs of large corporations, midsize companies, small businesses and government entities. Our solutions streamline procurement and payment processes, manage information and expenses (such as travel and entertainment) and reduce administrative costs. Our point of sale offerings include small business (debit and credit), travel and entertainment, purchasing cards and fleet cards. Our SmartData platform provides expense management and reporting capabilities. Our virtual card offerings, supported by our Mastercard In Control™ platform, generate virtual account numbers which provide businesses with enhanced controls, more security and better data.

The following chart provides gross dollar volume ("GDV") and number of cards featuring our brands in 2021 for select programs and solutions:

	Year Ended December 31, 2021			As of December 31, 2021	
	GDV			Cards	
	(in billions)	Growth (Local)	% of Total GDV	(in millions)	Percentage Increase from December 31, 2020
Mastercard-branded Programs[1,2]					
Consumer Credit	$ 2,899	18 %	38 %	968	9 %
Consumer Debit and Prepaid	3,953	22 %	51 %	1,509	13 %
Commercial Credit and Debit	867	25 %	11 %	111	11 %

1 Excludes Maestro and Cirrus cards and volume generated by those cards.
2 Prepaid includes both consumer and commercial prepaid.

ma-20211231_g9.jpg**New Payment Flows**

We offer platforms that apply our payment capabilities to support and capture new payment flows beyond cards.

Disbursements and Remittances. We offer applications that enable consumers, businesses, governments and merchants to send and receive money domestically and across borders with greater speed and ease.

- Using Mastercard Send, we partner with digital messaging and payment platforms to enable consumers to send and receive money directly within applications. We partner with central banks, fintechs and financial institutions to help governments and nonprofits more efficiently enable, as applicable, distribution of social and economic assistance and business-to-consumer ("B2C") disbursements.
- Mastercard Cross-Border Services enables a wide range of payment flows and use cases to customers, including trade payments, remittances and disbursements. These flows are enabled via a distribution network with a single point of access that allows financial institutions, fintechs and digital partners to send and receive money globally through multiple channels, including bank accounts, mobile wallets, cards and cash payouts.

B2B Payments. We continue to focus on developing solutions to address ways that businesses move money, building on our point of sale capabilities to capture B2B payments. We offer B2B solutions globally that optimize customer choice, enabling payments through card, ACH and real-time payment rails. Mastercard Track BPS, our two-sided open-loop commercial service platform, is aimed at improving the way businesses pay and get paid by simplifying and automating payments between suppliers and buyers. It provides a single connection enabling access to multiple payment rails, providing greater control, richer data and working capital optimization capabilities to enhance B2B transactions for both buyers and suppliers. Track BPS leverages multiple payment options, including both real-time payments and batch ACH, as well as our core network.

Consumer Bill Payments.

- We offer applications including those that make it easier for consumers and small businesses to present, view, manage and pay their bills through their online or mobile banking apps. Payments can be made in a variety of ways, using cards, real-time payments or batch ACH payments through a digital interface, providing a convenient, secure and paperless means to manage household bills in one place.
- Our bill pay solutions, which include Bill Pay Exchange, provide an open, Application Programming Interface ("API") based bill pay network that leverages real-time messaging to connect consumers with billers and merchants through the home banking channel. We also provide real-time bill pay

solutions as well as clearing and instant payment services. Our solutions enable enhanced biller setup and expanded bill presentment. They facilitate payment choice using multiple payment rails (including real-time account-based payments) and deliver immediate payment confirmation, providing an experience that benefits consumers, financial institutions and billers.

ma-20211231_g10.jpgInnovation and Technology

Our innovation capabilities and our technology provide resiliency, scalability and flexibility in how we serve customers. They enable broader reach to scale digital payment services across multiple channels, including mobile devices. Our technology standards, services and governance model help us to serve as the connection that allows financial institutions, fintechs and technology companies to interoperate and enable consumers, businesses, governments and merchants to engage through digital channels.

- ***Delivering better digital experiences everywhere.*** We are using our technologies and security protocols to develop solutions to make digital shopping and selling experiences, such as on smartphones and other connected devices, simpler, faster and safer for both consumers and merchants. We also offer products that make it easier for merchants to accept payments and expand their customer base.
  - Our contactless payment solutions help deliver a simple and intuitive way to pay, as well as health and safety benefits when consumers are looking for low-touch options

Key 2021 Developments

- During 2021, we announced the expansion of several programs that enabled consumers to either use their cards to purchase cryptocurrencies or to convert their cryptocurrencies back into fiat currencies at their respective financial institutions.
- During 2021, we announced Mastercard Installments, our new open loop solution to deliver buy-now-pay-later installments capabilities at scale. The solution connects lenders with merchants across our acceptance network to provide buy-now-pay-later options for consumers. The program is expected to launch in 2022.

  - Our Click to Pay checkout experience is designed to provide consumers the same convenience and security in a digital environment that they have when paying in a store, make it easier for merchants to implement secure digital payments and provide issuers with improved fraud detection and prevention capability. This experience is based on the EMV Secure Remote Commerce industry standard that enables a faster, more secure checkout experience across web and mobile sites, mobile apps and connected devices
  - Our Digital First Card program enables customers to offer their cardholders a fully digital payment experience with an optional physical card, meeting cardholder expectations of immediacy, safety and convenience during card application, authentication and instant card access, securing purchases (whether contactless, in-store, in-app or via the web) and managing alerts, controls and benefits
  - Our Digital Doors program helps small businesses establish and protect an online presence, including accepting digital payments

- ***Securing more transactions.*** We are leveraging tokenization, biometrics and machine learning technologies in our push to secure every transaction. These efforts include driving EMV-level security and benefits through all our payment channels.
- ***Simplifying access to, and integration of, our digital assets.*** Our Mastercard Developer platform makes it easy for customers and partners to leverage our many digital assets and services. By providing a single access point with tools and capabilities to find what we believe are some of the best-in-class APIs across a broad range of Mastercard services, we enable easy integration of our services into new and existing solutions.
- ***Identifying and experimenting with future technologies, start-ups and trends.*** Through Mastercard Foundry (formerly known as Mastercard Labs), we continue to bring customers and partners access to thought leadership, innovation methodologies, new technologies and relevant early-stage fintech players.

Our Value-Added Services

Our services encompass a wide-ranging portfolio of value-added and differentiating capabilities that:

- instill trust in the ecosystem to allow parties to transact and operate with confidence
- provide actionable insights to our customers to assist in their decision making
- enable our customers to strengthen their engagement with their own end-users
- enable connectivity and access for a fragmented and diverse set of parties

ma-20211231_g11.jpg**Cyber and Intelligence Solutions**

As part of the security we bring to the payments ecosystem, we offer integrated products and services to prevent, detect and respond to fraud and cyber-attacks and to ensure the safety of transactions made using Mastercard products. We do this using a multi-layered safety and security strategy:

- The ***"Prevent"*** layer is designed to protect against attacks on infrastructure, devices and data. We have continued to grow global usage of EMV chip and contactless security technology, helping to reduce fraud. Our solutions include SafetyNet, which protects financial institutions by helping to stop real-time attacks that are visible in the network, but not easily detected by financial institutions.
- The ***"Identify"*** layer allows us to help banks and merchants verify the authenticity of consumers during the payment process using various biometric technologies, including fingerprint, face and iris scanning, and behavioral user data assessment technology to verify online purchases on mobile devices, as well as a card with biometric technology built in.

Key 2021 Developments

- We acquired CipherTrace, a leading digital currency intelligence platform that can map and trace blockchain-based transactions between entities, providing greater transparency and helping manage regulatory and compliance obligations.
- We became the first company to announce the retirement of legacy magnetic stripe technology enabling us to focus on technologies, such as chip and contactless, which provide increased security.

- The ***"Detect"*** layer spots fraudulent behavior and cyber-attacks and takes action to stop these activities once detected. Our offerings in this space include alerts when accounts are exposed to data breaches or security incidents, fraud scoring technology that scans billions of dollars of money flows each day while increasing approvals and reducing false declines, and network-level monitoring on a global scale to help detect the occurrence of widespread fraud attacks when the customer (or their processor) may be unable to detect or defend against them.
- The ***"Experience"*** layer improves the security experience for our stakeholders in areas from the speed of transactions (enhancing approvals for online and card-on-file payments) to the ability to differentiate legitimate consumers from fraudulent ones. Our offerings in this space include solutions for consumer alerts and controls and a suite of digital token services. We also offer an e-commerce fraud and dispute management network that enables merchants to stop delivery when a fraudulent or disputed transaction is identified, and issuers to refund the cardholder to avoid the chargeback process.

- The ***"Network"*** layer extends the services we provide to transactions in the payments ecosystem and across all of our rails, including decision intelligence and tokenization capabilities, to help secure our customers and transactions on a real-time basis.

Moreover, we use our artificial intelligence ("AI") and data analytics, along with our cyber risk assessment capabilities, to help financial institutions, merchants, corporations and governments secure their digital assets across each of these five layers.

We have also worked with our customers to provide products to consumers globally with increased confidence through the benefit of "zero liability", where the consumer bears no responsibility for counterfeit or lost card losses in the event of fraud.

ma-20211231_g12.jpgma-20211231_g13.jpgma-20211231_g14.jpg**Insights, Analytics and Test and Learn**

Our capabilities incorporate payments expertise and analytical and executional skills to create end-to-end solutions which are increasingly delivered via platforms embedded in our customers' day-to-day operations. We offer business intelligence to monitor key performance indicators ("KPIs") and benchmark performance through self-service digital platforms, tools, and reports for financial institutions, merchants and others. We enable clients to better understand consumer behavior and improve segmentation and targeting by using our anonymized and aggregated data assets, third-party data and AI technologies. Through our Test & Learn software as a service platform, we can help our customers accurately measure the impact of their decisions and improve them by leveraging data analytics to conduct disciplined business experiments for in-market tests to drive more profitable decision making.

ma-20211231_g15.jpgma-20211231_g16.jpg**Consulting and Innovation**

We provide advisory services that help clients make better decisions and improve performance. By observing patterns of payments behavior based on billions of transactions switched globally, we are able to leverage anonymized and aggregated information to provide advice based on data. We also utilize our expertise, digital technology, innovation tools, methodologies and processes to collaborate with, and increasingly drive innovation at, financial institutions, merchants and governments. Through our global innovation and development arm, Mastercard Foundry, we offer "Launchpad," a five-day app prototyping workshop, as well as other customized innovation programs such as in-lab usability testing and concept design.

ma-20211231_g17.jpg**Managed Services**

We deliver marketing services, digital implementation and program management with performance-based solutions at every stage of the consumer lifecycle to assist our customers in implementing actions based on insights and driving adoption and usage. These services include developing messaging, targeting key groups, launching campaigns and training staff, all of which help our customers drive engagement and portfolio profitability.

ma-20211231_g18.jpgma-20211231_g19.jpg**Issuer and Merchant Loyalty**

We have built a scalable rewards platform that enables issuers to provide consumers with a variety of benefits and services, such as personalized offers and rewards, access to a global airline lounge network, concierge services, insurance services, emergency card replacement, emergency cash advances and a 24-hour account holder service center. For merchants, we provide campaigns with targeted offers and rewards, management services for publishing offers, and accelerated points programs for co-brand and rewards program members. We also provide a loyalty platform that enables stronger relationships with retailers, restaurants, airlines and consumer packaged goods companies by creating experiences that drive loyalty and impactful consumer engagement.

ma-20211231_g20.jpg **Processing and Gateway**

We extend our processing capabilities in the payments value chain in various regions and across the globe with an expanded suite of offerings, including:

- Issuer solutions designed to provide customers with a complete processing solution to help them create differentiated products and services and allow quick deployment of payments portfolios across banking channels
- Payment gateways that offer a single interface to provide e-commerce merchants with the ability to process secure online and in-app payments and offer value-added solutions, including outsourced electronic payments, fraud prevention and alternative payment options
- Mobile gateways that facilitate transaction routing and processing for mobile-initiated transactions

Our Expanded Network Capabilities

ma-20211231_g21.jpg**Open Banking**

We offer an open banking platform that enables data providers and third parties, on a permissioned basis, to reliably access, securely transmit and confidently manage consumer data to improve the customer experience. Our platform enables consumers to have choice of financial services, providing them the ability to access, control and benefit from the use of their data, as well as an improved payment experience. Our platform is also used to serve the needs of the lending market, including through streamlining loan application processes and improving credit decisioning, thereby driving further financial inclusion. The network connections that underpin this platform leverage our data principles (including data usage guardrails, consumer protection and consent management), as well as API technology.

ma-20211231_g22.jpg**Digital Identity**

We enable digital identity solutions, which provide smooth digital experiences and strengthen and secure digital payments across individuals, devices and accounts. Our digital identity capabilities focus on the identity of people, devices and transactions. They embody privacy by design principles and are consent-centric. Our solutions include device intelligence and behavioral biometrics (to determine whether the user is genuine or a fraudulent device), document proofing, IP intelligence, biometrics, transaction fraud data (from which we derive insights that can be used to significantly improve the global approval rate of transactions), location, identity attributes and payment authorization.

Key 2021 Developments

- We acquired Ekata, Inc., a leader in digital identity verification solutions, broadening our fraud prevention and digital identity verification programs by adding Ekata's identity verification data, machine learning technology and global experience.

Our People

As of December 31, 2021, we employed approximately 24,000 persons globally. Our employee base is predominantly full-time and approximately 65% were employed outside of the United States in more than 80 countries around the world. We also had approximately 3,900 contractors which we used to supplement our employee base in order to meet specific needs. Our voluntary workforce turnover (rolling 12-month attrition) was 11% as of December 31, 2021. The total cost of our workforce for the year ended December 31, 2021 was $4.5 billion, which primarily consists of compensation, benefits and other personnel- and contractor-related costs.

We provide more detailed information regarding our employees, including additional workforce demographics such as gender and racial/ethnic representation, in our Sustainability Report, our Proxy Statement, our Global Inclusion Report and our U.S. Consolidated EEO-1 Report, all of which are located on our website.

We continue to support our employees during the ongoing global COVID-19 pandemic. We have extended a variety of global COVID-related employee benefits through 2022, including flexible hybrid working arrangements and additional paid time off due to illness, to get vaccinated, or to tend to childcare or eldercare-related demands. Our focus remains on the safety and well-being of our employees while maintaining health and safety protocols at each office location.

Management reviews our people strategy and culture, as well as related risks, with our Human Resources and Compensation Committee on a quarterly basis, and annually with our Board of Directors. Additionally, our Board of Directors and our Board committees are tasked with overseeing other human capital management matters on a regular basis, such as ensuring processes are in place for maintaining an ethical corporate culture, overseeing key diversity initiatives, policies and practices, and monitoring governance trends in areas such as human rights. Our ability to attract, retain and

engage top talent and build a culture centered around decency, with an overall focus on diversity, equity and inclusion ("DEI"), is critical to our business strategy.

Specifically, to enable our business strategy effectively, our aim is to:

- attract talent with the key skills needed
- develop and retain an agile workforce that is able to compete in a fast-paced, digitally native and innovative environment and
- build on our DEI efforts to support our employees

Attract talent. Leveraging the strength of our brand, we attract talent through acquisitions, workforce planning and recruitment that incorporates a variety of sources.

Develop and retain talent. Our efforts to develop and retain our employees include:

- An annual cycle that is focused on objective setting, performance assessment, talent evaluation, skill development, opportunities and career progression
- Succession planning for key roles, including talent and leadership programs across various levels. These programs embed our culture principles, include diverse populations and aim to develop talent and managerial skills through personalized coaching and group executive development
- Learning opportunities, such as Learning Academies that support our corporate business strategy and priorities and offer programs aligned to regional priorities
- Mentorship programs that give mentees tools and resources to help build and enhance their skills, inspire personal growth, overcome dilemmas, foster inclusion and support well-being
- A competitive compensation approach under which eligible employees across multiple job levels can receive long-term incentive equity awards
- Holistic physical, mental, professional and other benefits to our employees and their families to provide support when and where they need it
- Contributions to employees' financial well-being as they plan for retirement. All employees globally are entitled to receive a matching Company contribution of $1.67 for every $1 contributed to a 401(k) or other retirement plan on the first 6% of base pay
- Support for charitable contributions of our employees' time and money. We support employee charitable donations with matching Company gifts of up to $15,000 per employee annually and permit full-time employees to use five paid days per year for eligible volunteer work
- A culture of high ethical business practices and compliance standards, grounded in honesty, decency, trust and personal accountability. It is driven by "tone at the top," reinforced with regular training, fostered in a speak-up environment, and measured by periodic employee surveys and other metrics that are designed to enable our Board of Directors to gauge the health of our culture

Diversity, equity and inclusion underpin everything we do:

- We monitor our recruitment, development, succession and retention practices with a focus on gender, race (in the U.S.) and generational mix of our employee population
- We have developed regional and functional action plans to identify priorities and actions that will help us make more progress for DEI, including appropriate balance and inclusion in gender and racial representation
- We remain committed to our "In Solidarity" initiative through alignment of our DEI plans, introduction of new training programs and partnerships with historically Black colleges and universities ("HBCUs") and other schools with diverse talent
- We introduced a modifier to our 2021 executive compensation plan that includes quantitative goals for gender pay and other key environmental, social and governance ("ESG") items

We expect to provide additional updates in 2022 on our diversity, equity and inclusion efforts, including the executive compensation modifier, in our upcoming Sustainability Report, Proxy Statement and Global Inclusion Report, all of which will be located on our website.

Brand

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Our family of well-known brands includes Mastercard, Maestro and Cirrus. We manage and promote our brands and brand identities (including our sonic brand identity) through advertising, promotions and sponsorships, as well as digital, mobile and social media initiatives, in order to increase people's preference for our brands and usage of our products. We sponsor a variety of sporting, entertainment and charity-related marketing properties to align with consumer segments important to us and our customers. Our advertising plays an important role in building brand visibility, preference and overall usage among account holders globally. Our "Priceless®" advertising campaign, which has run in more than 50 languages and in more than 120 countries worldwide, promotes Mastercard usage benefits and acceptance, markets Mastercard payment products and solutions and provides Mastercard with a consistent, recognizable message that supports our brand around the globe.

Data

We use our data assets, infrastructure and platforms to create a range of products and services for our customers, including the majority of our value-added services, which help reduce fraud, increase security, provide actionable insights to our customers to assist in their decision making and enable our customers to increase their engagement with consumers. We do all this while incorporating our data principles in how we design, implement and deliver those solutions. Our Privacy by Design and Data by Design processes have been developed to ensure we embed privacy, security and data controls in all of our products and services, keeping a clear focus on protecting customers' and individuals' data. We do this in a number of ways:

- ***Practicing data minimization.*** We collect and retain only the data that is needed for a given product or service, and limit the amount and type of personal information shared with third parties
- ***Being transparent and providing control.*** We explain how we use personal information and give individuals' access and control over how their data is used and shared
- ***Working with trusted partners.*** We select partners and service providers who share our principled-approach to protecting data
- ***Addressing data bias.*** We ensure our use of advanced analytics, including AI and Machine Learning, utilizes diverse data sets to create fair and inclusive solutions that reflect individual, group and societal interests
- ***Advancing positive social impact.*** We utilize our data sets to create innovative solutions to societal challenges, promoting inclusive financial, social, climate, health and education growth

Revenue Sources

We generate revenue primarily from assessing our customers based on GDV on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services. Our net revenues are classified into five categories: domestic assessments, cross-border volume fees, transaction processing, other revenues and rebates and incentives (contra-revenue).

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Revenue" in Part II, Item 7 and Note 3, Revenue for more detail about our revenue, GDV, processed transactions and our other payment-related products and services.

Intellectual Property

We own a number of valuable trademarks that are essential to our business, including Mastercard, Maestro and Cirrus, through one or more affiliates. We also own numerous other trademarks covering various brands, programs and services offered by us to support our payment programs. Trademark and service mark registrations are generally valid indefinitely as long as they are used and/or properly

maintained. Through license agreements with our customers, we authorize the use of our trademarks on a royalty-free basis in connection with our customers' issuing and merchant acquiring businesses. In addition, we own a number of patents and patent applications relating to payment solutions, transaction processing, smart cards, contactless, mobile, biometrics, AI, security systems, blockchain and other technologies, which are important to our business operations. These patents expire at varying times depending on the jurisdiction and filing date.

Competition

We face a number of competitors both within and outside of the global payments industry and compete in all categories of payment, including paper-based payments and all forms of electronic payments. Among electronic payments, we face the following competition:

- ***General Purpose Payments Networks.*** We compete worldwide with payments networks such as Visa, American Express, JCB, China UnionPay and Discover, among others. These competitors tend to offer a range of card-based payment products. Some competitors have more market share than we do in certain jurisdictions. Some also have different business models that may provide an advantage in pricing, regulatory compliance burdens or otherwise. Globally, financial institutions may issue both Mastercard and Visa-branded payment products, and we compete with Visa for business on the basis of individual portfolios or programs. In addition, a number of our customers issue American Express, China UnionPay and/or Discover-branded payment cards in a manner consistent with a four-party system. We continue to face intense competitive pressure on the prices we charge our issuers and acquirers, and we seek to enter into business agreements with them through which we offer incentives and other support to issue and promote our payment products.
- ***Debit and Local Networks.*** We compete with ATM and point of sale debit networks in various countries. In addition, in many countries outside of the United States, local debit brands serve as the main domestic brands, while our brands are used mostly to enable cross-border transactions (typically representing a small portion of overall transaction volume). Certain jurisdictions have also created domestic card schemes focused mostly on debit. In addition, several governments are promoting, or considering promoting, local networks for domestic switching. See "Risk Factors" in Part I, Item 1A for a more detailed discussion of the risks related to payments system regulation and government actions that may prevent us from competing effectively.
- ***Real-time Account-based Payments Systems.*** We face competition in the real-time account-based payments space from other companies that provide infrastructure, applications and services to support these payment solutions.
- ***Alternative Payments Systems and New Entrants.*** As the global payments industry becomes more complex, we face increasing competition from alternative payments systems and emerging payments providers. Many of these providers, who in many circumstances can also be our partners or customers, have developed payments systems focused on online activity in e-commerce and mobile channels (in some cases, expanding to other channels), and may process payments using in-house account transfers, real-time account-based payments networks or global or local networks. Examples include digital wallet providers (such as Paytm, PayPal, Alipay and Amazon), point of sale financing/buy-now-pay-later providers (such as Klarna), mobile operator services, mobile phone-based money transfer and microfinancing services (such as M-PESA) and handset manufacturers. We also compete with merchants and governments.
- ***National (Government-Backed) Networks.*** Governments have been increasingly creating regional payments structures, such as the newly established European Payments Initiative ("EPI"). Backed by numerous Eurozone banks and acquirers, EPI is aimed at creating a unified pan-European payments system, offering card, digital wallet and person-to-person ("P2P") payment solutions for consumers and merchants. EPI is being positioned as an alternative to existing international payment solutions and schemes such as ours. In addition to regional networks, more than 80 national governments are exploring the use of central bank digital currencies ("CBDCs").
- ***Digital Currencies.*** Stablecoins and floating cryptocurrencies may become more popular as they are increasingly viewed as providing immediacy, 24/7 accessibility, immutability and efficiency. Such currencies are starting to be accepted by person-to-merchant ("P2M") players (such as Square). These currencies are also introducing into the payments ecosystem an emerging set of providers referred to as crypto natives, who have the ability to disrupt traditional financial markets. The increased prominence of digital currencies could compete with our products and services.
- ***Value-Added Service Providers and Adjacent Network Capabilities Players.*** We face competition from companies that provide alternatives to our value-added products and services, including information services and consulting firms that provide consulting services and insights to financial institutions, merchants and governments and technology companies that provide cyber and

fraud solutions, as well as companies that compete against us as providers of loyalty and program management solutions. We also face competition from companies that provide alternatives to our open banking and digital identity solutions. Regulatory initiatives could also lead to increased competition in this space.

Mastercard plays a valuable role as a trusted intermediary in a complex system, creating value for individual stakeholders and the payments ecosystem overall. Our competitive advantages include our:

- globally recognized and trusted brands
- highly adaptable global acceptance network built over more than 50 years which can reach a variety of parties enabling payments
- global payments network with world-class operating performance

- settlement guarantee backed by our strong credit standing
- expertise in real-time account-based payments and open banking
- development and adoption of innovative products and digital solutions
- safety and security solutions offered on our network, which reduce fraud and increase security for the payments ecosystem
- analytics insights and consulting services that help issuers and merchants optimize their payments and related businesses
- loyalty solutions that enhance the payments value proposition for issuers and merchants
- ability to serve a broad array of participants in global payments due to our expanded on-soil presence in individual markets and a heightened focus on working with governments
- world class talent and culture, with a focus on inclusion and being a "force for good"

Collectively, the capabilities that we have created organically, and those that we have obtained through acquisitions, continue to enhance the total proposition we offer our customers. They enable us to partner with many participants in the broader payments ecosystem and provide choice, security and services to improve the value we provide to our customers.

Government Regulation

General. Government regulation impacts key aspects of our business. We are subject to regulations that affect the payments industry in the many countries in which our integrated products and services are used. We are committed to comply with all applicable laws and regulations and implement policies, procedures and programs designed to promote compliance. We coordinate globally while acting locally and leverage our relationships to manage the effects of regulation on us. See "Risk Factors" in Part I, Item 1A for more detail and examples of the regulation to which we are subject.

Payments Oversight and Regulation. Central banks and other regulators in several jurisdictions around the world either have, or are seeking to establish, formal oversight over the payments industry, as well as authority to regulate certain aspects of the payments systems in their countries. Such authority has resulted in regulation of various aspects of our business. In the European Union, Mastercard is subject to systemic importance regulation, which includes various requirements we must meet, including obligations related to governance and risk management. In the U.K., the Bank of England designated Vocalink, our real-time account-based payments network platform, as a "specified service provider", and Mastercard Europe as a "recognized payment system", which includes supervisions and examination requirements. In addition, European Union legislation requires us to separate our scheme activities (brand, products, franchise and licensing) from our switching activities and other processing in terms of how we go to market, make decisions and organize our structure. Certain of our subsidiaries are regulated as payments institutions, including as money transmitters. This regulation subjects us to licensing obligations and regulatory supervision, as well as various business conduct and risk management requirements.

Interchange Fees. Interchange fees that support the function and value of four-party payments systems like ours are being reviewed or challenged in various jurisdictions around the world via legislation to regulate interchange fees, competition-related regulatory proceedings, central bank regulation and litigation. Examples include statutes in the United States that cap debit interchange for certain regulated activities, our settlement with the European Commission resolving its investigation into our interregional interchange fees and the European Union legislation capping consumer credit and debit interchange fees on payments issued and acquired within the European Economic Area (the "EEA"). For more detail, see "Risk Factors - Other Regulation" in Part I, Item 1A and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Preferential or Protective Government Actions. Some governments have taken action to provide resources, preferential treatment or other protection to selected domestic payments and processing providers, as well as to create their own national providers. For example, governments in some countries mandate switching of domestic payments either entirely in that country or by only domestic companies. In China, we are currently excluded from domestic switching and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval.

We are in active discussions to explore different solutions. Some jurisdictions are currently considering adopting or have adopted "data localization" requirements, which mandate the collection, processing, and/or storage of data within their borders. This is the case, for instance, in India, China, Saudi Arabia and South Africa. Various forms of data localization requirements or data transfer restrictions are also under consideration in other countries and jurisdictions, including the European Union.

Anti-Money Laundering, Counter Financing of Terrorism, Economic Sanctions and Anti-Corruption. We are subject to anti-money laundering ("AML") and counter-financing of terrorism ("CFT") laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by the U.S. Office of Foreign Assets Control ("OFAC"). We have implemented a comprehensive AML/CFT program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payments

network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including its list of Specially Designated Nationals and Blocked Persons (the "SDN List"). We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran and Syria have been identified by the U.S. State Department as terrorist-sponsoring states, and we have no offices, subsidiaries or affiliated entities located in these countries and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk.

Financial Sector Oversight. We are or may be subject to regulations related to our role in the financial industry and our relationship with our financial institution customers. In addition, we are or may be subject to regulation by a number of agencies charged with oversight of, among other things, consumer protection, financial and banking matters. The regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products.

Issuer and Acquirer Practices Legislation and Regulation. Our issuers and acquirers are subject to numerous regulations and investigations applicable to banks, financial institutions and other licensed entities, impacting us as a consequence. Additionally, regulations such as the revised Payment Services Directive (commonly referred to as "PSD2") in the EEA require financial institutions to provide third-party payment processors access to consumer payment accounts, enabling them to route transactions away from Mastercard products and provide payment initiation and account information services directly to consumers who use our products. PSD2 also requires a new standard for authentication of transactions, which necessitates additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

Regulation of Internet, Digital Transactions and High-Risk Merchant Categories. Various jurisdictions have enacted or have proposed regulation related to internet transactions. The legislation applies to payments system participants, including us and our customers, and is implemented through a federal regulation. We may also be impacted by evolving laws surrounding gambling, including fantasy sports, as well as certain legally permissible but high-risk merchant categories, such as alcohol, tobacco, firearms and adult content.

Privacy, Data and Information Security. Aspects of our operations or business are subject to increasingly complex privacy and data protection laws in the United States, the European Union and elsewhere around the world. For example, in the United States, we and our customers are respectively subject to Federal Trade Commission and federal banking agency information safeguarding requirements under the Gramm-Leach-Bliley Act that require the maintenance of a written, comprehensive information security program. In the European Union, we are subject to the General Data Protection Regulation (the "GDPR"), which requires a comprehensive privacy and data protection program to protect the personal and sensitive data of EEA residents. A number of regulators and policymakers around the globe are using the GDPR as a reference to adopt new or updated privacy and data protection laws, including in the U.S. (California, Virginia and Colorado), Argentina, Brazil, Canada (Quebec), Chile, China, India, Indonesia, Kenya and Saudi Arabia. Due to increasing data collection and data flows, numerous data breaches and security incidents as well as the use of emerging technologies such as artificial intelligence, regulations in this area are constantly evolving with regulatory and legislative authorities in numerous parts of the world adopting proposals to regulate

data and protect information. In addition, the interpretation and application of these privacy and data protection laws are often uncertain and in a state of flux, thus requiring constant monitoring for compliance.

Sustainability. Various jurisdictions are increasingly considering or adopting laws and regulations that would impact us pertaining to ESG performance, transparency and reporting. Regulations being considered include mandated corporate reporting on sustainability matters generally (such as the European Union Corporate Sustainability Reporting Directive) as well as in specific areas such as mandated reporting on climate-related financial disclosures.

Additional Regulatory Developments. Various regulatory agencies also continue to examine a wide variety of issues that could impact us, including evolving laws surrounding marijuana, prepaid payroll cards, virtual currencies, identity theft, account management guidelines, disclosure rules, security and marketing that would impact our customers directly.

Additional Information

Mastercard Incorporated was incorporated as a Delaware corporation in May 2001. We conduct our business principally through our principal operating subsidiary, Mastercard International Incorporated, a Delaware non-stock (or membership) corporation that was formed in November 1966. For more information about our capital structure, including our Class A common stock (our voting stock) and Class B common stock (our non-voting stock), see Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8.

Website and SEC Reports

Our internet address is www.mastercard.com. From time to time, we may use our corporate website as a channel of distribution of material company information. Financial and other material information is routinely posted and accessible on the investor relations section of our corporate website. You can also visit "Investor Alerts" in the investor relations section to enroll your email address to automatically receive email alerts and other information about Mastercard.

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available for review, without charge, on the investor relations section of our corporate website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission (the "SEC"). The information contained on our corporate website, including, but not limited to, our Sustainability Report, our Global Inclusion Report and our U.S. Consolidated EEO-1 Report, is not incorporated by reference into this Report. Our filings are also available electronically from the SEC at www.sec.gov.

Item 1A. Risk factors

RISK HIGHLIGHTS

Legal and Regulatory	Business and Operations	
Payments Industry Regulation	COVID-19	Global Economic and Political Environment
Preferential or Protective Government Actions	Competition and Technology	Brand and Reputational Impact
Privacy, Data and Security	Information Security and Service Disruptions	Talent and Culture
Other Regulation	Stakeholder Relationships	Acquisitions
Litigation	Settlement and Third-Party Obligations	

Class A Common Stock and Governance Structure

Legal and Regulatory

Payments Industry Regulation

Global regulatory and legislative activity directly related to the payments industry may have a material adverse impact on our overall business and results of operations.

Regulators increasingly seek to regulate certain aspects of payments systems such as ours, or establish or expand their authority to do so. Many jurisdictions have enacted such regulations, establishing, and potentially further expanding, obligations or restrictions with respect to the types of products and services that we may offer, the countries in which our integrated products and services

may be used, the way we structure and operate our business and the types of consumers and merchants who can obtain or accept our products or services. New regulations and oversight could also relate to our clearing and settlement activities (including risk management policies and procedures, collateral requirements, participant default policies and procedures, the ability to complete timely switching of financial transactions, and capital and financial resource requirements). Several jurisdictions have also inquired about the network fees we charge to our customers (typically as part of broader market reviews of retail payments). In addition, several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry. In several jurisdictions, we have been designated as a "systemically important payment system", and other regulators are considering designating us as systemically important or in a similar category resulting in heightened regulatory oversight. These obligations, designations and restrictions may further expand and could conflict with each other as more jurisdictions impose oversight of payments systems. Moreover, as regulators around the world increasingly look to replicate similar regulation of payments and other industries, efforts in any one jurisdiction may influence approaches in other jurisdictions. Similarly, new initiatives within a jurisdiction involving one product may lead to regulation of similar or related products (for example, debit regulations could lead to regulation of credit products). As a result, the risks to our business created by any one new law or regulation are magnified by the potential it has to be replicated in other jurisdictions or involve other products within any particular jurisdiction.

The expansion of our products and services as part of our multi-rail strategy have also created the need for us to obtain new types and increasing numbers of regulatory licenses, resulting in increased supervision and additional compliance burdens distinct from those imposed on our core network activities. For example, certain of our subsidiaries maintain money transfer licenses to support certain activities. These licenses typically impose supervisory and examination requirements, as well as capital, safeguarding, risk management and other business obligations.

Increased regulation and oversight of payments systems, as well as increased exposure to regulation resulting from changes to our products and services, have resulted and may continue to result in costly compliance burdens or otherwise increase our costs. As a result, issuers, acquirers and other customers could be less willing to participate in our payments system and/or use our other products or services, reduce the benefits offered in connection with the use of our products (making our products less desirable to consumers), reduce the volume of domestic and cross-border transactions or other operational metrics, disintermediate us, impact our profitability and limit our ability to innovate or offer differentiated products and services, all of which could materially and adversely impact our financial performance. In addition, any regulation that is enacted related to the type and level of network fees we charge our customers could also materially and adversely impact our results of operations. Regulators could also require us to obtain prior approval for changes to our system rules, procedures or operations, or could require customization with regard to such changes, which could negatively impact us. Such changes could lead to new or different criteria for participation in and access to our payments system by financial institutions or other customers. Moreover, failure to comply with the laws and regulations to which we are subject could result in fines, sanctions, civil damages or other penalties, which could materially and adversely affect our overall business and results of operations, as well as have an impact on our brand and reputation.

Increased regulatory, legislative and litigation activity with respect to interchange rates could have an adverse impact on our business.

Interchange rates are a significant component of the costs that merchants pay in connection with the acceptance of our products. Although we do not earn revenues from interchange, interchange rates can impact the volume of transactions we see on our payment products. If interchange rates are too high, merchants may stop accepting our products or route transactions away from our network. If interchange rates are too low, issuers may stop promoting our integrated products and services, eliminate or reduce loyalty rewards programs or other account holder benefits (e.g., free checking or low interest rates on balances), or charge fees to account holders (e.g., annual fees or late payment fees).

Governments and merchant groups in a number of countries have implemented or are seeking interchange rate reductions through legislation, competition law, central bank regulation and litigation.

See “Business - Government Regulation” in Part I, Item 1 and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details.

If issuers cannot collect or we are required to reduce interchange rates, issuers may be less willing to participate in our four-party payments system, or may reduce the benefits offered in connection with the use of our products, reducing the attractiveness of our products to consumers. These and other impacts could lower transaction volumes, and/or make proprietary three-party networks or other forms of payment more attractive. Issuers could reduce the benefits associated with our products or choose to charge higher fees to consumers to attempt to recoup a portion of the costs incurred for their services. In addition, issuers could seek a fee reduction from us to decrease the expense of their payment programs, particularly if regulation has a disproportionate impact on us as compared to our competitors in terms of the fees we can charge. This could make our products less desirable to consumers, reduce the volume of transactions and our profitability, and limit our ability to innovate or offer differentiated products.

We are devoting substantial resources to defending our right to establish interchange rates in regulatory proceedings, litigation and legislative activity. The potential outcome of any of these activities could have a more positive or negative impact on us relative to our competitors. If we are ultimately unsuccessful in defending our ability to establish interchange rates, any resulting legislation, regulation and/or litigation may have a material adverse impact on our overall business and results of operations. In addition, regulatory proceedings and litigation could result (and in some cases has resulted) in us being fined and/or having to pay civil damages, the amount of which could be material.

Limitations on our ability to restrict merchant surcharging could materially and adversely impact our results of operations.

We have historically implemented policies, referred to as no-surcharge rules, in certain jurisdictions, including the United States, that prohibit merchants from charging higher prices to consumers who pay using our products instead of other means. Authorities in several jurisdictions have acted to end or limit the application of these no-surcharge rules (or indicated interest in doing so). Additionally, we have modified our no-surcharge rules to permit U.S. merchants to surcharge credit cards, subject to certain limitations. It is possible that over time merchants in some or all merchant categories in these jurisdictions may choose to surcharge as permitted by the rule change. This could result in consumers viewing our products less favorably and/or using alternative means of payment instead of electronic products, which could result in a decrease in our overall transaction volumes, and which in turn could materially and adversely impact our results of operations.

Preferential or Protective Government Actions

Preferential and protective government actions related to domestic payment services could adversely affect our ability to maintain or increase our revenues.

Governments in some countries have acted, or in the future may act, to provide resources, preferential treatment or other protection to selected national payment and switching providers, or have created, or may in the future create, their own national provider. This action may displace us from, prevent us from entering into, or substantially restrict us from participating in, particular geographies, and may prevent us from competing effectively against those providers. For example:

- Governments in some countries have implemented, or may implement, regulatory requirements that mandate switching of domestic payments either entirely in that country or by only domestic companies.
- Some jurisdictions have implemented, or are considering, requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications as well as increased compliance burdens and other costs.
- Geopolitical events and resulting OFAC sanctions, adverse trade policies or other types of government actions could lead affected jurisdictions to take actions in response that could adversely affect our business.
- Regional groups of countries are considering, or may consider, efforts to restrict our participation in the switching of regional transactions.

Such developments prevent us from utilizing our global switching capabilities for domestic or regional customers. In addition, to the extent a jurisdiction determines us not to be in compliance with regulatory requirements (including those related to data localization), we have, and may continue to be, subject to resource and time pressures in order to come back into compliance. Our inability to effect change in, or work with, these jurisdictions could adversely affect our ability to maintain or increase our revenues and extend our global brand.

Additionally, some jurisdictions have implemented, or may implement, foreign ownership restrictions, which could potentially have the effect of forcing or inducing the transfer of our technology and proprietary information as a condition of access to their markets. Such restrictions could adversely impact our ability to compete in these markets.

Privacy, Data and Security

Regulation of privacy, data, security and the digital economy could increase our costs, as well as negatively impact our growth.

We are subject to increasingly complex regulations related to privacy, data and information security in the jurisdictions in which we do business. These regulations could result in negative impacts to our business. As we continue to develop integrated and personalized products and services to meet the needs of a changing marketplace, and acquire new companies, we have expanded our information profile through the collection of additional data from additional sources and across multiple channels. This expansion has amplified the impact of these regulations on our business. Regulation of privacy, data and information security requires monitoring of and changes to our data practices in regard to the collection, use, disclosure, storage, transfer and/or security of personal and sensitive information, as well as increased care in our data management, governance and quality practices. While we make every effort to comply with all regulatory requirements and we deploy a privacy-by-design and data-by-design approach to all of our product development, the speed and pace of change may not allow us to meet rapidly evolving expectations. We are also

subject to enhanced compliance and operational requirements in the European Union, and policymakers around the globe are using these requirements as a reference to adopt new or updated privacy laws that could result in similar or stricter requirements in other jurisdictions. Some jurisdictions have implemented or are otherwise considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications. Other jurisdictions have adopted or are otherwise considering adopting sector-specific regulations for the payments industry, including forced data sharing requirements or additional verification requirements, as well as regulations on artificial intelligence and data governance, that overlap or conflict with, or diverge from, general privacy rules. Failure to comply with these laws, regulations and requirements could result in fines, sanctions or other penalties, which could materially and adversely affect our results of operations and overall business, as well as have an impact on our reputation.

New requirements or changing interpretations of existing requirements in these areas, or the development of new regulatory schemes related to the digital economy in general, may also increase our costs and/or restrict our ability to leverage data for innovation. This could impact the products and services we offer and other aspects of our business, such as fraud monitoring, the need for improved data management, governance and quality practices, the development of information-based products and solutions, and technology operations. In addition, these requirements may increase the costs to our customers of issuing payment products, which may, in turn, decrease the number of our payment products that they issue. Moreover, due to account data compromise events and privacy abuses by other companies, as well as the disclosure of monitoring activities by certain governmental agencies in combination with the use of artificial intelligence and new technologies, there has been heightened legislative and regulatory scrutiny around the world that could lead to further regulation and requirements and/or future enforcement. Those developments have also raised public attention on companies' data practices and have changed consumer and societal expectations for enhanced privacy and data protection. Any of these developments could materially and adversely affect our overall business and results of operations.

In addition, fraudulent activity and increasing cyberattacks have encouraged legislative and regulatory intervention, and could damage our reputation and reduce the use and acceptance of our integrated products and services or increase our compliance costs. Criminals are using increasingly sophisticated methods to capture consumer personal information to engage in illegal activities such as counterfeiting or other fraud. As outsourcing and specialization become common in the payments industry, there are more third parties involved in processing transactions using our payment products. While we are taking measures to make card and digital payments more secure, increased fraud levels involving our integrated products and services, or misconduct or negligence by third parties switching or otherwise servicing our integrated products and services, could lead to legislative or regulatory intervention, such as enhanced security requirements and liabilities, as well as damage to our reputation.

Other Regulation

Regulations that directly or indirectly apply to Mastercard as a result of our participation in the global payments industry may materially and adversely affect our overall business and results of operations.

We are subject to regulations that affect the payments industry in the many jurisdictions in which our integrated products and services are used. Many of our customers are also subject to regulations applicable to banks and other financial institutions that, at times, consequently affect us. Regulation of the payments industry, including regulations applicable to us and our customers, has increased significantly in the last several years. See "Business - Government Regulation" in Part I, Item 1 for a detailed description of such regulation and related legislation. Examples include:

- ***Anti-Money Laundering, Counter Financing of Terrorism, Economic Sanctions and Anti-Corruption*** - We are subject to AML and CFT laws and regulations globally. Economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies, and persons and entities. We are also subject to anti-corruption laws and regulations globally, which, among other things, generally prohibit giving or offering payments

or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage.

- ***Account-based Payments Systems*** - In the U.K., aspects of our Vocalink business are subject to the U.K. payment system oversight regime and are directly overseen by the Bank of England.
- ***Issuer and Acquirer Practices Legislation and Regulation*** - Certain regulations (such as PSD2 in the EEA) may impact various aspects of our business. For example, PSD2's strong authentication requirement could increase the number of transactions that consumers abandon if we are unable to secure a frictionless authentication experience under the new standards. An increase in the rate of abandoned transactions could adversely impact our volumes or other operational metrics.

Increased regulatory focus on us, such as in connection with the matters discussed above, may result in costly compliance burdens and/or may otherwise increase our costs. Similarly, increased regulatory focus on our customers may cause such customers to reduce the volume of transactions processed through our systems, or may otherwise impact the competitiveness of our products. Actions by regulators could influence other organizations around the world to enact or consider adopting similar measures,

amplifying any potential compliance burden. Additionally, our compliance with new economic sanctions and related laws with respect to particular jurisdictions or customers could result in a loss of business, which could be significant. Finally, failure to comply with the laws and regulations discussed above to which we are subject could result in fines, sanctions or other penalties. In particular, a violation and subsequent judgment or settlement against us, or those with whom we may be associated, under economic sanctions and AML, CFT, and anti-corruption laws could subject us to substantial monetary penalties, damages, and/or have a significant reputational impact. Each instance may individually or collectively materially and adversely affect our financial performance and/or our overall business and results of operations, as well as have an impact on our reputation.

We could be subject to adverse changes in tax laws, regulations and interpretations or challenges to our tax positions.

We are subject to tax laws and regulations of the U.S. federal, state and local governments as well as various non-U.S. jurisdictions. Potential changes in existing tax laws, including future regulatory guidance, may impact our effective income tax rate and tax payments. There can be no assurance that changes in tax laws or regulations, both within the U.S. and the other jurisdictions in which we operate, will not materially and adversely affect our effective income tax rate, tax payments, financial condition and results of operations. Similarly, changes in tax laws and regulations that impact our customers and counterparties or the economy generally may also impact our financial condition and results of operations.

In addition, tax laws and regulations are complex and subject to varying interpretations, and any significant failure to comply with applicable tax laws and regulations in all relevant jurisdictions could give rise to substantial penalties and liabilities. Any changes in enacted tax laws, rules or regulatory or judicial interpretations; any adverse outcome in connection with tax audits in any jurisdiction; or any change in the pronouncements relating to accounting for income taxes could materially and adversely impact our effective income tax rate, tax payments, financial condition and results of operations.

Litigation

Liabilities we may incur or limitations on our business related to any litigation or litigation settlements could materially and adversely affect our results of operations.

We are a defendant in a number of civil litigations and regulatory proceedings and investigations, including among others, those alleging violations of competition and antitrust law and those involving intellectual property claims. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details regarding the allegations contained in these complaints and the status of these proceedings. In the event we are found liable in any material litigations or proceedings, particularly in the event we may be found liable in a large class-action lawsuit or on the basis of an antitrust claim entitling the plaintiff to treble damages or under which we were jointly and severally liable, we could be subject to significant damages, which could have a material adverse impact on our overall business and results of operations.

Certain limitations have been placed on our business in recent years because of litigation and litigation settlements, such as changes to our no-surcharge rule in the United States. Any future limitations on our business resulting from litigation or litigation settlements could impact our relationships with our customers, including reducing the volume of business that we do with them, which may materially and adversely affect our overall business and results of operations.

Business and Operations

COVID-19

The global COVID-19 pandemic and measures taken in response have adversely impacted our business, results of operations and financial condition, and may continue to do so depending on future developments, which are uncertain.

The global COVID-19 pandemic continues to have negative effects on the global economy. The pandemic has affected business activity, adversely impacting consumers, our customers, suppliers and

business partners, as well as our workforce. Variants of the virus have emerged, resulting in a resurgence of infections that have affected regions at different times. New variants may emerge with similar results. The extent to which the resurgence and severity of infections has affected, and may in the future affect, regions is impacted by the ongoing global administration of vaccines and the availability of therapeutic treatments in those locations. Governments, businesses and consumers continue to react to the changing conditions, tightening or loosening safety measures or voluntarily making personal safety decisions, as applicable, based on the current environment of their location.

The pandemic has caused us to modify our business practices (including employee travel, employee work locations, and working in remote or hybrid environments). We continue to monitor the effects of the pandemic and may take further actions as required that are in the best interests of our employees, customers and business partners and which otherwise meet the responses by

governments, businesses and consumers. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities or voluntary actions taken by the public.

The COVID-19 pandemic has adversely impacted our business, results of operations and financial condition. There are no comparable recent events which may provide guidance as to the effect of a global pandemic such as COVID-19, and, as a result, the ultimate impact of this pandemic or a similar health epidemic in the future is highly uncertain and subject to change. The full extent to which the COVID-19 pandemic, and measures taken in response, further impacts our business, results of operations and financial condition will depend on future developments, which are uncertain, including, but not limited to, the duration of the pandemic and its impact on the global economy, including how quickly and to what extent we can continue to progress toward more consistent economic and operating conditions. Even after the COVID-19 pandemic has subsided, we may continue to experience materially adverse impacts to our business and our result of operations as a result of its global economic impact, including any recession that has occurred or may occur in the future.

Competition and Technology

Substantial and intense competition worldwide in the global payments industry may materially and adversely affect our overall business and results of operations.

The global payments industry is highly competitive. Our payment programs compete against competitors both within and outside of the global payments industry and compete in all categories of payment, including paper-based payments and all forms of electronic payments. We compete against general purpose payments networks, debit and local networks, ACH and real-time account-based payments systems, alternative payments systems and new entrants (focused on online activity across various channels and processing payments using in-house capabilities), national networks and digital currencies. We also face competition from companies that provide alternatives to our value-added services and adjacent network capabilities (including open banking and digital identity).

Our traditional competitors may have substantially greater financial and other resources than we have, may offer a wider range of programs, services, and payment capabilities than we offer or may use more effective advertising and marketing strategies to achieve broader brand recognition and merchant acceptance than we have. They may also introduce their own innovative programs, value-added services and capabilities that adversely impact our growth.

Certain of our competitors to our core network operate three-party payments systems with direct connections to both merchants and consumers and these competitors may derive competitive advantages from their business models. If we continue to attract more regulatory scrutiny than these competitors because we operate a four-party system, or we are regulated because of the system we operate in a way in which our competitors are not, we could lose business to these competitors. See "Business - Competition" in Part I, Item 1.

New entrants against whom we compete have developed alternative payments systems, e-commerce payments systems and payments systems for mobile devices, as well as physical store locations. A number of these new entrants rely principally on technology to support their services that provides cost advantages, and as a result may enjoy lower costs than we do, which could put us at a competitive disadvantage.

Our ability to compete may also be affected by regulatory and legislative initiatives, as well as the outcomes of litigation, competition-related regulatory proceedings and central bank activity and legislative activity.

If we are not able to differentiate ourselves from our competitors, drive value for our customers and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively against these threats. Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Disintermediation from stakeholders both within and outside of the payments value chain could harm our business.

As the payments industry continues to develop and change, we face disintermediation and related risks, including:

- Parties that process our transactions in certain countries may try to eliminate our position as an intermediary in the payment process. For example, merchants could switch (and in some cases are switching) transactions directly with issuers. Additionally, processors could process transactions directly between issuers and acquirers. Large scale consolidation within processors could result in these processors developing bilateral agreements or in some cases switching the entire transaction on their own network, thereby disintermediating us.
- Industry participants continue to invest in and develop alternative capabilities, such as account to account payments, which could facilitate P2M transactions that compete with our core payments network.

- Regulation (such as PSD2 in the EEA) may disintermediate issuers by enabling third-party providers opportunities to route payment transactions away from our network and products and towards other forms of payment by offering account information or payment initiation services directly to those who currently use our products. Such regulation may also provide these processors with the opportunity to commoditize the data that are included in the transactions they are servicing. If our customers are disintermediated in their business, we could face diminished demand for our integrated products and services.
- Although we partner with fintechs and technology companies (such as digital players and mobile providers) that leverage our technology, platforms and networks to deliver their products, they could develop platforms or networks that disintermediate us from digital payments and impact our ability to compete in the digital economy. When we do partner with fintechs and technology companies, we face a heightened risk when those relationships involve sharing Mastercard data. While we share this data in a controlled manner subject to applicable anonymization and privacy and data standards, without proper oversight we could give the partner a competitive advantage.
- Competitors, customers, fintechs, technology companies, governments and other industry participants may develop products that compete with or replace value-added products and services we currently provide to support our switched transaction and payment offerings. These products could replace our own switching and payments offerings or could force us to change our pricing or practices for these offerings. In addition, governments that develop or encourage the creation of national payments platforms may promote their platforms in such a way that could put us at a competitive disadvantage in those markets, or require us to compete differently.
- Participants in the payments industry may merge, create joint ventures or form other business combinations that may strengthen their existing business services or create new payment products and services that compete with our products and services.

Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Continued intense pricing pressure may materially and adversely affect our overall business and results of operations.

In order to increase transaction volumes, enter new markets and expand our Mastercard-branded cards and enabled products and services, we seek to enter into business agreements with customers through which we offer incentives, pricing discounts and other support that promote our products. In order to stay competitive, we may have to increase the amount of these incentives and pricing discounts. We continue to experience pricing pressure. The demand from our customers for better pricing arrangements and greater rebates and incentives moderates our growth. We may not be able to continue our expansion strategy to switch additional transaction volumes or to provide additional services to our customers at levels sufficient to compensate for such lower fees or increased costs in the future, which could materially and adversely affect our overall business and results of operations. In addition, increased pressure on prices increases the importance of cost containment and productivity initiatives in areas other than those relating to customer incentives.

In the future, we may not be able to enter into agreements with our customers if they require terms that we are unable or unwilling to offer, and we may be required to modify existing agreements in order to maintain relationships and to compete with others in the industry. Some of our competitors are larger and have greater financial resources than we do and accordingly may be able to charge lower prices to our customers. In addition, to the extent that we offer discounts or incentives under such agreements, we will need to further increase transaction volumes or the amount of services provided thereunder in order to benefit incrementally from such agreements and to increase revenue and profit, and we may not be successful in doing so, particularly in the current regulatory environment. Our customers also may implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability. These factors could have a material adverse impact on our overall business and results of operations.

Rapid and significant technological developments and changes could negatively impact our overall business and results of operations or limit our future growth.

The payments industry is subject to rapid and significant technological changes, which can impact our business in several ways:

- Technological changes, including continuing developments of technologies in the areas of smart cards and devices, contactless and mobile payments, e-commerce, cryptocurrency and block chain technology, machine learning and AI, could result in new technologies that may be superior to, or render obsolete, the technologies we currently use in our programs and services. Moreover, these changes could result in new and innovative payment methods and products that could place us at a competitive disadvantage and that could reduce the use of our products.
- We rely in part on third parties, including some of our competitors and potential competitors, for the development of and access to new technologies. The inability of these companies to keep pace with technological developments, or the acquisition of these companies by competitors, could negatively impact our offerings.

- Our ability to develop and adopt new services and technologies may be inhibited by industry-wide solutions and standards (such as those related to EMV, tokenization or other safety and security technologies), and by resistance from customers or merchants to such changes.
- Our ability to develop evolving systems and products may be inhibited by any difficulty we may experience in attracting and retaining technology experts.
- Our ability to adopt these technologies can also be inhibited by intellectual property rights of third parties. We have received, and we may in the future receive, notices or inquiries from patent holders (for example, other operating companies or non-practicing entities) suggesting that we may be infringing certain patents or that we need to license the use of their patents to avoid infringement. Such notices may, among other things, threaten litigation against us or our customers or demand significant license fees.
- Our ability to develop new technologies and reflect technological changes in our payments offerings will require resources, which may result in additional expenses.
- We work with fintechs, technology companies (such as digital players and mobile providers) and traditional customers that use our technology to enhance payment safety and security and to deliver their payment-related products and services quickly and efficiently to consumers. Our inability to keep pace technologically could negatively impact the willingness of these customers to work with us, and could encourage them to use their own technology and compete against us.
- Regulatory or government requirements could require us to host and deliver certain products and services on-soil in certain markets, which would require us to alter our technology and delivery model, potentially resulting in additional expenses.
- Various central banks are experimenting with digital currencies called Central Bank Digital Currencies (CBDC). CBDCs may be launched with their own networks to transfer money between participants. Policy and design considerations that governments adopt could impact the extent of our role in facilitating CBDC-based payment transactions, potentially impacting the transactions that we may process over our network.

We cannot predict the effect of technological changes on our business, and our future success will depend, in part, on our ability to anticipate, develop or adapt to technological changes and evolving industry standards. Failure to keep pace with these technological developments or otherwise bring to market products that reflect these technologies could lead to a decline in the use of our products, which could have a material adverse impact on our overall business and results of operations.

Operating a real-time account-based payments network presents risks that could materially affect our business.

U.K. regulators have designated Vocalink, our real-time account-based payments network platform, to be a "specified service provider" and regulators in other countries may in the future expand their regulatory oversight of real-time account-based payments systems in similar ways. In addition, any prolonged service outage on this network could result in quickly escalating impacts, including potential intervention by the Bank of England and significant reputational risk to Vocalink and us. For a discussion of the regulatory risks related to our real-time account-based payments platform, see our risk factor in "Risk Factors - Payments Industry Regulation" in this Part I, Item 1A. Furthermore, the complexity of this payment technology requires careful management to address security vulnerabilities that are different from those faced on our core network. Operational difficulties, such as the temporary unavailability of our services or products, or security breaches on our real-time account-based payments network could cause a loss of business for these products and services, result in potential liability for us and adversely affect our reputation.

Working with new customers and end users as we expand our multi-rail solutions and integrated products and services can present operational and onboarding challenges, be costly and result in reputational damage if the new products or services do not perform as intended.

The payments markets in which we compete are characterized by rapid technological change, new product introductions, evolving industry standards and changing customer and consumer needs. In order to remain competitive and meet the needs of the payments markets, we are continually involved in developing complex multi-rail solutions and diversifying our integrated products and services. These

efforts carry the risks associated with any diversification initiative, including cost overruns, delays in delivery and performance problems. These projects also carry risks associated with working with different types of customers, for example organizations such as corporations that are not financial institutions and non-governmental organizations ("NGOs"), and end users other than those we have traditionally worked with. These differences may present new operational challenges in the development and implementation of our new products or services. These new customers are typically less regulated, and as a result, enhanced infrastructure and monitoring is required.

Our failure to effectively design and deliver these multi-rail solutions and integrated products and services could make our other offerings less desirable to customers, or put us at a competitive disadvantage. In addition, if there is a delay in the implementation of our products or services or if our products or services do not perform as anticipated, or we are unable to adequately anticipate

risks related to new types of customers, we could face additional regulatory scrutiny, fines, sanctions or other penalties, which could materially and adversely affect our overall business and results of operations, as well as negatively impact our brand and reputation.

Information Security and Service Disruptions

Information security incidents or account data compromise events could disrupt our business, damage our reputation, increase our costs and cause losses.

Information security risks for payments and technology companies such as ours have significantly increased in recent years in part because of the proliferation of new technologies, the use of the Internet and telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties. These threats may derive from fraud or malice on the part of our employees or third parties, or may result from human error or accidental technological failure. These threats include cyber-attacks such as computer viruses, malicious code (including ransomware), phishing attacks or information security breaches and could lead to the misappropriation of consumer account and other information and identity theft. The advent of the global COVID-19 pandemic has resulted in a significant rise in these types of threats due to a significant portion of our workforce working from home in a mostly remote environment.

Our operations rely on the secure processing, transmission and storage of confidential, proprietary and other information and technology in our computer systems and networks, as well as the systems of our third-party providers. Our customers and other parties in the payments value chain, as well as account holders, rely on our digital technologies, computer systems, software and networks to conduct their operations. In addition, to access our integrated products and services, our customers and account holders increasingly use personal smartphones, tablet PCs and other mobile devices that may be beyond our control. We, like other financial technology organizations, routinely are subject to cyber-threats and our technologies, systems and networks, as well as the systems of our third-party providers, have been subject to attempted cyber-attacks. Because of our position in the payments value chain, we believe that we are likely to continue to be a target of such threats and attacks. Additionally, geopolitical events and resulting government activity could also lead to information security threats and attacks by affected jurisdictions and their sympathizers.

To date, we have not experienced any material impact relating to cyber-attacks or other information security breaches. However, future attacks or breaches could lead to security breaches of the networks, systems (including third-party provider systems) or devices that our customers use to access our integrated products and services, which in turn could result in the unauthorized disclosure, release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information (including account data information) or data security compromises. Such attacks or breaches could also cause service interruptions, malfunctions or other failures in the physical infrastructure or operations systems that support our businesses and customers (such as the lack of availability of our value-added services), as well as the operations of our customers or other third parties. In addition, they could lead to damage to our reputation with our customers and other parties and the market, additional costs to us (such as repairing systems, adding new personnel or protection technologies or compliance costs), regulatory penalties, financial losses to both us and our customers and partners and the loss of customers and business opportunities. If such attacks are not detected immediately, their effect could be compounded.

Despite various mitigation efforts that we undertake, there can be no assurance that we will be immune to these risks and not suffer material breaches and resulting losses in the future, or that our insurance coverage would be sufficient to cover all losses. Our risk and exposure to these matters remain heightened because of, among other things, the evolving nature of these threats, our prominent size and scale and our role in the global payments and technology industries, our plans to continue to implement our digital and mobile channel strategies and develop additional remote connectivity solutions to serve our customers and account holders when and how they want to be served, our global presence, our extensive use of third-party vendors and future joint venture and merger and acquisition opportunities. As a result, information security and the continued development and enhancement of our controls, processes and practices designed to protect our systems,

computers, software, data and networks from attack, damage or unauthorized access remain a priority for us. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Any of the risks described above could materially adversely affect our overall business and results of operations.

In addition to information security risks for our systems, we also routinely encounter account data compromise events involving merchants and third-party payment processors that process, store or transmit payment transaction data, which affect millions of Mastercard, Visa, Discover, American Express and other types of account holders. Further events of this type may subject us to reputational damage and/or lawsuits involving payment products carrying our brands. Damage to our reputation or that of our brands resulting from an account data breach of either our systems or the systems of our customers, merchants and other third parties could decrease the use and acceptance of our integrated products and services. Such events could also slow or reverse the

trend toward electronic payments. In addition to reputational concerns, the cumulative impact of multiple account data compromise events could increase the impact of the fraud resulting from such events by, among other things, making it more difficult to identify consumers. Moreover, while most of the lawsuits resulting from account data breaches do not involve direct claims against us and while we have releases from many issuers and acquirers, we could still face damage claims, which, if upheld, could materially and adversely affect our results of operations. Such events could have a material adverse impact on our transaction volumes, results of operations and prospects for future growth, or increase our costs by leading to additional regulatory burdens being imposed on us.

Service disruptions that cause us to be unable to process transactions or service our customers could materially affect our overall business and results of operations.

Our transaction switching systems and other offerings have experienced in limited instances and may continue to experience interruptions as a result of technology malfunctions, fire, weather events, power outages, telecommunications disruptions, terrorism, workplace violence, accidents or other catastrophic events (including those related to climate change). Our visibility in the global payments industry may also put us at greater risk of attack by terrorists, activists, or hackers who intend to disrupt our facilities and/or systems. Additionally, we rely on third-party service providers for the timely transmission of information across our global data network. Inadequate infrastructure in lesser-developed markets could also result in service disruptions, which could impact our ability to do business in those markets. If one of our service providers fails to provide the communications capacity or services we require, as a result of natural disaster, operational disruptions, terrorism, hacking or any other reason, the failure could interrupt our services. Although we maintain a enterprise resiliency program to analyze risk, assess potential impacts, and develop effective response strategies, we cannot ensure that our business would be immune to these risks, because of the intrinsic importance of our switching systems to our business, any interruption or degradation could adversely affect the perception of the reliability of products carrying our brands and materially adversely affect our overall business and our results of operations.

Stakeholder Relationships

Losing a significant portion of business from one or more of our largest customers could lead to significant revenue decreases in the longer term, which could have a material adverse impact on our business and our results of operations.

Many of our customer relationships are not exclusive. Our customers can reassess their future commitments to us subject to the terms of our contracts, and they separately may develop their own services that compete with ours. Our business agreements with these customers may not ultimately reduce the risk inherent in our business that customers may terminate their relationships with us in favor of relationships with our competitors, or for other reasons, or might not meet their contractual obligations to us.

In addition, a significant portion of our revenue is concentrated among our five largest customers. Loss of business from any of our large customers could have a material adverse impact on our overall business and results of operations.

Exclusive/near exclusive relationships certain customers have with our competitors may have a material adverse impact on our business.

While we have exclusive, or nearly-exclusive, relationships with certain of our customers to issue payment products, other customers have similar exclusive, or nearly-exclusive, relationships with our competitors. These relationships may make it difficult or cost-prohibitive for us to do significant amounts of business with these customers to increase our revenues. In addition, these customers may be more successful and may grow faster than the customers that primarily issue our payment products, which could put us at a competitive disadvantage. Furthermore, we earn substantial revenue from customers with nearly-exclusive relationships with our competitors. Such relationships could provide advantages to the customers to shift business from us to the competitors with which they are principally aligned. A significant loss of our existing revenue or transaction volumes from these customers could have a material adverse impact on our business.

Consolidation amongst our customers could materially and adversely affect our overall business and results of operations.

Our customers' industries have undergone substantial, accelerated consolidation in the past. These consolidations have included customers with a substantial Mastercard portfolio being acquired by institutions with a strong relationship with a competitor. If significant consolidation among customers were to continue, it could result in the substantial loss of business for us, which could have a material adverse impact on our business and prospects. In addition, one or more of our customers could seek to merge with, or acquire, one of our competitors, and any such transaction could also have a material adverse impact on our overall business. Consolidation could also produce a smaller number of large customers, which could increase their bargaining power and lead to lower prices and/or more favorable terms for our customers. These developments could materially and adversely affect our results of operations.

Our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and, in many jurisdictions, their ability to effectively manage or help manage our brands.

While we work directly with many stakeholders in the payments system, including merchants, governments, fintechs and large digital companies and other technology companies, we are, and will continue to be, significantly dependent on our relationships with our issuers and acquirers and their respective relationships with account holders and merchants to support our programs and services. Furthermore, we depend on our issuing partners and acquirers to continue to innovate to maintain competitiveness in the market. We do not issue cards or other payment devices, extend credit to account holders or determine the interest rates or other fees charged to account holders. Each issuer determines these and most other competitive payment program features. In addition, we do not establish the discount rate that merchants are charged for acceptance, which is the responsibility of our acquiring customers. As a result, our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and the strength of our relationships with them. In turn, our customers' success depends on a variety of factors over which we have little or no influence, including economic conditions in global financial markets or their disintermediation by competitors or emerging technologies, as well as regulation. If our customers become financially unstable, we may lose revenue or we may be exposed to settlement risk. See our risk factor in "Risk Factors - Settlement and Third-Party Obligations" in this Part I, Item 1A with respect to how we guarantee certain third-party obligations for further discussion.

With the exception of the United States and a select number of other jurisdictions, most in-country (as opposed to cross-border) transactions conducted using Mastercard, Maestro and Cirrus cards are authorized, cleared and settled by our customers or other processors. Because we do not provide domestic switching services in these countries and do not, as described above, have direct relationships with account holders, we depend on our close working relationships with our customers to effectively manage our brands, and the perception of our payments system, among consumers in these countries. We also rely on these customers to help manage our brands and perception among regulators and merchants in these countries, alongside our own relationships with them. From time to time, our customers may take actions that we do not believe to be in the best interests of our payments system overall, which may materially and adversely impact our business.

Merchants' continued focus on acceptance costs may lead to additional litigation and regulatory proceedings and increase our incentive program costs, which could materially and adversely affect our profitability.

Merchants are important constituents in our payments system. We rely on both our relationships with them, as well as their relationships with our issuer and acquirer customers, to continue to expand the acceptance of our integrated products and services. We also work with merchants to help them enable new sales channels, create better purchase experiences, improve efficiencies, increase revenues and fight fraud. In the retail industry, there is a set of larger merchants with increasingly global scope and influence. We believe that these merchants are having a significant impact on all participants in the global payments industry, including Mastercard. Some large merchants have supported the legal, regulatory and legislative challenges to interchange fees that Mastercard has been defending, including the U.S. merchant litigations. Some merchants are increasingly asking regulators to review and potentially regulate our own network fees, in addition to interchange. See our risk factor in "Risk Factors – Other Regulation" in this Part I, Item 1A with respect to payments industry regulation, including interchange fees. The continued focus of merchants on the costs of accepting various forms of payment, including in connection with the growth of digital payments, may lead to additional litigation and regulatory proceedings.

Certain larger merchants are also able to negotiate incentives from us and pricing concessions from our issuer and acquirer customers as a condition to accepting our products. We also make payments to certain merchants to incentivize them to create co-branded payment programs with us. As merchants consolidate and become even larger, we may have to increase the amount of incentives that we provide to certain merchants, which could materially and adversely affect our results of operations. Competitive and regulatory pressures on pricing could make it difficult to offset the costs of these incentives. Additionally, if the rate of merchant acceptance growth slows our business could suffer.

Our work with governments exposes us to unique risks that could have a material impact on our business and results of operations.

As we increase our work with national, state and local governments, both indirectly through financial institutions and with them directly as our customers, we may face various risks inherent in associating or contracting directly with governments. These risks include, but are not limited to, the following:

- Governmental entities typically fund projects through appropriated monies. Changes in governmental priorities or other political developments, including disruptions in governmental operations, could impact approved funding and result in changes in the scope, or lead to the termination, of the arrangements or contracts we or financial institutions enter into with respect to our payment products and services.

- Our work with governments subjects us to U.S. and international anti-corruption laws, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation and subsequent judgment or settlement under these laws could subject us to substantial monetary penalties and damages and have a significant reputational impact.
- Working or contracting with governments, either directly or via our financial institution customers, can subject us to heightened reputational risks, including extensive scrutiny and publicity, as well as a potential association with the policies of a government as a result of a business arrangement with that government. Any negative publicity or negative association with a government entity, regardless of its accuracy, may adversely affect our reputation.

Settlement and Third-Party Obligations

Our role as guarantor, as well as other contractual obligations, expose us to risk of loss or illiquidity.

We are a guarantor of certain third-party obligations, including those of certain of our customers. In this capacity, we are exposed to credit and liquidity risk from these customers and certain service providers. We may incur significant losses in connection with transaction settlements if a customer fails to fund its daily settlement obligations due to technical problems, liquidity shortfalls, insolvency or other reasons. Concurrent settlement failures of more than one of our larger customers or of several of our smaller customers either on a given day or over a condensed period of time may exceed our available resources and could materially and adversely affect our results of operations.

We have significant contractual indemnification obligations with certain customers. Should an event occur that triggers these obligations, such an event could materially and adversely affect our overall business and result of operations.

Global Economic and Political Environment

Global economic, political, financial and societal events or conditions could result in a material and adverse impact on our overall business and results of operations.

Adverse economic trends in key countries in which we operate may adversely affect our financial performance. Such impact may include, but is not limited to, the following:

- Customers mitigating their economic exposure by limiting the issuance of new Mastercard products and requesting greater incentive or greater cost stability from us
- Consumers and businesses lowering spending, which could impact domestic and cross-border spend
- Government intervention (including the effect of laws, regulations and/or government investments on or in our financial institution customers), as well as uncertainty due to changing political regimes in executive, legislative and/or judicial branches of government, that may have potential negative effects on our business and our relationships with customers or otherwise alter their strategic direction away from our products
- Tightening of credit availability that could impact the ability of participating financial institutions to lend to us under the terms of our credit facility

Additionally, we switch substantially all cross-border transactions using Mastercard, Maestro and Cirrus-branded cards and generate a significant amount of revenue from cross-border volume fees and fees related to switched transactions. Revenue from switching cross-border and currency conversion transactions for our customers fluctuates with the levels and destinations of cross-border travel and our customers' need for transactions to be converted into their base currency. Cross-border activity has, and may continue to be, adversely affected by world geopolitical, economic, health, weather and other conditions. These include COVID-19, as well as the threat of terrorism and separate outbreaks of flu, viruses and other diseases (any of which could result in future epidemics or pandemics), as well as major environmental and extreme weather events, including those related to climate change. As governments, investors and other stakeholders face pressure to address climate change and other sustainability matters, these stakeholders may express new expectations, focus investments and require additional disclosures in ways that cause significant shifts in commerce and consumption behaviors. The impact of and uncertainty that could result from any of these events or factors could ultimately decrease cross-border activity. Additionally, any regulation of interregional interchange fees

could also negatively impact our cross-border activity. In each case, decreased cross-border activity could decrease the revenue we receive.

Our operations as a global payments network rely in part on global interoperable standards to help facilitate safe and simple payments. To the extent geopolitical events result in jurisdictions no longer participating in the creation or adoption of these standards, or the creation of competing standards, the products and services we offer could be negatively impacted.

Any of these developments could have a material adverse impact on our overall business and results of operations.

Adverse currency fluctuations and foreign exchange controls could negatively impact our results of operations.

During 2021, approximately 68% of our revenue was generated from activities outside the United States. This revenue (and the related expense) could be transacted in a non-functional currency or valued based on a currency other than the functional currency of the entity generating the revenues. Resulting exchange gains and losses are included in our net income. Our risk management activities provide protection with respect to adverse changes in the value of only a limited number of currencies and are based on estimates of exposures to these currencies.

In addition, some of the revenue we generate outside the United States is subject to unpredictable currency fluctuations including devaluation of currencies where the values of other currencies change relative to the U.S. dollar. If the U.S. dollar strengthens compared to currencies in which we generate revenue, this revenue may be translated at a materially lower amount than expected. Furthermore, we may become subject to exchange control regulations that might restrict or prohibit the conversion of our other revenue currencies into U.S. dollars, such as what we have experienced in Venezuela.

The occurrence of currency fluctuations or exchange controls could have a material adverse impact on our results of operations.

Brand and Reputational Impact

Negative brand perception may materially and adversely affect our overall business.

Our brands and their attributes are key assets of our business. The ability to attract consumers to our branded products and retain them depends upon the external perception of us and our industry. Our business may be affected by actions taken by our customers, merchants or other organizations that impact the perception of our brands or the payments industry in general. From time to time, our customers may take actions that we do not believe to be in the best interests of our brands, such as creditor practices that may be viewed as "predatory". Moreover, adverse developments with respect to our industry or the industries of our customers or other companies and organizations that use our products and services (including certain legally permissible but high- risk merchant categories, such as alcohol, tobacco, firearms and adult content) may also, by association, impair our reputation, or result in greater public, regulatory or legislative scrutiny. We have also been pursuing the use of social media channels at an increasingly rapid pace. Under some circumstances, our use of social media, or the use of social media by others as a channel for criticism or other purposes, could also cause rapid, widespread reputational harm to our brands by disseminating rapidly and globally actual or perceived damaging information about us, our products or merchants or other end users who utilize our products. To the extent any of our published sustainability metrics are subsequently viewed as inaccurate or we are unable to execute on our sustainability initiatives, we may be viewed negatively by consumers, investors and other stakeholders concerned about these matters. Also, as we are headquartered in the United States, a negative perception of the United States could impact the perception of our company, which could adversely affect our business. Any of the above issues could have a material and adverse effect to our overall business.

Lack of visibility of our brand in our products and services, or in the products and services of our partners who use our technology, may materially and adversely affect our business.

As more players enter the global payments ecosystem, the layers between our brand and consumers and merchants increase. In order to compete with other powerful consumer brands that are also becoming part of the consumer payment experience, we often partner with those brands on payment solutions. These brands include large digital companies and other technology companies who are our customers and use our networks to build their own acceptance brands. In some cases, our brand may not be featured in the payment solution or may be secondary to other brands. Additionally, as part of our relationships with some issuers, our payment brand is only included on the back of the card. As a result, our brand may either be invisible to consumers or may not be the primary brand with which consumers associate the payment experience. This brand invisibility, or any consumer confusion as to our role in the consumer payment experience, could decrease the value of our brand, which could adversely affect our business.

Talent and Culture

We may not be able to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture, which could impact our ability to grow effectively.

Our performance largely depends on the talents and efforts of our employees, particularly our key personnel and senior management. We may be unable to retain or to attract highly qualified employees. The market for key personnel is highly competitive, particularly in technology and other skill areas significant to our business. Additionally, changes in immigration and work permit laws and visa regulations and related enforcement have made it difficult for employees to work in, or transfer among, jurisdictions in which we have operations and could impair our ability to attract and retain qualified employees. Moreover, as a result of the global COVID-19 pandemic, a significant portion of our workforce is working in either a remote or hybrid environment. Such environments may continue after the pandemic due to potential resulting trends, and could impact the quality of our corporate culture, as well as our ability to attract and retain talent. Failure to attract, hire, develop, motivate and retain highly qualified and diverse employee talent, or to maintain a corporate culture that fosters innovation, creativity and teamwork could harm our overall business and results of operations.

We rely on key personnel to lead with integrity and decency. To the extent our leaders behave in a manner that is not consistent with our values, we could experience significant impact to our brand and reputation, as well as to our corporate culture.

Acquisitions

Our efforts to enter into acquisitions, strategic investments or entry into new businesses could be impacted or prevented by regulatory scrutiny and could otherwise result in issues that could disrupt our business and harm our results of operations or reputation.

We continue to evaluate our strategic acquisitions of complementary businesses, products or technologies, as well as acquiring interests in related joint ventures or other entities. As we do so, we face increasing regulatory scrutiny with respect to antitrust and other considerations that could impact these efforts. We also face competition for acquisition targets due to the nature of the market for technology companies. As a result, we could be prevented from successfully completing such acquisitions in the future. If we are not successful in these efforts, we could lose strategic opportunities that are dependent, in part, on inorganic growth.

To the extent we do make these acquisitions, we may not be able to successfully partner with or integrate them, despite original intentions and focused efforts. In addition, such an integration may divert management's time and resources from our core business and disrupt our operations. Moreover, we may spend time and money on acquisitions or projects that do not meet our expectations or increase our revenue. To the extent we pay the purchase price of any acquisition in cash, it would reduce our cash reserves available to us for other uses, and to the extent the purchase price is paid with our stock, it could be dilutive to our stockholders. Furthermore, we may not be able to successfully finance the business following the acquisition as a result of costs of operations, including any litigation risk which may be inherited from the acquisition.

Any acquisition or entry into a new business could subject us to new regulations, both directly as a result of the new business as well as in the other existing parts of our business, with which we would need to comply. This compliance could increase our costs, and we could be subject to liability or reputational harm to the extent we cannot meet any such compliance requirements. Additionally, targets that we acquire may have data practices that do not initially conform to our privacy and data protection standards and data governance model, which could lead to regulatory scrutiny and reputational harm. Our expansion into new businesses could also result in unanticipated issues which may be difficult to manage.

Class A Common Stock and Governance Structure

Provisions in our organizational documents and Delaware law could be considered anti-takeover provisions and have an impact on change-in-control.

Provisions contained in our amended and restated certificate of incorporation and bylaws and Delaware law could be considered anti-takeover provisions, including provisions that could delay or prevent entirely a merger or acquisition that our stockholders consider favorable. These provisions may also discourage acquisition proposals or have the effect of delaying or preventing entirely a change in control, which could harm our stock price. For example, subject to limited exceptions, our amended and restated certificate of incorporation prohibits any person from beneficially owning more than 15% of any of the Class A common stock or any other class or series of our stock with general voting power, or more than 15% of our total voting power. In addition:

- our stockholders are not entitled to the right to cumulate votes in the election of directors
- our stockholders are not entitled to act by written consent

- any representative of a competitor of Mastercard or of Mastercard Foundation is disqualified from service on our board of directors

Mastercard Foundation's substantial stock ownership, and restrictions on its sales, may impact corporate actions or acquisition proposals favorable to, or favored by, the other public stockholders.

As of February 8, 2022, Mastercard Foundation owned 105,091,311 shares of Class A common stock, representing approximately 10.8% of our general voting power. Mastercard Foundation may not sell or otherwise transfer its shares of Class A common stock prior to May 1, 2027, except to the extent necessary to satisfy its charitable disbursement requirements, for which purpose earlier sales are permitted and have occurred. Mastercard Foundation is permitted to sell all of its remaining shares after May 1, 2027, subject to certain conditions. The directors of Mastercard Foundation are required to be independent of us and our customers. The ownership of Class A common stock by Mastercard Foundation, together with the restrictions on transfer, could discourage or make more difficult acquisition proposals favored by the other holders of the Class A common stock. In addition, because Mastercard Foundation is restricted from selling its shares for an extended period of time, it may not have the same interest in short or medium-term movements in our stock price as, or incentive to approve a corporate action that may be favorable to, our other stockholders.

Item 1B. Unresolved staff comments

Not applicable.

Item 2. Properties

We own our corporate headquarters, located in Purchase, New York, and our principal technology and operations center, located in O'Fallon, Missouri. As of December 31, 2021, Mastercard and its subsidiaries owned or leased commercial properties throughout the U.S. and other countries around the world, consisting of corporate and regional offices, as well as our operations centers.

We believe that our facilities are suitable and adequate for the business that we currently conduct. However, we periodically review our space requirements and may acquire or lease new space to meet the needs of our business and address climate-related impacts, or consolidate and dispose of facilities that are no longer required.

Item 3. Legal proceedings

Refer to Note 13 (Accrued Expenses and Accrued Litigation) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Item 4. Mine Safety Disclosures

Not applicable.

Information about our executive officers

(as of February 11, 2022)

Name *Current Position*	Age	Previous Mastercard Experience	Previous Business Experience
Ajay Bhalla *President, Cyber and Intelligence Solutions* since November 2018	56	President, Enterprise Security Solutions (2014-2018) President, Digital Gateway Services (2011-2013) President, South Asia and Southeast Asia (2008-2011) Various senior leadership positions, including President, Southeast Asia; Country Manager, Singapore and Head of Marketing, Southeast Asia; Vice President	Various leadership positions at HSBC and Xerox Corporation
Ann Cairns *Vice Chairman* since June 2018	65	President, International (2011-2018)	Managing director, Alvarez & Marsal CEO, ABN AMRO Senior corporate and investment banking roles at Citigroup
Gilberto Caldart *Vice Chairman, Senior Client Partnerships and Relationships* since January 2022	62	President, International (2018-2021) President, Latin America and Caribbean region (2013-2018) Division President, South Latin America/Brazil (2008-2013)	Various leadership positions at Citigroup, including Country Business Manager, Brazil
Michael Fraccaro *Chief People Officer* since July 2016	56	Executive Vice President, Human Resources, Global Products and Solutions (2014-2016) Senior Vice President, Human Resources, Global Products and Solutions (2012-2014)	Various executive-level human resources positions at HSBC Group, Hong Kong (2000-2012) Various senior human resources positions in banking and financial services in Australia and the Middle East
Michael Froman *Vice Chairman and President, Strategic Growth* since April 2018	59	Mr. Froman joined the Company in 2018 in his current role	U.S. Trade Representative in the Executive Office of President Obama (2013-2017) Assistant to the President and Deputy National Security Advisor for International Economic Policy (2009-2013) Various senior leadership positions at Citigroup, including CEO, CitiInsurance and COO of Citigroup's alternative investments business

PART I
EXECUTIVE OFFICERS

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Linda Kirkpatrick *President, North America* since January 2021	45	President, U.S. Issuers (2020) Executive Vice President, Merchants and Acceptance (2016-2020) Senior Vice President, Core Merchants (2013-2016) Senior Vice President, Franchise Development (2011-2013) Vice President, U.S. Region (2008-2011) Vice President, Investor Relations	
Edward McLaughlin *President, Operations and Technology* since May 2017	56	Chief Information Officer (2016-2017) Chief Emerging Payments Officer (2010-2015) Various senior leadership roles, including Chief Franchise Development Officer and Senior Vice President, Bill Payment and Healthcare	Group Vice President, Product and Strategy, Metavante Corporation Co-Founder and CEO, Paytrust, Inc.
Sachin Mehra *Chief Financial Officer* since April 2019	51	Chief Financial Operations Officer (2018-2019) Executive Vice President, Commercial Products (2015-2018) Executive Vice President and Business Financial Officer, North America (2013-2015) Corporate Treasurer (2010-2013)	Various senior positions at Hess Corporation, including Vice President and Treasurer Various senior treasury and finance positions, General Motors Corporation and GMAC
Michael Miebach *President and Chief Executive Officer* since January 2021	54	President (2020) Chief Product Officer (2016-2020) President, Middle East and Africa (2010-2015)	Managing Director, Middle East and North Africa and Managing Director, Sub-Saharan Africa, Barclays Bank PLC Various executive positions at Citigroup in Germany, Austria, U.K. and Turkey
Tim Murphy *Chief Administrative Officer* since April 2021	54	General Counsel (2014-2021) Chief Product Officer (2009-2014) Various senior leadership roles, including President, U.S. Region; Executive Vice President, Customer Business Planning and Analysis; and Senior Vice President and Associate General Counsel	Associate, Cleary, Gottlieb, Steen and Hamilton, New York and London
Raja Rajamannar *Chief Marketing and Communications Officer and President, Healthcare* since January 2016	60	Chief Marketing Officer (2013-2015)	Executive Vice President-Senior Business and Chief Transformation Officer, Anthem (formerly, WellPoint, Inc.) (2012- 2013) Senior Vice President and Chief Innovation and Marketing Officer, Humana Inc. (2009-2012) Various management positions at Citigroup, including Executive Vice President and Chief Marketing Officer-Citi Global Cards

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Raj Seshadri *President, Data and Services* since January 2020	56	President, U.S. Issuers (2016-2019)	Managing Director, Head of iShares U.S. Wealth Advisory business, BlackRock (2014-2016) Managing Director, Global Marketing Officer of iShares, BlackRock, Inc. (2012-2014) Various leadership positions at Citigroup, U.S. Trust Company and McKinsey & Company, Inc.
Kevin Stanton *Chief Transformation Officer* since January 2020	60	Chief Services Officer (2018-2019) President, Mastercard Advisors (2010-2017) Various senior leadership roles, including President, Canada; Senior Vice President, Strategy and Market Development; and Vice President, Senior Counsel and North America Region Counsel	Vice President, Counsel, Shawmut National Corporation
Rich Verma *General Counsel and Head of Global Public Policy* since April 2021	53	Executive Vice President of Global Public Policy and Regulatory Affairs (2020-2021)	Vice Chairman & Partner, The Asia Group (2017-2020) U.S. Ambassador to India (2014-2017) Assistant Secretary of State (2009-2011) Member, Commission on the Prevention of WMD Proliferation and Terrorism (2008) National Security Advisor to Senate Majority Leader, Harry Reid (2002-2007)
Craig Vosburg *Chief Product Officer* since January 2021	54	President, North America (2016-2020) Chief Product Officer (2014-2015) Executive Vice President, U.S. Market Development (2010-2014) Various senior leadership roles, including Head of Mastercard Advisors, U.S. and Canada and Head of Mastercard Advisors, Southeast Asia, Greater China and South Asia/Middle East/Africa	Senior member-financial services practice, Bain & Company and A.T. Kearney Vice president, CoreStates Financial Corporation

PART II

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Item 6. Reserved

Item 7. Management's discussion and analysis of financial condition and results of operations

Item 7A. Quantitative and qualitative disclosures about market risk

Item 8. Financial statements and supplementary data

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

Item 9A. Controls and procedures

Item 9B. Other information

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". At February 8, 2022, we had 71 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Class A common stock is held in "street name" by brokers.

There is currently no established public trading market for our Class B common stock. There were approximately 240 holders of record of our non-voting Class B common stock as of February 8, 2022, constituting approximately 0.8% of our total outstanding equity.

Stock Performance Graph

The graph and table below compare the cumulative total stockholder return of Mastercard's Class A common stock, the S&P 500 and the S&P 500 Financials for the five-year period ended December 31, 2021. The graph assumes a $100 investment in our Class A common stock and both of the indices and the reinvestment of dividends. Mastercard's Class B common stock is not publicly traded or listed on any exchange or dealer quotation system.

Comparison of cumulative five-year total return

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Total returns to stockholders for each of the years presented were as follows:

		Indexed Returns				
	Base period	For the Years Ended December 31,				
Company/Index	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Mastercard	$ 100.00	$ 147.68	$ 185.07	$ 294.55	$ 353.98	$ 358.07
S&P 500	100.00	121.83	116.49	153.17	181.35	233.41
S&P 500 Financials	100.00	122.18	106.26	140.40	138.02	186.38

Dividend Declaration and Policy

On November 30, 2021, our Board of Directors declared a quarterly cash dividend of $0.49 per share paid on February 9, 2022 to holders of record on January 7, 2022 of our Class A common stock and Class B common stock. On February 8, 2022, our Board of Directors declared a quarterly cash dividend of $0.49 per share payable on May 9, 2022 to holders of record on April 8, 2022 of our Class A common stock and Class B common stock.

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Class A common stock and Class B common stock. However, 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.

Issuer Purchases of Equity Securities

During the fourth quarter of 2021, we repurchased a total of 3.7 million shares for $1.3 billion at an average price of $342.86 per share of Class A common stock. See Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion with respect to our share repurchase programs. The following table presents our repurchase activity on a cash basis during the fourth quarter of 2021:

Period	Total Number of Shares Purchased	Average Price Paid per Share (including commission cost)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that may yet be Purchased under the Plans or Programs [1]
October 1 – 31	1,282,075	$ 351.18	1,282,075	$14,752,404,601
November 1 – 30	1,126,537	340.52	1,126,537	12,368,795,391
December 1 – 31	1,312,321	336.75	1,312,321	11,926,866,431
Total	3,720,933	342.86	3,720,933	

[1] Dollar value of shares that may yet be purchased under the share repurchase programs is as of the end of the period.

[2] In November 2021 and December 2020, our Board of Directors approved share repurchase programs authorizing us to repurchase up to $8.0 billion and $6.0 billion respectively, of our Class A common stock under each plan.

Item 6. [Reserved]

Item 7. Management's discussion and analysis of financial condition and results of operations

The following discussion should be read in conjunction with the consolidated financial statements and notes of Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International") (together, "Mastercard" or the "Company"), included elsewhere in this Report. Percentage changes provided throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" were calculated on amounts rounded to the nearest thousand. For discussion related to the results of operations for the year ended December 31, 2020 compared to the year ended December 31, 2019, please see Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2020.

Business Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known and trusted brands, including Mastercard®, Maestro® and Cirrus®. We operate a multi-rail payments network that provides choice and flexibility for consumers and merchants. Through our unique and proprietary core global payments network, we switch (authorize, clear and settle) payment transactions. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). Using these capabilities, we offer integrated payment products and services and capture new payment flows. Our value-added services include, among others, cyber and intelligence solutions to allow all parties to transact easily and with confidence, as well as other services that provide proprietary insights, drawing on our principled use of consumer and merchant data. Our franchise model sets the standards and ground-rules that balance value and risk across all stakeholders and allows for interoperability among them. Our payment solutions are designed to ensure safety and security for the global payments ecosystem.

Mastercard is not a financial institution. We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our customers.

COVID-19

In 2021, our growth rates, which are at various stages of recovery, increased as compared to the respective year ago period as consumer and business spend recovers and we lap the initial effects of the COVID-19 pandemic. The following tables provide a summary of trends in our key metrics for 2021 and 2020 as compared to the respective year ago periods:

	2021 Quarter ended				Year ended December 31, 2021
	March 31	June 30	September 30	December 31	
	Increase/(Decrease)				
Gross dollar volume (local currency basis)	8 %	33 %	20 %	23 %	21 %
Cross-border volume (local currency basis)	(17)%	58 %	52 %	53 %	32 %
Switched transactions	9 %	41 %	25 %	27 %	25 %

	2020 Quarter ended				Year ended December 31, 2020
	March 31	June 30	September 30	December 31	
	Increase/(Decrease)				
Gross dollar volume (local currency basis)	8 %	(10)%	1 %	1 %	— %
Cross-border volume (local currency basis)	(1)%	(45)%	(36)%	(29)%	(29)%
Switched transactions	13 %	(10)%	5 %	4 %	3 %

The impact of the COVID-19 pandemic, which began in the first quarter of 2020, continues to have negative effects on the global economy. The pandemic has affected business activity, adversely impacting consumers, our customers, suppliers and business partners, as well as our workforce. Variants of the virus have emerged, resulting in a resurgence of infections that have affected regions at different times. New variants may emerge with similar results. The extent to which the resurgence and severity of infections has affected regions is impacted by the ongoing global administration of vaccines and the availability of therapeutic

treatments in those locations. Governments, businesses and consumers continue to react to the changing conditions, tightening or loosening safety measures or voluntarily making personal safety decisions, as applicable, based on the current environment of their location.

We continue to monitor the effects of the pandemic and the related impact on our business. The full extent to which the pandemic, and measures and actions taken by stakeholders in response, affect our business, results of operations and financial condition will depend on future developments, including the duration of the pandemic and its impact on the global economy, which are uncertain, and cannot be predicted at this time.

Financial Results Overview

The following table provides a summary of our key GAAP operating results, as reported:

	Year ended December 31,			2021 Increase/ (Decrease)	2020 Increase/ (Decrease)
	2021	2020	2019		
	($ in millions, except per share data)				
Net revenue	$ 18,884	$ 15,301	$ 16,883	23%	(9)%
Operating expenses	$ 8,802	$ 7,220	$ 7,219	22%	—%
Operating income	$ 10,082	$ 8,081	$ 9,664	25%	(16)%
Operating margin	53.4 %	52.8 %	57.2 %	0.6 ppt	(4.4) ppt
Income tax expense	$ 1,620	$ 1,349	$ 1,613	20%	(16)%
Effective income tax rate	15.7 %	17.4 %	16.6 %	(1.7) ppt	0.8 ppt
Net income	$ 8,687	$ 6,411	$ 8,118	35%	(21)%
Diluted earnings per share	$ 8.76	$ 6.37	$ 7.94	38%	(20)%
Diluted weighted-average shares outstanding	992	1,006	1,022	(1)%	(2)%

The following table provides a summary of our key non-GAAP operating results[1], adjusted to exclude the impact of gains and losses on our equity investments, Special Items (which represent litigation judgments and settlements and certain one-time items) and the related tax impacts on our non-GAAP adjustments. In addition, we have presented growth rates, adjusted for the impact of currency:

	Year ended December 31,			2021 Increase/ (Decrease)		2020 Increase/ (Decrease)	
	2021	2020	2019	As adjusted	Currency-neutral	As adjusted	Currency-neutral
	($ in millions, except per share data)						
Net revenue	$ 18,884	$ 15,301	$ 16,883	23%	22%	(9)%	(8)%
Adjusted operating expenses	$ 8,627	$ 7,147	$ 7,219	21%	19%	(1)%	(1)%
Adjusted operating margin	54.3 %	53.3 %	57.2 %	1.0 ppt	1.2 ppt	(4.0) ppt	(3.7) ppt
Adjusted effective income tax rate	15.4 %	17.2 %	17.0 %	(1.8) ppt	(1.8) ppt	0.2 ppt	0.3 ppt
Adjusted net income	$ 8,333	$ 6,463	$ 7,937	29%	28%	(19)%	(17)%
Adjusted diluted earnings per share	$ 8.40	$ 6.43	$ 7.77	31%	30%	(17)%	(16)%

Note: Tables may not sum due to rounding.

[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

Key highlights for 2021 as compared to 2020 were as follows:

	Net revenue	
	GAAP	Non-GAAP (currency-neutral)
	up 23%	up 22%

Net revenue increased 22% on a currency-neutral basis, which includes 2 percentage points of growth from acquisitions. The remaining increase was primarily due to:

- Gross dollar volume growth of 21% on a local currency basis
- Cross-border volume growth of 32% on a local currency basis
- Switched transactions growth of 25%
- Other revenues increased 32%, or 31% on a currency-neutral basis, which includes 8 percentage points of growth due to acquisitions. The remaining growth was driven primarily by our Cyber & Intelligence and Data & Services solutions.

These increases to net revenue were partially offset by:

- Rebates and incentives growth of 32%, or 31% on a currency-neutral basis, primarily due to increased volumes and transactions and new and renewed deals.

Operating expenses	Adjusted operating expenses	
GAAP	Non-GAAP (currency-neutral)	
up 22%	up 19%	Adjusted operating expenses increased 19% on a currency-neutral basis, which includes 7 percentage points of growth due to acquisitions. The remaining increase was primarily due to higher personnel costs, increased spending on advertising and marketing and increased data processing costs.

Effective income tax rate	Adjusted effective income tax rate	
GAAP	Non-GAAP (currency-neutral)	
15.7%	15.4%	The adjusted effective income tax rate of 15.4% was lower than prior year, primarily due to the recognition of U.S. tax benefits, the majority of which were discrete, resulting from a higher foreign derived intangible income deduction and greater utilization of foreign tax credits in the U.S. In addition, a more favorable geographic mix of earnings in 2021 contributed to our lower effective tax rate. These benefits were partially offset by a lower discrete tax benefit related to share-based payments in 2021.

Other 2021 financial highlights were as follows:

- We generated net cash flows from operations of $9.5 billion.
- We completed the acquisitions of businesses for total consideration of $4.7 billion.
- We repurchased 16.5 million shares of our common stock for $5.9 billion and paid dividends of $1.7 billion.
- We completed debt offerings for an aggregate principal amount of $2.1 billion.

Non-GAAP Financial Information

Non-GAAP financial information is defined as a numerical measure of a company's performance that excludes or includes amounts so as to be different than the most comparable measure calculated and presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Our non-GAAP financial measures exclude the impact of gains and losses on our equity investments which includes mark-to-market fair value adjustments, impairments and gains and losses upon disposition and the related tax impacts. Our non-GAAP financial measures also exclude the impact of special items, where applicable, which represent litigation judgments and settlements and certain one-time items, as well as the related tax impacts ("Special Items"). Our non-GAAP financial measures for the comparable periods exclude the impact of the following:

Gains and Losses on Equity Investments

- During 2021, 2020 and 2019, we recorded net gains of $645 million ($497 million after tax, or $0.50 per diluted share), $30 million ($15 million after tax, or $0.01 per diluted share) and $167 million ($124 million after tax, or $0.12 per diluted share), respectively. These net gains were primarily related to unrealized fair market value adjustments on marketable and nonmarketable equity securities. In addition, in 2021, net gains also included realized gains on sales of marketable equity securities.

Special Items

Litigation provisions

- During 2021, we recorded pre-tax charges of $94 million ($74 million after tax, or $0.07 per diluted share) related to litigation settlements and estimated attorneys' fees with U.K. and Pan-European merchants.
- During 2020, we recorded pre-tax charges of $73 million ($67 million after tax, or $0.07 per diluted share) related to litigation provisions which included pre-tax charges of:
  - $45 million related to a legal matter associated with our prepaid cards in the U.K., and
  - $28 million related to estimated attorneys' fees and litigation settlements with U.K. and Pan-European merchants.

Indirect tax matter

- During 2021, we recorded a pre-tax charge of $88 million ($69 million after tax, or $0.07 per diluted share) to resolve a foreign indirect tax matter for 2015 through the current period and the related interest.

Tax act

- During 2019, we recorded a $57 million net tax benefit ($0.06 per diluted share), which included a $30 million benefit related to a reduction to the 2017 one-time deemed repatriation tax on accumulated foreign earnings (the transition tax) resulting from final tax regulations issued in 2019 and a $27 million benefit related to additional foreign tax credits which can be carried back under transition rules.

See Note 7 (Investments), Note 20 (Income Taxes) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion. We excluded these items because management evaluates the underlying operations and performance of the Company separately from these recurring and non-recurring items.

We believe that the non-GAAP financial measures presented facilitate an understanding of our operating performance and provide a meaningful comparison of our results between periods. We use non-GAAP financial measures to, among other things, evaluate our ongoing operations in relation to historical results, for internal planning and forecasting purposes and in the calculation of performance-based compensation.

Currency-neutral Growth Rates

We present growth rates adjusted for the impact of currency, which is a non-GAAP financial measure. Currency-neutral growth rates are calculated by remeasuring the prior period's results using the current period's exchange rates for both the translational and transactional impacts on operating results. The impact of currency translation represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency. The impact of the transactional currency represents the effect of converting revenue and expenses occurring in a currency other than the functional currency of the entity. The impact of the related realized gains and losses resulting from our foreign exchange derivative contracts designated as cash flow hedging instruments is recognized in the respective financial statement line item on the statement of operations when the underlying forecasted transactions impact earnings. We believe the presentation of currency-neutral growth rates provides relevant information to facilitate an understanding of our operating results.

The translational and transactional impact of currency and the related impact of our foreign exchange derivative contracts designated as cash flow hedging instruments ("Currency impact") has been excluded from our currency-neutral growth rates and has been identified in our drivers of change impact tables. See "Foreign Currency - Currency Impact" for further information on our currency impacts and "Financial Results - Revenue and Operating Expenses" for our drivers of change impact tables.

Net revenue, operating expenses, operating margin, other income (expense), effective income tax rate, net income and diluted earnings per share adjusted for the impact of gains and losses on our

equity investments, Special Items and/or the impact of currency, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP.

The following tables reconcile our reported financial measures calculated in accordance with GAAP to the respective non-GAAP adjusted financial measures:

	Year ended December 31, 2021					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 8,802	53.4 %	$ 225	15.7 %	$ 8,687	$ 8.76
(Gains) losses on equity investments	**	**	(645)	(0.5)%	(497)	(0.50)
Litigation provisions	(94)	0.5 %	**	0.1 %	74	0.07
Indirect tax matter	(82)	0.4 %	6	0.1 %	69	0.07
Non-GAAP	$ 8,627	54.3 %	$ (413)	15.4 %	$ 8,333	$ 8.40

	Year ended December 31, 2020					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 7,220	52.8 %	$ (321)	17.4 %	$ 6,411	$ 6.37
(Gains) losses on equity investments	**	**	(30)	(0.1)%	(15)	(0.01)
Litigation provisions	(73)	0.5 %	**	(0.1)%	67	0.07
Non-GAAP	$ 7,147	53.3 %	$ (351)	17.2 %	$ 6,463	$ 6.43

	Year ended December 31, 2019					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 7,219	57.2 %	$ 67	16.6 %	$ 8,118	7.94
(Gains) losses on equity investments	**	**	(167)	(0.2)%	(124)	(0.12)
Tax act	**	**	**	0.6 %	(57)	(0.06)
Non-GAAP	$ 7,219	57.2 %	$ (100)	17.0 %	$ 7,937	$ 7.77

Note: Tables may not sum due to rounding.
** Not applicable

The following tables represent the reconciliation of our growth rates reported under GAAP to our non-GAAP growth rates:

	Year Ended December 31, 2021 as compared to the Year Ended December 31, 2020					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	23 %	22 %	0.6 ppt	(1.7) ppt	35 %	38 %
(Gains) losses on equity investments	**	**	**	(0.4) ppt	(7)%	(8)%
Litigation provisions	**	— %	— ppt	0.1 ppt	— %	— %
Indirect tax matter	**	(1)%	0.4 ppt	0.1 ppt	1 %	1 %
Non-GAAP	23 %	21 %	1.0 ppt	(1.8) ppt	29 %	31 %
Currency impact [1]	(1)%	(2)%	0.2 ppt	— ppt	(1)%	(1)%
Non-GAAP - currency-neutral	22 %	19 %	1.2 ppt	(1.8) ppt	28 %	30 %

	Year Ended December 31, 2020 as compared to the Year Ended December 31, 2019					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	(9)%	— %	(4.4) ppt	0.8 ppt	(21)%	(20)%
(Gains) losses on equity investments	**	**	**	— ppt	1 %	1 %
Litigation provisions	**	(1)%	0.5 ppt	(0.1) ppt	1 %	1 %
Tax act	**	**	**	(0.6) ppt	1 %	1 %
Non-GAAP	(9)%	(1)%	(4.0) ppt	0.2 ppt	(19)%	(17)%
Currency impact [1]	1 %	— %	0.3 ppt	0.2 ppt	1 %	1 %
Non-GAAP - currency-neutral	(8)%	(1)%	(3.7) ppt	0.3 ppt	(17)%	(16)%

Note: Tables may not sum due to rounding.
** Not applicable
[1] See "Non-GAAP Financial Information" for further information on Currency impact.

Key Metrics

In addition to the financial measures described above in "Financial Results Overview", we review the following metrics to evaluate and identify trends in our business, measure our performance, prepare financial projections and make strategic decisions. We believe that the key metrics presented facilitate an understanding of our operating and financial performance and provide a meaningful comparison of our results between periods.

Gross Dollar Volume ("GDV")[1] measures dollar volume of activity on cards carrying our brands during the period, on a local currency basis and U.S. dollar-converted basis. GDV represents purchase

volume plus cash volume and includes the impact of balance transfers and convenience checks; "purchase volume" means the aggregate dollar amount of purchases made with Mastercard-branded cards for the relevant period; and "cash volume" means the aggregate dollar amount of cash disbursements and includes the impact of balance transfers and convenience checks obtained with Mastercard-branded cards for the relevant period. Information denominated in U.S. dollars relating to GDV is calculated by applying an established U.S. dollar/local currency exchange rate for each local currency in which our volumes are reported. These exchange rates are calculated on a quarterly basis using the average exchange rate for each quarter. We report period-over-period rates of change in purchase volume and cash volume on the basis of local currency information, in order to eliminate the impact of changes in the value of currencies against the U.S. dollar in calculating such rates of change.

Cross-border Volume[2] measures cross-border dollar volume initiated and switched through our network during the period, on a local currency basis and U.S. dollar-converted basis, for all Mastercard-branded programs.

Switched Transactions[2] measures the number of transactions switched by Mastercard, which is defined as the number of transactions initiated and switched through our network during the period.

Operating Margin measures how much profit we make on each dollar of sales after our operating costs but before other income (expense) and income tax expense. Operating margin is calculated by dividing our operating income by net revenue.

[1] Data used in the calculation of GDV is provided by Mastercard customers and is subject to verification by Mastercard and partial cross-checking against information provided by Mastercard's transaction switching systems. All data is subject to revision and amendment by Mastercard or Mastercard's customers.

[2] Growth rates are normalized to eliminate the effects of differing switching and carryover days between periods. Carryover days are those where transactions and volumes from days where the Company does not clear and settle are processed. In the fourth quarter of 2021, we began clearing and settling transactions and volumes on a daily basis.

Foreign Currency

Currency Impact

Our primary revenue functional currencies are the U.S. dollar, euro, Brazilian real and the British pound. Our overall operating results are impacted by currency translation, which represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency.

Our operating results are also impacted by transactional currency. The impact of the transactional currency represents the effect of converting revenue and expense transactions occurring in a currency other than the functional currency. Changes in currency exchange rates directly impact the calculation of gross dollar volume ("GDV") and gross euro volume ("GEV"), which are used in the calculation of our domestic assessments, cross-border volume fees and certain volume-related rebates and incentives. In most non-European regions, GDV is calculated based on local currency spending volume converted to U.S. dollars using average exchange rates for the period. In Europe, GEV is calculated based on local currency spending volume converted to euros using average exchange rates for the period. As a result, certain of our domestic assessments, cross-border volume fees and volume-related rebates and incentives are impacted by the strengthening or weakening of the U.S. dollar versus non-European local currencies and the strengthening or weakening of the euro versus other European local currencies. For example, our billing in Australia is in the U.S. dollar, however, consumer spend in Australia is in the Australian dollar. The currency transactional impact of converting Australian dollars to our U.S. dollar billing currency will have an impact on the revenue generated. The strengthening or weakening of the U.S. dollar is evident when GDV growth on a U.S. dollar-converted basis is compared to GDV growth on a local currency basis. In 2021, GDV on a U.S. dollar-converted basis increased 21.9%, while GDV on a local currency basis increased 20.5% versus 2020. In 2020, GDV on a U.S. dollar-converted basis decreased 1.9%, while GDV on a local currency basis increased 0.1% versus 2019. Further, the impact from transactional currency occurs in transaction processing revenue, other revenue and operating expenses when the local currency of these items is different than the functional currency of the entity.

Through December 31, 2020, our approach to managing transactional currency exposure consisted of hedging a portion of anticipated revenues impacted by transactional currencies by entering into foreign exchange derivative contracts, and recording the related changes in fair value in general and administrative expenses on the consolidated statement of operations. During the first quarter of 2021, we started to formally designate certain newly-executed foreign exchange derivative contracts, which meet the established accounting criteria, as cash flow hedges. Gains and losses resulting from changes in fair value of these designated contracts are deferred in accumulated other comprehensive income (loss) and subsequently recognized in the respective component of net revenue when the underlying forecasted transactions impact earnings.

Foreign Exchange Activity

We incur foreign currency gains and losses from remeasuring monetary assets and liabilities, including settlement assets and obligations, that are denominated in a currency other than the functional currency of the entity. To manage this foreign exchange risk, we may enter into foreign exchange derivative contracts to economically hedge the foreign currency exposure of a portion of our nonfunctional monetary assets and liabilities. The gains or losses resulting from changes in fair value of

these contracts are intended to reduce the potential effect of the underlying hedged exposure and are recorded net within general and administrative expenses on the consolidated statement of operations. The impact of this foreign exchange activity, including the related hedging activities, has not been eliminated in our currency-neutral results.

Our foreign exchange risk management activities are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8.

Risk of Currency Devaluation

We are exposed to currency devaluation in certain countries. In addition, we are subject to exchange control regulations that restrict the conversion of financial assets into U.S. dollars. While these revenues and assets are not material to us on a consolidated basis, we can be negatively impacted should there be a continued and sustained devaluation of local currencies relative to the U.S. dollar and/or a continued and sustained deterioration of economic conditions in these countries.

Financial Results

Revenue

Primary drivers of net revenue, versus the prior year, were as follows:

Gross revenue increased 26%, or 25% on a currency-neutral basis, which includes growth of 2 percentage points from acquisitions. The remaining increase was primarily driven by transaction and volume growth and an increase in our Cyber & Intelligence and Data & Services solutions within other revenue.

Rebates and incentives increased 32%, or 31% on a currency-neutral basis, primarily due to increased volumes and transactions and new and renewed deals.

Net revenue increased 23%, or 22% on a currency-neutral basis, and includes 2 percentage points of growth from acquisitions.

See Note 3 (Revenue) to the consolidated financial statements included in Part II, Item 8 for a further discussion of how we recognize revenue.

The components of net revenue were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2021	2020	2019	2021	2020
	($ in millions)				
Domestic assessments	$ 8,158	$ 6,656	$ 6,781	23%	(2)%
Cross-border volume fees	4,664	3,512	5,606	33%	(37)%
Transaction processing	10,799	8,731	8,469	24%	3%
Other revenues	6,224	4,717	4,124	32%	14%
Gross revenue	29,845	23,616	24,980	26%	(5)%
Rebates and incentives (contra-revenue)	(10,961)	(8,315)	(8,097)	32%	3%
Net revenue	$ 18,884	$ 15,301	$ 16,883	23%	(9)%

The following table summarizes the drivers of change in net revenue:

	For the Years Ended December 31,							
	Operational		Acquisitions		Currency Impact [3]		Total	
	2021	2020	2021	2020	2021	2020	2021	2020
Domestic assessments	22% [1]	1% [1]	—%	—%	—%	(3)%	23 %	(2)%
Cross-border volume fees	30% [1]	(37)% [1]	—%	—%	3%	—%	33 %	(37)%
Transaction processing	22% [1,2]	3% [1,2]	—%	—%	1%	—%	24 %	3 %
Other revenues	23% [2]	12% [2]	8%	3%	1%	(1)%	32 %	14 %
Rebates and incentives (contra-revenue)	31%	4%	—%	—%	1%	(2)%	32 %	3 %
Net revenue	20%	(9)%	2%	1%	1%	(1)%	23 %	(9)%

Note: Table may not sum due to rounding

[1] Includes impacts from our key metrics, other non-volume based fees, pricing and mix.

[2] Includes impacts from our cyber and intelligence solution fees, data analytics and consulting fees and other value-added services.

[3] Includes the translational and transactional impact of currency and the related impact of our foreign exchange derivative contracts designated as cash flow hedging instruments.

The following tables provide a summary of the trend in volumes and transactions.

	For the Years Ended December 31,			
	2021		2020	
	Increase/(Decrease)			
	USD	Local	USD	Local
Mastercard-branded GDV [1]	22 %	21 %	(2)%	— %
United States	23 %	23 %	2 %	2 %
Worldwide less United States	22 %	20 %	(4)%	(1)%
Cross-border volume [1]		32 %		(29)%

[1] Excludes volume generated by Maestro and Cirrus cards.

	For the Years Ended December 31,	
	Increase/ (Decrease)	
	2021	2020
Switched transactions	25 %	3 %

No individual country, other than the United States, generated more than 10% of net revenue in any such period. A significant portion of our net revenue is concentrated among our five largest customers. In 2021, the net revenue from these customers was approximately $4.2 billion, or 23%, of total net revenue. The loss of any of these customers or their significant card programs could adversely impact our revenue.

Operating Expenses

Operating expenses increased 22% in 2021 versus the prior year. Adjusted operating expenses increased 21%, or 19% on a currency-neutral basis, versus the prior year. Current year results include growth of approximately 7 percentage points from acquisitions. Excluding acquisitions, expenses increased 12% primarily due to higher personnel costs to support our continued investment in our strategic initiatives, increased spending on advertising and marketing and increased data processing costs.

The components of operating expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2021	2020	2019	2021	2020
	($ in millions)				
General and administrative	$ 7,087	$ 5,910	$ 5,763	20 %	3 %
Advertising and marketing	895	657	934	36 %	(30)%
Depreciation and amortization	726	580	522	25 %	11 %
Provision for litigation	94	73	—	**	**
Total operating expenses	8,802	7,220	7,219	22 %	— %
Special Items [1]	(176)	(73)	—	**	**
Adjusted operating expenses (excluding Special Items [1])	$ 8,627	$ 7,147	$ 7,219	21 %	(1)%

Note: Table may not sum due to rounding.
** Not meaningful
[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

The following table summarizes the drivers of changes in operating expenses:

	For the Years Ended December 31,									
	Operational		Special Items [1]		Acquisitions		Currency Impact [2]		Total	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
General and administrative	11%	(1)%	1 %	**	6 %	4 %	2 %	— %	20 %	3 %
Advertising and marketing	35%	(30)%	**	**	1 %	— %	1 %	(1)%	36 %	(30)%
Depreciation and amortization	3%	5 %	**	**	20 %	6 %	2 %	— %	25 %	11 %
Provision for litigation	**	**	**	**	**	**	**	**	**	**
Total operating expenses	12%	(5)%	1 %	1 %	7 %	4 %	2 %	— %	22 %	— %

Note: Table may not sum due to rounding.
** Not meaningful
[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.
[2] Represents the translational and transactional impact of currency.

General and Administrative

General and administrative expenses increased 20%, or 18% on a currency-neutral basis, in 2021 versus the prior year. Current year results include growth of 6 percentage points from acquisitions and 1 percentage point from Special Items. The remaining increase was primarily due to higher personnel costs to support our continued investment in our strategic initiatives and increased data processing costs.

The components of general and administrative expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2021	2020	2019	2021	2020
	($ in millions)				
Personnel	$ 4,489	$ 3,787	$ 3,537	19%	7%
Professional fees	433	384	447	13%	(14)%
Data processing and telecommunications	898	756	666	19%	14%
Foreign exchange activity [1]	51	9	32	**	**
Other [2]	1,216	974	1,081	25%	(10)%
Total general and administrative expenses	$ 7,087	$ 5,910	$ 5,763	20%	3%

Note: Table may not sum due to rounding.
** Not meaningful
[1] Foreign exchange activity includes gains and losses on foreign exchange derivative contracts and the impact of remeasurement of assets and liabilities denominated in foreign currencies. See Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8 for further discussion.
[2] Includes a special item related to a foreign indirect tax matter of $82 million, pre-tax, recorded during 2021. See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

Advertising and Marketing

Advertising and marketing expenses increased 36%, on both an as reported and currency-neutral basis, in 2021 versus the prior year, primarily due to an increase in spending on certain marketing campaigns and an increase in advertising and sponsorship spend driven by the reinstatement of sponsored events as the effects of the pandemic recede.

Depreciation and Amortization

Depreciation and amortization expenses increased 25%, or 23% on a currency-neutral basis, in 2021 versus the prior year, which includes growth of 20 percentage points from acquisitions due to the amortization of acquired intangible assets.

Provision for Litigation

In 2021 and 2020, we recorded $94 million and $73 million, respectively, related to various litigation settlements and legal costs. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Other Income (Expense)

Other income (expense) was favorable $546 million in 2021 versus the prior year, primarily due to higher net gains in the current period versus the prior period related to unrealized fair market value adjustments on marketable and nonmarketable equity securities and realized gains on sales of marketable equity securities. Adjusted other income (expense) was unfavorable $62 million versus the prior year, primarily due to increased interest expense related to our recent debt issuances and a decrease in our investment income.

The components of other income (expense) were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2021	2020	2019	2021	2020
	($ in millions)				
Investment Income	$ 11	$ 24	$ 97	(52)%	(75)%
Gains (losses) on equity investments, net	645	30	167	**	**
Interest expense	(431)	(380)	(224)	13 %	70 %
Other income (expense), net	—	5	27	**	**
Total other income (expense)	225	(321)	67	**	**
(Gains) losses on equity investments [1]	(645)	(30)	(167)	**	**
Special Items [1]	6	—	—	**	**
Adjusted total other income (expense) [1]	$ (413)	$ (351)	$ (100)	18 %	**

Note: Table may not sum due to rounding.
** Not meaningful
[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

Income Taxes

The effective income tax rates for the years ended December 31, 2021 and 2020 were 15.7% and 17.4%, respectively. The adjusted effective income tax rates for the years ended December 31, 2021 and 2020 were 15.4% and 17.2%, respectively. Both the as reported and as adjusted effective income tax rates in 2021 were lower than the prior year, primarily due to the recognition of U.S. tax benefits, the majority of which were discrete, resulting from a higher foreign derived intangible income deduction and greater utilization of foreign tax credits in the U.S. In addition, a more favorable geographic mix of earnings in 2021 contributed to our lower effective tax rates. These benefits were partially offset by a lower discrete tax benefit related to share-based payments in 2021.

See Note 20 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Liquidity and Capital Resources

We rely on existing liquidity, cash generated from operations and access to capital to fund our global operations, credit and settlement exposure, capital expenditures, investments in our business and current and potential obligations. The following table summarizes the cash, cash equivalents, investments and credit available to us at December 31:

	2021	2020
	(in billions)	
Cash, cash equivalents and investments [1]	$ 7.9	$ 10.6
Unused line of credit	6.0	6.0

[1] Investments include available-for-sale securities and held-to-maturity securities. This amount excludes restricted cash and restricted cash equivalents of $2.5 billion and $2.3 billion at December 31, 2021 and 2020, respectively.

We believe that our existing cash, cash equivalents and investment securities balances, our cash flow generating capabilities, and our access to capital resources are sufficient to satisfy our future operating cash needs, capital asset purchases, outstanding commitments and other liquidity requirements associated with our existing operations and potential obligations which include litigation provisions and credit and settlement exposure.

Our liquidity and access to capital could be negatively impacted by global credit market conditions. We guarantee the settlement of many of the transactions between our customers. Historically, payments under these guarantees have not been significant;

however, historical trends may not be an indication of potential future losses. The risk of loss on these guarantees is specific to individual customers, but may also be driven by regional or global economic conditions, including, but not limited to the health of the financial institutions in a country or region. See Note 22 (Settlement and Other Risk Management) to the consolidated financial statements in Part II, Item 8 for a description of these guarantees.

Our liquidity and access to capital could also be negatively impacted by the outcome of any of the legal or regulatory proceedings to which we are a party. For additional discussion of these and other risks facing our business, see Part I, Item 1A - Risk Factors - Legal and Regulatory Risks and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Cash Flow

The table below shows a summary of the cash flows from operating, investing and financing activities:

	For the Years Ended December 31,		
	2021	2020	2019
	(in millions)		
Net cash provided by operating activities	$ 9,463	$ 7,224	$ 8,183
Net cash used in investing activities	(5,272)	(1,879)	(1,640)
Net cash used in financing activities	(6,555)	(2,152)	(5,867)

Net cash provided by operating activities increased $2.2 billion in 2021 versus the prior year, primarily due to higher net income adjusted for non-cash items and the timing of customer incentive payments, partially offset by higher outstanding receivables in the current period due to increased volumes and timing of settlement with customers.

Net cash used in investing activities increased $3.4 billion in 2021 versus the prior year, primarily due to increased acquisition activity in the current year.

Net cash used in financing activities increased $4.4 billion in 2021 versus the prior year, primarily due to lower proceeds from debt issuances, higher repurchases of our Class A common stock and repayment of debt in the current year.

Debt and Credit Availability

In March 2021, we issued $600 million principal amount of notes due March 2031 and $700 million principal amount of notes due March 2051 and in November 2021, we issued $750 million principal amount of notes due November 2031 (collectively the "2021 USD Notes"). Additionally, during 2021, $650 million of principal related to the 2016 USD Notes was redeemed. Our total debt outstanding was $13.9 billion at December 31, 2021, with the earliest maturity of €700 million (approximately $793 million as of December 31, 2021) of principal occurring in December 2022. The proceeds of the 2021 USD Notes due March 2031 are to be used to fund eligible green and social projects, examples of which are described in the Use of Proceeds section of the Prospectus Supplement filed on March 4, 2021. All other notes are to be used for general corporate purposes.

As of December 31, 2021, we have a commercial paper program (the "Commercial Paper Program"), under which we are authorized to issue up to $6 billion in outstanding notes, with maturities up to 397 days from the date of issuance. In conjunction with the Commercial Paper Program, we have a committed unsecured $6 billion revolving credit facility (the "Credit Facility") which now expires in November 2026.

Borrowings under the Commercial Paper Program and the Credit Facility are to be used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. In addition, we may borrow and repay amounts under these facilities for business continuity purposes. We had no borrowings outstanding under the Commercial Paper Program or the Credit Facility at December 31, 2021.

See Note 15 (Debt) to the consolidated financial statements included in Part II, Item 8 for further discussion on our debt, the Commercial Paper Program and the Credit Facility.

Dividends and Share Repurchases

We have historically paid quarterly dividends on our outstanding Class A common stock and Class B common stock. Subject to legally available funds, we intend to continue to pay a quarterly cash dividend. 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.

The following table summarizes the annual, per share dividends paid in the years reflected:

	For the Years Ended December 31,		
	2021	2020	2019
	(in millions, except per share data)		
Cash dividend, per share	$ 1.76	$ 1.60	$ 1.32
Cash dividends paid	$ 1,741	$ 1,605	$ 1,345

On November 30, 2021, our Board of Directors declared a quarterly cash dividend of $0.49 per share paid on February 9, 2022 to holders of record on January 7, 2022 of our Class A common stock and Class B common stock. The aggregate amount of this dividend was $479 million.

On February 8, 2022, our Board of Directors declared a quarterly cash dividend of $0.49 per share payable on May 9, 2022 to holders of record on April 8, 2022 of our Class A common stock and Class B common stock. The aggregate amount of this dividend is estimated to be $479 million.

Repurchased shares of our common stock are considered treasury stock. In November 2021, December 2020 and December 2019, our Board of Directors approved share repurchase programs authorizing us to repurchase up to $8.0 billion, $6.0 billion and $8.0 billion, respectively, of our Class A common stock. The program approved in 2021 will become effective after completion of the share repurchase program approved in 2020. The timing and actual number of additional shares repurchased will depend on a variety of factors, including cash requirements to meet the operating needs of the business, legal requirements, as well as the share price and economic and market conditions. The following table summarizes our share repurchase activity of our Class A common stock through December 31, 2021, under the plans approved in 2020 and 2019:

	(in millions, except per share data)
Remaining authorization at December 31, 2020	$ 9,831
Dollar-value of shares repurchased in 2021	$ 5,904
Remaining authorization at December 31, 2021	$ 11,927
Shares repurchased in 2021	16.5
Average price paid per share in 2021	$ 356.82

See Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Critical Accounting Estimates

The application of GAAP requires us to make estimates and assumptions about certain items and future events that directly affect our reported financial condition. Our significant accounting policies, including recent accounting pronouncements, are described in Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

Revenue Recognition - Rebates and Incentives

We enter into business agreements with certain customers that provide for rebates and incentives when customers meet certain volume thresholds or other incentives tied to customer performance. We consider various factors in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer. Rebates and incentives are recorded as a reduction to gross revenue based on these estimates primarily when volume- and transaction- based revenues are recognized over the contractual term. Differences between actual results and our estimates are adjusted in the period the customer

reports actual performance. If our customers' actual performance is not consistent with our estimates of their performance, net revenue may be materially different.

Loss Contingencies

We are currently involved in various claims and legal proceedings. We regularly review the status of each significant matter and assess its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to pending claims and litigation and may revise our estimates. Due to the inherent uncertainties of the legal and regulatory process in the multiple jurisdictions in which we operate, our judgments may be materially different than the actual outcomes.

Income Taxes

In calculating our effective income tax rate, estimates are required regarding the timing and amount of taxable and deductible items which will adjust the pretax income earned in various tax jurisdictions. Through our interpretation of local tax regulations, adjustments to pretax income for income earned in various tax jurisdictions are reflected within various tax filings. Although we believe that our estimates and judgments discussed herein are reasonable, actual results may be materially different than the estimated amounts.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Significant judgment is required in determining the valuation allowance. In assessing the need for a valuation allowance, we consider all sources of taxable income, including projected future taxable income, reversing taxable temporary differences and ongoing tax planning strategies. If it is determined that we are able to realize deferred tax assets in excess of the net carrying value or to the extent we are unable to realize a deferred tax asset, we would adjust the valuation allowance in the period in which such a determination is made, with a corresponding increase or decrease to earnings.

We record tax liabilities for uncertain tax positions taken, or expected to be taken, which may not be sustained or may only be partially sustained, upon examination by the relevant taxing authorities. We consider all relevant facts and current authorities in the tax law in assessing whether any benefit resulting from an uncertain tax position is more likely than not to be sustained and, if so, how current law impacts the amount reflected within these financial statements. If upon examination, we realize a tax benefit which is not fully sustained or is more favorably sustained, this would decrease or increase earnings in the period. In certain situations, we will have offsetting tax credits or taxes in other jurisdictions.

Deferred taxes are established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. Ultimately, the working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

Business Combinations

We account for our business combinations using the acquisition method of accounting. The acquisition purchase price, including contingent consideration, if any, is allocated to the underlying identified, tangible and intangible assets, liabilities assumed and any non-controlling interest in the acquiree, based on their respective estimated fair values on the acquisition date. Any excess of purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. The amounts and useful lives assigned to acquisition-related tangible and intangible assets impact the amount and timing of future amortization expense. We use various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty and multi-period excess earnings for estimating the value of intangible assets. These valuation techniques included comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. Determining the fair value of assets acquired, liabilities assumed, any non-

controlling interest in the acquiree and the expected useful lives, requires management's judgment. The significance of management's estimates and assumptions is relative to the size of the acquisition. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable.

Item 7A. Quantitative and qualitative disclosures about market risk

Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in factors such as interest rates and foreign currency exchange rates. Our exposure to market risk from changes in interest rates and foreign exchange rates is limited. Management monitors risk exposures on an ongoing basis and establishes and oversees the implementation of policies governing our funding, investments and use of derivative financial instruments to manage these risks.

Foreign currency and interest rate exposures are managed through our risk management activities, which are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8.

Foreign Exchange Risk

We enter into foreign exchange derivative contracts to manage currency exposure associated with anticipated receipts and disbursements occurring in a currency other than the functional currency of the entity. We may also enter into foreign currency derivative contracts to offset possible changes in value of assets and liabilities due to foreign exchange fluctuations. The objective of these activities is to reduce our exposure to transaction gains and losses resulting from fluctuations of foreign currencies against our functional currencies, principally the U.S. dollar and euro. The effect of a hypothetical 10% adverse change in the value of the functional currencies could result in a fair value loss of approximately $70 million and $58 million on our foreign exchange derivative contracts outstanding at December 31, 2021 and 2020, respectively, before considering the offsetting effect of the underlying hedged activity.

We are also subject to foreign exchange risk as part of our daily settlement activities. To manage this risk, we enter into short duration foreign exchange contracts based upon anticipated receipts and disbursements for the respective currency position. This risk is typically limited to a few days between when a payment transaction takes place and the subsequent settlement with our customers. The effect of a hypothetical 10% adverse change in the value of the functional currencies could result in a fair value loss of approximately $1 million and $23 million on our short duration foreign exchange derivative contracts outstanding at December 31, 2021 and 2020, respectively.

We are further exposed to foreign exchange rate risk related to translation of our foreign operating results where the functional currency is different than our U.S. dollar reporting currency. To manage this risk, we may enter into foreign exchange derivative contracts to hedge a portion of our net investment in foreign subsidiaries. The effect of a hypothetical 10% adverse change in the value of the U.S. dollar could result in a fair value loss of approximately $165 million on our foreign exchange derivative contracts designated as a net investment hedge at December 31, 2021, before considering the offsetting effect of the underlying hedged activity. We did not have similar foreign exchange derivative contracts outstanding as of December 31, 2020.

Interest Rate Risk

Our available-for-sale debt investments include fixed and variable rate securities that are sensitive to interest rate fluctuations. Our policy is to invest in high quality securities, while providing adequate liquidity and maintaining diversification to avoid significant exposure. A hypothetical 100 basis point adverse change in interest rates would not have a material impact to the fair value of our investments at December 31, 2021 and 2020.

We are also exposed to interest rate risk related to our fixed-rate debt. To manage this risk, we may enter into interest rate derivative contracts to hedge a portion of our fixed-rate debt that is exposed to changes in fair value attributable to changes in a benchmark interest rate. The effect of a hypothetical 100 basis point adverse change in interest rates could result in a fair value loss of $49 million on our

interest rate derivative contracts designated as a fair value hedge of our fixed-rate debt at December 31, 2021, before considering the offsetting effect of the underlying hedged activity. We did not have similar interest rate derivative contracts outstanding as of December 31, 2020.

Item 8. Financial statements and supplementary data

Mastercard Incorporated
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Management's report on internal control over financial reporting

The management of Mastercard Incorporated ("Mastercard") is responsible for establishing and maintaining adequate internal control over financial reporting. 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 reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. As required by Section 404 of the Sarbanes-Oxley Act of 2002, management has assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2021. In making its assessment, management has utilized the criteria set forth in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that, based on its assessment, Mastercard's internal control over financial reporting was effective as of December 31, 2021. The effectiveness of Mastercard's internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on the next page.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Mastercard Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of Mastercard Incorporated and its subsidiaries (the "Company") as of December 31, 2021 and 2020, and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (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, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

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 the accompanying Management's Report on internal control over financial reporting. 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 matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Rebates and Incentives

As described in Notes 1 and 3 to the consolidated financial statements, the Company provides certain customers with rebates and incentives which totaled $11.0 billion for the year ended December 31, 2021. The Company has business agreements with certain customers that provide for rebates and incentives that could be either fixed or variable-based. Variable rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Variable rebates and incentives are calculated based upon estimated customer performance, such as volume thresholds, and the terms of the related business agreements. As disclosed by management, various factors are considered in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer.

The principal considerations for our determination that performing procedures relating to rebates and incentives is a critical audit matter are (i) the significant judgment by management when developing estimates related to rebates and incentives based on customer performance; and (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's estimates related to customer performance, including the reasonableness of the various applicable factors considered by management in the estimate.

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 rebates and incentives, including controls over evaluating estimated customer performance. These procedures also included, among others, evaluating the reasonableness of estimated customer performance for a sample of customer agreements, including (i) evaluating the agreements to identify whether all rebates and incentives are identified and recorded accurately; (ii) testing management's process for developing estimated customer performance, including evaluating the reasonableness of the various applicable factors considered by management; and (iii) evaluating estimated customer performance as compared to actual results in the period the customer reports actual performance.

/s/ PricewaterhouseCoopers LLP

New York, New York
February 11, 2022

We have served as the Company's auditor since 1989.

Consolidated Statement of Operations

	For the Years Ended December 31,		
	2021	2020	2019
	(in millions, except per share data)		
Net Revenue	**$ 18,884**	**$ 15,301**	**$ 16,883**
Operating Expenses:			
General and administrative	7,087	5,910	5,763
Advertising and marketing	895	657	934
Depreciation and amortization	726	580	522
Provision for litigation	94	73	—
Total operating expenses	8,802	7,220	7,219
Operating income	10,082	8,081	9,664
Other Income (Expense):			
Investment income	11	24	97
Gains (losses) on equity investments, net	645	30	167
Interest expense	(431)	(380)	(224)
Other income (expense), net	—	5	27
Total other income (expense)	225	(321)	67
Income before income taxes	10,307	7,760	9,731
Income tax expense	1,620	1,349	1,613
Net Income	**$ 8,687**	**$ 6,411**	**$ 8,118**
Basic Earnings per Share	**$ 8.79**	**$ 6.40**	**$ 7.98**
Basic weighted-average shares outstanding	988	1,002	1,017
Diluted Earnings per Share	**$ 8.76**	**$ 6.37**	**$ 7.94**
Diluted weighted-average shares outstanding	992	1,006	1,022

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Comprehensive Income

	For the Years Ended December 31,		
	2021	2020	2019
	(in millions)		
Net Income	$ 8,687	$ 6,411	$ 8,118
Other comprehensive income (loss):			
Foreign currency translation adjustments	(442)	345	10
Income tax effect	55	(59)	13
Foreign currency translation adjustments, net of income tax effect	(387)	286	23
Translation adjustments on net investment hedges	269	(177)	36
Income tax effect	(60)	40	(8)
Translation adjustments on net investment hedges, net of income tax effect	209	(137)	28
Cash flow hedges	6	(189)	14
Income tax effect	(1)	42	(3)
Reclassification adjustment for cash flow hedges	5	4	—
Income tax effect	(1)	(1)	—
Cash flow hedges, net of income tax effect	9	(144)	11
Defined benefit pension and other postretirement plans	57	(12)	(21)
Income tax effect	(14)	2	3
Reclassification adjustment for defined benefit pension and other postretirement plans	(2)	(1)	(1)
Income tax effect	—	—	—
Defined benefit pension and other postretirement plans, net of income tax effect	41	(11)	(19)
Investment securities available-for-sale	(1)	(1)	3
Income tax effect	—	—	(1)
Investment securities available-for-sale, net of income tax effect	(1)	(1)	2
Other comprehensive income (loss), net of income tax effect	(129)	(7)	45
Comprehensive Income	**$8,558**	**$6,404**	**$8,163**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Balance Sheet

	December 31,	
	2021	2020
	(in millions, except per share data)	
Assets		
Current assets:		
Cash and cash equivalents	$ 7,421	$ 10,113
Restricted cash for litigation settlement	586	586
Investments	473	483
Accounts receivable	3,006	2,646
Settlement assets	1,319	1,706
Restricted security deposits held for customers	1,873	1,696
Prepaid expenses and other current assets	2,271	1,883
Total current assets	**16,949**	**19,113**
Property, equipment and right-of-use assets, net	1,907	1,902
Deferred income taxes	486	491
Goodwill	7,662	4,960
Other intangible assets, net	3,671	1,753
Other assets	6,994	5,365
Total Assets	**$ 37,669**	**$ 33,584**
Liabilities, Redeemable Non-controlling Interests and Equity		
Current liabilities:		
Accounts payable	$ 738	$ 527
Settlement obligations	913	1,475
Restricted security deposits held for customers	1,873	1,696
Accrued litigation	840	842
Accrued expenses	6,642	5,430
Current portion of long-term debt	792	649
Other current liabilities	1,364	1,228
Total current liabilities	**13,162**	**11,847**
Long-term debt	13,109	12,023
Deferred income taxes	395	86
Other liabilities	3,591	3,111
Total Liabilities	**30,257**	**27,067**
Commitments and Contingencies		
Redeemable Non-controlling Interests	**29**	**29**
Stockholders' Equity		
Class A common stock, $0.0001 par value; authorized 3,000 shares, 1,397 and 1,396 shares issued and 972 and 987 shares outstanding, respectively	—	—
Class B common stock, $0.0001 par value; authorized 1,200 shares, 8 shares issued and outstanding	—	—
Additional paid-in-capital	5,061	4,982
Class A treasury stock, at cost, 425 and 409 shares, respectively	(42,588)	(36,658)
Retained earnings	45,648	38,747
Accumulated other comprehensive income (loss)	(809)	(680)
Mastercard Incorporated Stockholders' Equity	**7,312**	**6,391**
Non-controlling interests	71	97
Total Equity	**7,383**	**6,488**
Total Liabilities, Redeemable Non-controlling Interests and Equity	**$ 37,669**	**$ 33,584**

The accompanying notes are an integral part of these consolidated financial statements.

PART II

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated Statement of Changes in Equity

	Stockholders' Equity								
	Common Stock								
	Class A	Class B	Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders' Equity	Non-Controlling Interests	Total Equity
	(in millions, except per share data)								
Balance at December 31, 2018	**$ —**	**$ —**	**$4,580**	**$(25,750)**	**$27,283**	**$ (718)**	**$ 5,395**	**$ 23**	**$5,418**
Net income	—	—	—	—	8,118	—	8,118	—	8,118
Activity related to non-controlling interests	—	—	—	—	—	—	—	1	1
Redeemable non-controlling interest adjustments	—	—	—	—	(9)	—	(9)	—	(9)
Other comprehensive income (loss)	—	—	—	—	—	45	45	—	45
Dividends	—	—	—	—	(1,408)	—	(1,408)	—	(1,408)
Purchases of treasury stock	—	—	—	(6,463)	—	—	(6,463)	—	(6,463)
Share-based payments	—	—	207	8	—	—	215	—	215
Balance at December 31, 2019	**—**	**—**	**4,787**	**(32,205)**	**33,984**	**(673)**	**5,893**	**24**	**5,917**
Net income	—	—	—	—	6,411	—	6,411	—	6,411
Activity related to non-controlling interests	—	—	—	—	—	—	—	73	73
Redeemable non-controlling interest adjustments	—	—	—	—	(7)	—	(7)	—	(7)
Other comprehensive income (loss)	—	—	—	—	—	(7)	(7)	—	(7)
Dividends	—	—	—	—	(1,641)	—	(1,641)	—	(1,641)
Purchases of treasury stock	—	—	—	(4,459)	—	—	(4,459)	—	(4,459)
Share-based payments	—	—	195	6	—	—	201	—	201
Balance at December 31, 2020	**—**	**—**	**4,982**	**(36,658)**	**38,747**	**(680)**	**6,391**	**97**	**6,488**

Consolidated Statement of Changes in Equity (Continued)

	Stockholders' Equity								
	Common Stock								
	Class A	Class B	Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders' Equity	Non-Controlling Interests	Total Equity
	(in millions, except per share data)								
Balance at December 31, 2020	**—**	**—**	**4,982**	**(36,658)**	**38,747**	**(680)**	**6,391**	**97**	**6,488**
Net income	—	—	—	—	8,687	—	8,687	—	8,687
Activity related to non-controlling interests	—	—	—	—	—	—	—	(9)	(9)
Acquisition of non-controlling interest	—	—	(122)	—	—	—	(122)	(17)	(139)
Redeemable non-controlling interest adjustments	—	—	—	—	(5)	—	(5)		(5)
Other comprehensive income (loss)	—	—	—	—	—	(129)	(129)	—	(129)
Dividends	—	—	—	—	(1,781)	—	(1,781)	—	(1,781)
Purchases of treasury stock	—	—	—	(5,934)	—	—	(5,934)	—	(5,934)
Share-based payments	—	—	201	4	—	—	205	—	205
Balance at December 31, 2021	**$ —**	**$ —**	**$5,061**	**$(42,588)**	**$45,648**	**$ (809)**	**$ 7,312**	**$ 71**	**$7,383**

The accompanying notes are an integral part of these consolidated financial statements.

PART II

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated Statement of Cash Flows

	For the Years Ended December 31,		
	2021	2020	2019
	(in millions)		
Operating Activities			
Net income	$ 8,687	$ 6,411	$ 8,118
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of customer and merchant incentives	1,371	1,072	1,141
Depreciation and amortization	726	580	522
(Gains) losses on equity investments, net	(645)	(30)	(167)
Share-based compensation	273	254	250
Deferred income taxes	(69)	73	(7)
Other	36	14	24
Changes in operating assets and liabilities:			
Accounts receivable	(397)	(86)	(246)
Income taxes receivable	(87)	(2)	(202)
Settlement assets	390	1,288	(444)
Prepaid expenses	(2,087)	(1,552)	(1,661)
Accrued litigation and legal settlements	(1)	(73)	(662)
Restricted security deposits held for customers	177	326	290
Accounts payable	100	26	(42)
Settlement obligations	(568)	(1,242)	477
Accrued expenses	1,355	(114)	657
Long-term taxes payable	(52)	(37)	2
Net change in other assets and liabilities	254	316	133
Net cash provided by operating activities	9,463	7,224	8,183
Investing Activities			
Purchases of investment securities available-for-sale	(389)	(220)	(643)
Purchases of investments held-to-maturity	(294)	(198)	(215)
Proceeds from sales of investment securities available-for-sale	83	361	1,098
Proceeds from maturities of investment securities available-for-sale	291	140	376
Proceeds from maturities of investments held-to-maturity	296	121	383
Purchases of property and equipment	(407)	(339)	(422)
Capitalized software	(407)	(369)	(306)
Purchases of equity investments	(228)	(214)	(467)
Proceeds from sales of equity investments	186	—	—
Acquisition of businesses, net of cash acquired	(4,436)	(989)	(1,440)
Settlement of interest rate derivative contracts	—	(175)	—
Other investing activities	33	3	(4)
Net cash used in investing activities	(5,272)	(1,879)	(1,640)
Financing Activities			
Purchases of treasury stock	(5,904)	(4,473)	(6,497)
Dividends paid	(1,741)	(1,605)	(1,345)
Proceeds from debt, net	2,024	3,959	2,724
Payment of debt	(650)	—	(500)
Acquisition of redeemable non-controlling interests	—	(49)	—
Acquisition of non-controlling interest	(133)	—	—
Contingent consideration paid	(64)	—	(199)
Tax withholdings related to share-based payments	(133)	(150)	(161)
Cash proceeds from exercise of stock options	61	97	126
Other financing activities	(15)	69	(15)
Net cash used in financing activities	(6,555)	(2,152)	(5,867)
Effect of exchange rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	(153)	257	(44)
Net increase (decrease) in cash, cash equivalents, restricted cash and restricted			

Notes to consolidated financial statements

Note 1. Summary of Significant Accounting Policies

Organization

Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International" and together with Mastercard Incorporated, "Mastercard" or the "Company"), is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. The Company makes payments easier and more efficient by providing a wide range of payment solutions and services through its family of well-known and trusted brands, including Mastercard®, Maestro® and Cirrus®. The Company operates a multi-rail payments network that provides choice and flexibility for consumers and merchants. Through its unique and proprietary core global payments network, the Company switches (authorizes, clears and settles) payment transactions. The Company has additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). Using these capabilities, the Company offers integrated payment products and services and captures new payment flows. The Company's value-added services include, among others, cyber and intelligence solutions to allow all parties to transact easily and with confidence, as well as other services that provide proprietary insights, drawing on Mastercard's principled use of consumer and merchant data. The Company's franchise model sets the standards and ground-rules that balance value and risk across all stakeholders and allows for interoperability among them. The Company's payment solutions are designed to ensure safety and security for the global payments ecosystem.

Mastercard is not a financial institution. The Company does not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of the Company's products. In most cases, account holder relationships belong to, and are managed by, the Company's financial institution customers.

Significant Accounting Policies

Consolidation and basis of presentation - The consolidated financial statements include the accounts of Mastercard and its majority-owned and controlled entities, including any variable interest entities ("VIEs") for which the Company is the primary beneficiary. Investments in VIEs for which the Company is not considered the primary beneficiary are not consolidated and are accounted for as marketable, equity method or measurement alternative method investments and recorded in other assets on the consolidated balance sheet. At December 31, 2021 and 2020, there were no significant VIEs which required consolidation and the investments were not considered material to the consolidated financial statements. The Company consolidates acquisitions as of the date on which the Company has obtained a controlling financial interest. Intercompany transactions and balances have been eliminated in consolidation. The Company follows accounting principles generally accepted in the United States of America ("GAAP").

Non-controlling interests represent the equity interest not owned by the Company and are recorded for consolidated entities in which the Company owns less than 100% of the interests. Changes in a parent's ownership interest while the parent retains its controlling interest are accounted for as equity transactions, and upon loss of control, retained ownership interests are remeasured at fair value, with any gain or loss recognized in earnings. For 2021, 2020 and 2019, net losses from non-controlling interests were not material and, as a result, amounts are included on the consolidated statement of operations within other income (expense).

Use of estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Future events and their effects cannot be predicted with certainty; accordingly, accounting estimates require the exercise of judgment. These financial statements were prepared using information reasonably available as of December 31, 2021 and through the date of this Report. The accounting estimates used in the preparation of the Company's consolidated financial statements may change as new events occur, as more experience is acquired, as additional information is obtained and as the Company's operating environment changes. Actual results may differ from these estimates.

Revenue recognition - Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. Revenue is primarily generated from assessing customers based on the dollar volume of activity, or gross dollar volume ("GDV"), on the products that carry the Company's brands, from fees to issuers, acquirers and other stakeholders for providing switching services, as well as from value-added products and services that are often integrated and sold with the Company's payment offerings.

Volume-based revenue (domestic assessments and cross-border volume fees) is recorded as revenue in the period it is earned, which is primarily based on the related volume generated on the cards. Certain volume-based revenue is based upon information reported by customers. Transaction-based revenue (transaction processing) is primarily based on the number and type of transactions and is recognized as revenue in the same period in which the related transactions occur. Other payment-related products and services are recognized as revenue in the period in which the related services are performed or transactions occur. For services provided to customers where delivery involves the use of a third-party, the Company recognizes revenue on a gross basis if it acts as the principal, controlling the service to the customer and on a net basis if it acts as the agent, arranging for the service to be provided.

Mastercard has business agreements with certain customers that provide for rebates and incentives that could be either fixed or variable-based. Fixed incentives typically represent payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis as a reduction of gross revenue. Variable rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Variable rebates and incentives are calculated based upon estimated customer performance, such as volume thresholds, and the terms of the related business agreements.

Contract assets include unbilled consideration typically resulting from executed data analytic and consulting services performed for customers in connection with Mastercard's payments network service arrangements. Collection for these services typically occurs over the contractual term. Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet.

The Company defers the recognition of revenue when consideration has been received prior to the satisfaction of performance obligations. As these performance obligations are satisfied, revenue is subsequently recognized. Deferred revenue is primarily derived from data analytic and consulting services. Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet.

Business combinations - The Company accounts for business combinations under the acquisition method of accounting. The Company measures the tangible and intangible identifiable assets acquired, liabilities assumed, any non-controlling interest in the acquiree and contingent consideration at fair value as of the acquisition date. Acquisition-related costs are expensed as incurred and are included in general and administrative expenses on the consolidated statement of operations. Any excess purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. Measurement period adjustments, if any, to the preliminary estimated fair value of the intangibles assets as of the acquisition date are recorded in goodwill.

Goodwill and other intangible assets - Indefinite-lived intangible assets consist of goodwill, which represents the synergies expected to arise after the acquisition date and the assembled workforce, and customer relationships. Finite-lived intangible assets consist of capitalized software costs, customer relationships and other intangible assets. Intangible assets with finite useful lives are amortized over their estimated useful lives, on a straight-line basis, which range from one to twenty years. Capitalized software includes internal and external costs incurred directly related to the design, development and testing phases of each capitalized software project.

The valuation methods for goodwill and other intangible assets acquired in business combinations involve assumptions concerning comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. The Company uses various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty and multi-period excess earnings for estimating the fair value of its intangible assets. As the assumptions employed to measure these assets are based on management's judgment using internal and external data, these fair value determinations are classified in Level 3 of the Valuation Hierarchy (as defined in Fair value subsection below).

Impairment of assets - Goodwill and indefinite-lived intangible assets are not amortized but tested annually for impairment at the reporting unit level in the fourth quarter, or sooner when circumstances indicate an impairment may exist. The impairment evaluation for goodwill utilizes a qualitative assessment to determine whether it is more likely than not that goodwill is impaired. The qualitative factors may include, but are not limited to, macroeconomic conditions, industry and market conditions, operating environment, financial performance and other relevant events. If it is determined that it is more likely than not that goodwill is impaired, then the Company is required to perform a quantitative goodwill impairment test. If the fair value of the reporting unit exceeds the carrying value, goodwill is not impaired. If the fair value of the reporting unit is less than its carrying value, then goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. If the qualitative assessment indicates that it is more likely than not that indefinite-lived intangible assets are impaired, then a quantitative assessment is required.

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are tested for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable. If the carrying value of the asset cannot be recovered from estimated future cash flows, undiscounted and without interest, the fair value of the asset is calculated using the present value of estimated net future cash flows. If the carrying amount of the asset exceeds its fair value, an impairment is recorded.

Impairment charges, if any, are recorded in general and administrative expenses on the consolidated statement of operations.

Litigation - The Company is a party to certain legal and regulatory proceedings with respect to a variety of matters. The Company evaluates the likelihood of an unfavorable outcome of all legal or regulatory proceedings to which it is a party and accrues a loss contingency when the loss is probable and reasonably estimable. Loss contingencies are recorded in provision for litigation on the consolidated statement of operations. These judgments are subjective based on the status of the legal or regulatory proceedings, the merits of its defenses and consultation with in-house and external legal counsel. Legal costs are expensed as incurred and recorded in general and administrative expenses on the consolidated statement of operations.

Settlement and other risk management - Mastercard's rules guarantee the settlement of many of the transactions between its customers. Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

The Company also enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable.

The Company accounts for each of its guarantees by recording the guarantee at its fair value at the inception or modification date through earnings.

Income taxes - The Company follows an asset and liability based approach in accounting for income taxes as required under GAAP. Deferred income tax assets and liabilities are recorded to reflect the tax consequences on future years of temporary differences between the financial statement carrying amounts and income tax bases of assets and liabilities. Deferred income taxes are displayed separately as noncurrent assets and liabilities on the consolidated balance sheet. Valuation allowances are provided against assets which are not more likely than not to be realized. The Company recognizes all material tax positions, including uncertain tax positions in which it is more likely than not that the position will be sustained based on its technical merits and if challenged by the relevant taxing authorities. At each balance sheet date, unresolved uncertain tax positions are reassessed to determine whether subsequent developments require a change in the amount of recognized tax benefit. The allowance for uncertain tax positions is recorded in other current and noncurrent liabilities on the consolidated balance sheet. The Company records interest expense related to income tax matters as interest expense on the consolidated statement of operations. The Company includes penalties related to income tax matters in the income tax provision.

Cash and cash equivalents - Cash and cash equivalents include certain investments with daily liquidity and with an original maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Restricted cash - The Company classifies cash and cash equivalents as restricted when it is unavailable for withdrawal or use in its general operations. The Company has the following types of restricted cash and restricted cash equivalents which are included in the reconciliation of beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows:

- *Restricted cash for litigation settlement* - The Company has restricted cash for litigation within a qualified settlement fund related to the settlement agreement for the U.S. merchant class litigation. The funds continue to be restricted for payments until the litigation matter is resolved.
- *Restricted security deposits held for customers* - The Company requires certain customers to enter into risk mitigation arrangements, including cash collateral and/or other forms of credit enhancement such as letters of credit and guarantees, for settlement of their transactions. Certain risk mitigation arrangements for settlement, such as standby letters of credit and bank guarantees, are not recorded on the consolidated balance sheet. The Company also holds cash deposits and certificates of deposit from certain customers as collateral for settlement of their transactions, which are recorded as assets on the consolidated balance sheet. These assets are fully offset by corresponding liabilities included on the consolidated balance sheet. These security deposits are typically held for the duration of the agreement with the customers.
- *Other restricted cash balances* - The Company has other restricted cash balances which include contractually restricted deposits, as well as cash balances that are restricted based on the Company's intention with regard to usage. These funds are classified on the consolidated balance sheet within prepaid expenses and other current assets and other assets.

Fair value - The Company measures certain financial assets and liabilities at fair value on a recurring basis by estimating the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. The Company also measures certain financial and non-financial assets and liabilities at fair value on a non-recurring basis, when a change in fair value or impairment is evidenced. The Company classifies these recurring and non-recurring fair value measurements into a three-level hierarchy ("Valuation Hierarchy").

The Valuation Hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. A financial instrument's categorization within the Valuation Hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of the Valuation Hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets
- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets and inputs that are observable for the asset or liability
- Level 3 - inputs to the valuation methodology are unobservable and cannot be directly corroborated by observable market data

The Company's financial assets and liabilities measured at fair value on a recurring basis include investment securities available for sale, marketable securities, derivative instruments and deferred compensation. The Company's financial assets and liabilities measured at fair value on a non-recurring basis include nonmarketable securities, debt and other financial instruments. The Company's non-financial assets measured at fair value on a non-recurring basis include property, equipment and right-of-use assets, goodwill and other intangible assets and are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment.

Contingent consideration - Certain business combinations involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones. These liabilities are classified within Level 3 of the Valuation Hierarchy as the inputs used to measure fair value are unobservable and require management's judgment. The fair value of the contingent consideration at the acquisition date and subsequent periods is determined utilizing an income approach based on a Monte Carlo technique and is recorded in other current liabilities and other liabilities on the consolidated balance sheet. Changes to projected performance milestones of the acquired businesses could result in a higher or lower contingent consideration liability. The changes in fair value as a result of updated assumptions are recorded in general and administrative expenses on the consolidated statement of operations.

Investment securities - The Company classifies investments as available-for-sale or held-to-maturity at the date of acquisition.

- Available-for-sale debt securities:
  - Investments in debt securities that are available to meet the Company's current operational needs are classified as current assets and the securities that are not available for current operational needs are classified as non-current assets on the consolidated balance sheet.

    The debt securities are carried at fair value, with unrealized gains and losses, net of tax, recorded as a separate component of accumulated other comprehensive income (loss) on the consolidated statement of comprehensive income. Net realized gains and losses on debt securities are recognized in investment income on the consolidated statement of operations. The specific identification method is used to determine realized gains and losses.

    The Company evaluates its debt securities for impairment on an ongoing basis. When there has been a decline in fair value of a debt security below the amortized cost basis, the Company

recognizes an impairment if: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery of the amortized cost basis; or (3) it does not expect to recover the entire amortized cost basis of the security. The credit loss component of the impairment is recognized as an allowance and recorded in other income (expense), net on the consolidated statement of operations while the non-credit related loss remains in accumulated other comprehensive income (loss) until realized from a sale or subsequent impairment.

- Held-to-maturity securities:
  - Time deposits - The Company classifies time deposits with original maturities greater than three months as held-to-maturity. Held-to-maturity securities that mature within one year are classified as current assets within investments on the consolidated balance sheet while held-to-maturity securities with maturities of greater than one year are classified as other assets. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity.

Equity investments - The Company holds equity securities of publicly traded and privately held companies.

- Marketable equity securities - Marketable equity securities are strategic investments in publicly traded companies and are measured at fair value using quoted prices in their respective active markets with changes recorded through gains (losses) on equity investments, net on the consolidated statement of operations. Securities that are not for use in current operations are classified in other assets on the consolidated balance sheet.

- Nonmarketable equity investments - The Company's nonmarketable equity investments, which are reported in other assets on the consolidated balance sheet, include investments in privately held companies without readily determinable market values. The Company uses discounted cash flows and market assumptions to estimate the fair value of its nonmarketable equity investments when certain events or circumstances indicate that impairment may exist. The Company's nonmarketable equity investments are accounted for under the measurement alternative method or equity method.

  - Measurement alternative method - The Company accounts for investments in common stock or in-substance common stock under the measurement alternative method of accounting when it does not exercise significant influence, generally when it holds less than 20% ownership in the entity or when the interest in a limited partnership or limited liability company is less than 5% and the Company has no significant influence over the operations of the investee. Investments in companies that Mastercard does not control, but that are not in the form of common stock or in-substance common stock, are also accounted for under the measurement alternative method of accounting. Measurement alternative investments are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Fair value adjustments, as well as impairments, are included in gains (losses) on equity investments, net on the consolidated statement of operations.

  - Equity method - The Company accounts for investments in common stock or in-substance common stock under the equity method of accounting when it has the ability to exercise significant influence over the operations of the investee, generally when it holds between 20% and 50% ownership in the entity. The excess of the cost over the underlying net equity of investments accounted for under the equity method is allocated to identifiable tangible and intangible assets and liabilities based on fair values at the date of acquisition. The amortization of the excess of the cost over the underlying net equity of investments and Mastercard's share of net earnings or losses of entities accounted for under the equity method of accounting is included in other income (expense), net on the consolidated statement of operations.

    In addition, investments in flow-through entities such as limited partnerships and limited liability companies are also accounted for under the equity method when the Company has the ability to exercise significant influence over the operations of the investee, generally when the investment ownership percentage is equal to or greater than 5% of the outstanding ownership interest. The Company's share of net earnings or losses for these investments are included in gains (losses) on equity investments, net on the consolidated statement of operations.

Derivative and hedging instruments - The Company's derivative financial instruments are recorded as either assets or liabilities on the balance sheet and measured at fair value. The Company's foreign exchange and interest rate derivative contracts are included in Level 2 of the Valuation Hierarchy as the fair value of the contracts are based on inputs, which are observable based on broker quotes for the same or similar instruments. The Company does not enter into derivative instruments for trading or speculative purposes. For derivatives that are not designated as hedging instruments, realized and unrealized gains and losses from the change in fair value of the derivatives are recognized in current earnings.

The Company's derivatives that are designated as hedging instruments are required to meet established accounting criteria. In addition, an effectiveness assessment is required to demonstrate that the derivative is expected to be highly effective at offsetting changes in fair value or cash flows of the underlying exposure both at inception of the hedging relationship and on an ongoing basis. The method of assessing hedge effectiveness and measuring hedge results is formally documented at hedge inception and assessed at least quarterly throughout the designated hedge period.

The Company may designate derivative instruments as cash flow, fair value and net investment hedges, as follows:

- Cash flow hedges - Fair value adjustments to derivative instruments are recorded, net of tax, in other comprehensive income (loss) on the consolidated statement of comprehensive income. Any gains and losses deferred in accumulated other comprehensive income (loss) are subsequently reclassified to the corresponding line item on the consolidated statement of operations when the underlying hedged transactions impact earnings. For hedges that are no longer deemed highly effective, hedge accounting is discontinued prospectively, and any gains and losses remaining in accumulated other comprehensive income (loss) are reclassified to earnings when the underlying forecasted transaction occurs. If it is probable that the forecasted transaction will no longer occur, the associated gains or losses in accumulated other comprehensive income (loss) are reclassified to the corresponding line item on the consolidated statement of operations in current earnings.

- Fair value hedges - Changes in the fair value of derivative instruments are recorded in current-period earnings, along with the gain or loss on the hedged asset or liability ("hedged item") that is attributable to the hedged risk. All amounts recognized in earnings are recorded to the corresponding line item on the consolidated statement of operations as the earnings effect of the hedged item. Hedged items are measured on the consolidated balance sheet at their carrying amount adjusted for any changes in fair value attributable to the hedged risk ("basis adjustments"). The Company defers the amortization of any basis adjustments until the end of the derivative instrument's term. If the hedge designation is discontinued for reasons other than derecognition of the hedged item, the remaining basis adjustments are amortized in accordance with applicable GAAP for the hedged item.

- Net investment hedges - The Company has numerous investments in foreign subsidiaries. The net assets of these subsidiaries are exposed to volatility in foreign currency exchange rates. The Company may use foreign currency denominated debt and/or derivative instruments to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. The effective portion of the foreign currency gains and losses related to the hedging instruments are reported in accumulated other comprehensive income (loss) on the consolidated balance sheet as a cumulative translation adjustment component of equity. Gains and losses in accumulated other comprehensive income (loss) are reclassified to earnings only if the Company sells or substantially liquidates its net investments in foreign subsidiaries. Amounts excluded from effectiveness testing of net investment hedges are recognized in earnings over the life of the hedging instrument. The Company evaluates the effectiveness of the net investment hedge each quarter.

Settlement assets/obligations - The Company operates systems for settling payment transactions among participants in the payments ecosystem in which the Company operates. Settlement is generally completed on a same-day basis, however, in some circumstances, funds may not settle until subsequent business days. In addition, the Company may receive or post funds in advance of transactions related to certain payment capabilities over its multi-rail payments network. The Company classifies the balances arising from these various activities as settlement assets and settlement obligations.

Property, equipment and right-of-use assets - Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets. Depreciation of leasehold improvements and amortization of finance leases is included in depreciation and amortization expense on the consolidated statement of operations. Operating lease amortization expense is included in general and administrative expenses on the consolidated statement of operations.

The useful lives of the Company's assets are as follows:

Asset Category	Estimated Useful Life
Buildings	30 years
Building equipment	10 - 15 years
Furniture and fixtures and equipment	3 - 5 years
Leasehold improvements	Shorter of life of improvement or lease term
Right-of-use assets	Shorter of life of the asset or lease term

The Company determines if a contract is, or contains, a lease at contract inception. The Company's right-of-use ("ROU") assets are primarily related to operating leases for office space, automobiles and other equipment. Leases are included in property, equipment and right-of-use assets, other current liabilities and other liabilities on the consolidated balance sheet.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. ROU assets and lease

liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. In addition, ROU assets include initial direct costs incurred by the lessee as well as any lease payments made at or before the commencement date, and exclude lease incentives. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The incremental borrowing rate is determined by using the rate of interest that the Company would pay to borrow on a collateralized basis an amount equal to the lease payments for a similar term and in a similar economic environment. Lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Leases with a term of one year or less are excluded from ROU assets and liabilities.

The Company excludes variable lease payments in measuring ROU assets and lease liabilities, other than those that depend on an index, a rate or are in-substance fixed payments. Lease and nonlease components are generally accounted for separately. When available, consideration is allocated to the separate lease and nonlease components in a lease contract on a relative standalone price basis using observable standalone prices.

Pension and other postretirement plans - The Company recognizes the funded status of its single-employer defined benefit pension plans and postretirement plans as assets or liabilities on its consolidated balance sheet and recognizes changes in the funded status in the year in which the changes occur through accumulated other comprehensive income (loss). The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation at December 31, the measurement date. Overfunded plans, if any, are aggregated and recorded in other assets, while underfunded plans are aggregated and recorded as accrued expenses and other liabilities on the consolidated balance sheet.

Net periodic pension and postretirement benefit cost/(income), excluding the service cost component, is recognized in other income (expense), net on the consolidated statement of operations. These costs include interest cost, expected return on plan assets, amortization of prior service costs or credits and gains or losses previously recognized as a component of accumulated other comprehensive income (loss). The service cost component is recognized in general and administrative expenses on the consolidated statement of operations.

Defined contribution plans - The Company's contributions to defined contribution plans are recorded as employees render service to the Company. The charge is recorded in general and administrative expenses on the consolidated statement of operations.

Advertising and marketing - Expenses incurred to promote Mastercard's brand, products and services are recognized in advertising and marketing on the consolidated statement of operations. The timing of recognition is dependent on the type of advertising or marketing expense.

Foreign currency remeasurement and translation - Monetary assets and liabilities are remeasured to functional currencies using current exchange rates in effect at the balance sheet date. Non-monetary assets and liabilities are recorded at historical exchange rates. Revenue and expense accounts are remeasured at the weighted-average exchange rate for the period. Resulting exchange gains and losses related to remeasurement are included in general and administrative expenses on the consolidated statement of operations.

Where a non-U.S. currency is the functional currency, translation from that functional currency to U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using a weighted-average exchange rate for the period. Resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss).

Treasury stock - The Company records the repurchase of shares of its common stock at cost on the trade date of the transaction. These shares are considered treasury stock, which is a reduction to stockholders' equity. Treasury stock is included in authorized and issued shares but excluded from outstanding shares.

Share-based payments - The Company measures share-based compensation expense at the grant date, based on the estimated fair value of the award and uses the straight-line method of attribution, net of estimated forfeitures, for expensing awards over the requisite employee service period. The Company estimates the fair value of its non-qualified stock option awards ("Options") using a Black-Scholes valuation model. The fair value of restricted stock units ("RSUs") is determined and fixed on the grant date based on the Company's stock price, adjusted for the exclusion of dividend equivalents. The Monte Carlo simulation valuation model is used to determine the grant date fair value of performance stock units ("PSUs") granted. All share-based compensation expenses are recorded in general and administrative expenses on the consolidated statement of operations.

Redeemable non-controlling interests - The Company's business combinations may include provisions allowing non-controlling equity owners the ability to require the Company to purchase additional interests in the subsidiary at their discretion. The interests are initially recorded at fair value and in subsequent reporting periods are accreted or adjusted to the estimated redemption value. The adjustments to the redemption value are recorded to retained earnings or additional paid-in capital on

the consolidated balance sheet. The redeemable non-controlling interests are considered temporary and reported outside of permanent equity on the consolidated balance sheet at the greater of the carrying amount adjusted for the non-controlling interest's share of net income (loss) or its redemption value.

Earnings per share - The Company calculates basic earnings per share ("EPS") by dividing net income by the weighted-average number of common shares outstanding during the year. Diluted EPS is calculated by dividing net income by the weighted-average number of common shares outstanding during the year, adjusted for the potentially dilutive effect of stock options and unvested stock units using the treasury stock method. The Company may be required to calculate EPS using the two-class method as a result of its redeemable non-controlling interests. If redemption value exceeds the fair value of the redeemable non-controlling interests, the excess would be a reduction to net income for the EPS calculation.

Accounting pronouncements not yet adopted

Accounting for contract assets and contract liabilities in a business combination - In October 2021, the Financial Accounting Standards Board issued accounting guidance that requires contract assets and contract liabilities (i.e., deferred revenue) acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, *Revenue from Contracts with Customers*. The guidance is effective for periods beginning after December 15, 2022 with early adoption permitted. The Company will early adopt this guidance effective January 1, 2022 and does not expect the impacts to be material.

Note 2. Acquisitions

In 2021, 2020 and 2019, the Company acquired several businesses for total consideration of $4.7 billion, $1.1 billion and $1.5 billion, respectively, representing both cash and contingent consideration. These acquisitions align with the Company's strategy to grow, diversify and build the Company's business. Refer to Note 1 (Summary of Significant Accounting Policies) for the valuation techniques Mastercard utilizes to fair value the respective components of business combinations and contingent consideration. The residual value allocated to goodwill is primarily attributable to the synergies expected to arise after the acquisition date and a majority of the goodwill is not expected to be deductible for local tax purposes.

On March 5, 2021, Mastercard acquired a majority of the Corporate Services business of Nets Denmark A/S ("Nets") for €3.0 billion (approximately $3.6 billion as of the date of acquisition) in cash consideration based on a €2.85 billion enterprise value, adjusted for cash and net working capital at closing. The business acquired is primarily comprised of clearing and instant payment services and e-billing solutions. In relation to this acquisition, the Company's preliminary estimate of net assets acquired primarily relates to intangible assets, including goodwill of $2.1 billion, of which $0.8 billion is expected to be deductible for local tax purposes. The goodwill arising from this acquisition is primarily attributable to the synergies expected to arise through geographic, product and customer expansion, the underlying technology and workforce acquired.

On June 9, 2021, Mastercard acquired a 100% equity interest in Ekata, Inc. ("Ekata") for cash consideration of $861 million, based on an $850 million enterprise value, adjusted for cash and net working capital at closing. The acquisition of Ekata is expected to broaden the Company's digital identity verification capabilities. The residual value allocated to goodwill is primarily attributable to the synergies expected to arise after the acquisition date and none of the goodwill is expected to be deductible for local tax purposes.

Mastercard acquired additional businesses in 2021 for consideration of $272 million. These businesses were not considered individually material to Mastercard.

Among the businesses acquired in 2020, the largest acquisition relates to Finicity Corporation ("Finicity"), an open-banking provider, headquartered in Salt Lake City, Utah. On November 18, 2020, Mastercard acquired 100% equity interest in Finicity for cash consideration of $809 million. In addition, the Finicity sellers earned additional contingent consideration of $64 million upon meeting 2021 revenue targets in accordance with terms of the purchase agreement. The additional businesses acquired in 2020 and the businesses acquired in 2019 were not considered individually material to Mastercard.

The Company is evaluating and finalizing the purchase accounting for the businesses acquired during 2021. In 2021, the Company finalized the purchase accounting for businesses acquired during 2020. The estimated and final fair values of the purchase price allocations in aggregate, as of the acquisition dates, are noted below for the years ended December 31.

	2021	2020	2019
		(in millions)	
Assets:			
Cash and cash equivalents	$ 253	$ 6	$ 54
Other current assets	41	14	143
Other intangible assets	2,071	237	395
Goodwill	2,842	844	1,076
Other assets	15	11	48
Total assets	**5,222**	**1,112**	**1,716**
Liabilities:			
Other current liabilities	112	15	121
Deferred income taxes	398	23	52
Other liabilities	12	8	32
Total liabilities	**522**	**46**	**205**
Net assets acquired	**$ 4,700**	**$ 1,066**	**$ 1,511**

The following table summarizes the identified intangible assets acquired during the years ended December 31:

	2021	2020	2019	2021	2020	2019
	Acquisition Date Fair Value			Weighted-Average Useful Life		
	(in millions)			(in years)		
Developed technologies	$ 433	$ 122	$ 199	11.7	6.3	7.7
Customer relationships	1,614	114	178	19.2	12.0	12.6
Other	24	1	18	7.1	1.0	5.0
Other intangible assets	**$ 2,071**	**$ 237**	**$ 395**	**17.5**	**9.0**	**9.7**

Proforma information related to these acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

Pending Acquisition

As of December 31, 2021, Mastercard has entered into a definitive agreement to acquire Dynamic Yield LTD. This acquisition is expected to close in the second quarter of 2022.

Note 3. Revenue

Mastercard's core network involves four participants in addition to the Company: account holders (a person or entity who holds a card or uses another device enabled for payment), issuers (the account holders' financial institutions), merchants and acquirers (the merchants' financial institutions). Revenue from contracts with customers is recognized when services are performed in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those services. Revenue recognized from domestic assessments, cross-border volume fees and transaction processing are derived from Mastercard's payments network services. Revenue is primarily generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by

assessing customers based primarily on the dollar volume of activity, or GDV, on the products that carry the Company's brands. Revenue is generally derived from information accumulated by Mastercard's systems or reported by customers. In addition, the Company generates other revenues from value-added products and services, often integrated and sold with the Company's payment offerings, that are recognized as revenue in the period in which the related transactions occur or services are performed.

The price structure for Mastercard's products and services is dependent on the nature of volumes, types of transactions and type of products and services offered to customers. Net revenue can be impacted by the following:

- domestic or cross-border transactions
- geographic region or country in which the transaction occurs
- volumes/transactions subject to tiered rates
- switched or not switched by the Company
- amount of usage of the Company's other products or services
- amount of rebates and incentives provided to customers

The Company classifies its net revenue into the following five categories:

Domestic assessments are fees charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are the same. Revenue from domestic assessments is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Cross-border volume fees are charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are different. Revenue from cross-border volume is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Transaction processing revenue is recognized for both domestic and cross-border transactions in the period in which the related transactions occur. Transaction processing includes the following:

- *Switched transaction* revenue is generated from the following products and services:
  - Authorization, which is the process by which a transaction is routed to the issuer for approval. In certain circumstances, such as when the issuer's systems are unavailable or cannot be contacted, Mastercard or others approve such transactions on behalf of the issuer in accordance with either the issuer's instructions or applicable rules (also known as "stand-in").
  - Clearing, which is the determination and exchange of financial transaction information between issuers and acquirers after a transaction has been successfully conducted at the point of interaction. Transactions are cleared among customers through Mastercard's central and regional processing systems.
  - Settlement, which facilitates the exchange of funds between parties.
- *Connectivity fees* are charged to issuers, acquirers and other financial institutions for network access, equipment and the transmission of authorization and settlement messages. These fees are based on the size of the data being transmitted and the number of connections to the Company's network.
- *Other processing fees* include issuer and acquirer processing solutions, payment gateways for e-commerce merchants, mobile gateways for mobile-initiated transactions, and safety and security.

Other revenues consist of value-added products and services that are often sold with the Company's payment service offerings and are recognized in the period in which the related services are performed or transactions occur. Other revenues include the following:

- Cyber and intelligence solutions fees are for products and services offered to prevent, detect and respond to fraud and to ensure the safety of transactions made primarily on Mastercard products.
- Data analytics and consulting fees are for insights, analytics, and test and learn capabilities as well as Mastercard's advisory and managed services.

- Loyalty and rewards solutions fees are charged to issuers for benefits provided directly to consumers with Mastercard-branded cards, such as access to a global airline lounge network, global and local concierge services, individual insurance coverages, emergency card replacement, emergency cash advance services and a 24-hour cardholder service center. Loyalty and reward solution fees also include rewards campaigns and management services.
- Program management services provided to prepaid card issuers consist of foreign exchange margin, commissions, load fees and ATM withdrawal fees paid by cardholders on the sale and encashment of prepaid cards.
- Batch and real-time account-based payment services relating to ACH transactions and other ACH related services.
- Other payment-related products and services and platforms, including account and transaction enhancement services, open banking and digital identity solutions, rules compliance and publications.

Rebates and incentives (contra-revenue) are provided to customers and can be either fixed or variable-based. Fixed incentives typically represent payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis as a reduction of gross revenue. Variable rebates and incentives are typically tied to customer performance, such as volume thresholds, and are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term.

The Company's disaggregated net revenue by source and geographic region were as follows for the years ended December 31:

	2021	2020	2019
	(in millions)		
Revenue by source:			
Domestic assessments	$ 8,158	$ 6,656	$ 6,781
Cross-border volume fees	4,664	3,512	5,606
Transaction processing	10,799	8,731	8,469
Other revenues	6,224	4,717	4,124
Gross revenue	**29,845**	**23,616**	**24,980**
Rebates and incentives (contra-revenue)	(10,961)	(8,315)	(8,097)
Net revenue	**$ 18,884**	**$ 15,301**	**$ 16,883**
Net revenue by geographic region:			
North American Markets	$ 6,594	$ 5,424	$ 5,843
International Markets	12,068	9,701	10,869
Other [1]	222	176	171
Net revenue	**$ 18,884**	**$ 15,301**	**$ 16,883**

[1] Includes revenues managed by corporate functions.

The Company's customers are generally billed weekly, however the frequency is dependent upon the nature of the performance obligation and the underlying contractual terms. The Company does not typically offer extended payment terms to customers. The following table sets forth the location of the amounts recognized on the consolidated balance sheet from contracts with customers at December 31:

	2021	2020
	(in millions)	
Receivables from contracts with customers		
Accounts receivable	$ 2,829	$ 2,505
Contract assets		
Prepaid expenses and other current assets	134	59
Other assets	487	245
Deferred revenue [1]		
Other current liabilities	482	355
Other liabilities	180	143

[1] Revenue recognized from performance obligations satisfied in 2021, 2020 and 2019 was $1.5 billion, $1.1 billion and $994 million, respectively.

The Company's remaining performance periods for its contracts with customers for its payments network services are typically long-term in nature (generally up to 10 years). As a payments network service provider, the Company provides its customers with continuous access to its global payments network and stands ready to provide transaction processing and related services over the contractual term. Consideration is variable as the Company generates volume- and transaction-based revenues from assessing its customers' current period activity. The Company has elected the optional exemption

to not disclose the remaining performance obligations related to its payments network services. The Company also earns revenues primarily from other value-added services comprised of both batch and real-time account-based payments services, cyber and intelligence solutions, consulting fees, loyalty programs, gateway services, processing, and other payment-related products and services. At December 31, 2021, the estimated

aggregate consideration allocated to unsatisfied performance obligations for these other value-added services is $1.3 billion, which is expected to be recognized through 2024. The estimated remaining performance obligations related to these revenues are subject to change and are affected by several factors, including modifications and terminations and are not expected to be material to any future annual period.

Note 4. Earnings Per Share

The components of basic and diluted EPS for common shares for each of the years ended December 31 were as follows:

	2021	2020	2019
	(in millions, except per share data)		
Numerator			
Net income	$ 8,687	$ 6,411	$ 8,118
Denominator			
Basic weighted-average shares outstanding	988	1,002	1,017
Dilutive stock options and stock units	4	4	5
Diluted weighted-average shares outstanding [1]	992	1,006	1,022
Earnings per Share			
Basic	$ 8.79	$ 6.40	$ 7.98
Diluted	$ 8.76	$ 6.37	$ 7.94

Note: Table may not sum due to rounding.

[1] For the years presented, the calculation of diluted EPS excluded a minimal amount of anti-dilutive share-based payment awards.

Note 5. Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents

The following table provides a reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents reported on the consolidated balance sheet that total to the amounts shown on the consolidated statement of cash flows for the years ended December 31:

	2021	2020
	(in millions)	
Cash and cash equivalents	$ 7,421	$ 10,113
Restricted cash and restricted cash equivalents		
Restricted cash for litigation settlement	586	586
Restricted security deposits held for customers	1,873	1,696
Prepaid expenses and other current assets	22	24
Cash, cash equivalents, restricted cash and restricted cash equivalents	**$ 9,902**	**$ 12,419**

Note 6. Supplemental Cash Flows

The following table includes supplemental cash flow disclosures for each of the years ended December 31:

	2021	2020	2019
	(in millions)		
Cash paid for income taxes, net of refunds	$ 1,820	$ 1,349	$ 1,644
Cash paid for interest	399	311	199
Cash paid for legal settlements	98	149	668
Non-cash investing and financing activities			
Dividends declared but not yet paid	479	439	403
Accrued property, equipment and right-of-use assets	15	154	468
Fair value of assets acquired, net of cash acquired	4,969	1,106	1,662
Fair value of liabilities assumed related to acquisitions	522	46	205

Note 7. Investments

The Company's investments on the consolidated balance sheet include both available-for-sale and held-to-maturity debt securities (see Investments section below). The Company classifies its investments in equity securities of publicly traded and privately held companies within other assets on the consolidated balance sheet (see Equity Investments section below).

Investments

Investments on the consolidated balance sheet consisted of the following at December 31:

	2021	2020
	(in millions)	
Available-for-sale securities [1]	$ 314	$ 321
Held-to-maturity securities [2]	159	162
Total investments	**$ 473**	**$ 483**

[1] See Available-for-Sale Securities section below for further detail.
[2] The cost of these securities approximates fair value.

Available-for-Sale Securities

The major classes of the Company's available-for-sale investment securities and their respective amortized cost basis and fair values were as follows:

	December 31, 2021				December 31, 2020			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
	(in millions)							
Municipal securities	$ 2	$ —	$ —	$ 2	$ 10	$ —	$ —	$ 10
Government and agency securities	98	—	—	98	64	—	—	64
Corporate securities	214	—	—	214	246	1	—	247
Total	**$ 314**	**$ —**	**$ —**	**$ 314**	**$ 320**	**$ 1**	**$ —**	**$ 321**

The Company's corporate and municipal available-for-sale investment securities held at December 31, 2021 and 2020, primarily carried a credit rating of A- or better. Corporate securities are comprised of commercial paper and corporate bonds. Municipal securities are comprised of state tax-exempt bonds and are diversified across states and sectors. Government and agency securities include U.S. government bonds, U.S. government sponsored agency bonds and foreign government bonds which are denominated in the national currency of the issuing country. Unrealized gains and losses are recorded as a separate component of other comprehensive income (loss) on the consolidated statement of comprehensive income.

The maturity distribution based on the contractual terms of the Company's available-for-sale investment securities at December 31, 2021 was as follows:

	Amortized Cost	Fair Value
	(in millions)	
Due within 1 year	$ 132	$ 132
Due after 1 year through 5 years	182	182
Total	**$ 314**	**$ 314**

Investment income on the consolidated statement of operations primarily consists of interest income generated from cash, cash equivalents, time deposits and available-for-sale investment securities, as well as realized gains and losses on the Company's available-for-sale investment securities. The realized gains and losses from the sales of available-for-sale securities for 2021, 2020 and 2019 were not material.

Equity Investments

Included in other assets on the consolidated balance sheet are equity investments with readily determinable fair values ("Marketable securities") and equity investments without readily determinable fair values ("Nonmarketable securities"). Marketable securities are equity interests in publicly traded companies and are measured using unadjusted quoted prices in their respective active markets. Nonmarketable securities that do not qualify for equity method accounting are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for the identical or similar investments of the same issuer ("Measurement alternative").

The following table is a summary of the activity related to the Company's equity investments:

	Balance at December 31, 2020	Purchases	Sales	Changes in Fair Value [1]	Other [2]	Balance at December 31, 2021
	(in millions)					
Marketable securities	$ 476	$ —	$ (165)	$ 91	$ 225	$ 627
Nonmarketable securities	696	228	(21)	554	(250)	1,207
Total equity investments	**$ 1,172**	**$ 228**	**$ (186)**	**$ 645**	**$ (25)**	**$ 1,834**

1 Recorded in gains (losses) on equity investments, net on the consolidated statement of operations.
2 Includes translational impact of currency and $227 million of transfers between equity investment categories due to changes to the existence of readily determinable fair values.

The following table sets forth the components of the Company's Nonmarketable securities at December 31:

	2021	2020
	(in millions)	
Measurement alternative	$ 952	$ 539
Equity method	255	157
Total Nonmarketable securities	**$ 1,207**	**$ 696**

The following table summarizes the total carrying value of the Company's Measurement alternative investments, including cumulative unrealized gains and losses, at December 31:

	2021
	(in millions)
Initial cost basis	$ 448
Adjustments:	
Upward adjustments	514
Downward adjustments (including impairment)	(10)
Carrying amount, end of period	**$ 952**

Unrealized gains and losses included in the carrying value of the Company's Measurement alternative investments still held as of December 31, 2021 and 2020, were as follows:

	For the Years Ended December 31,	
	2021	2020
	(in millions)	
Upward adjustments	$ 468	$ 21
Downward adjustments (including impairment)	$ (2)	$ (3)

Note 8. Fair Value Measurements

The Company classifies its fair value measurements of financial instruments into a three-level hierarchy (the "Valuation Hierarchy"). Financial instruments are categorized for fair value measurement purposes as recurring or non-recurring in nature.

Financial Instruments - Recurring Measurements

The distribution of the Company's financial instruments measured at fair value on a recurring basis within the Valuation Hierarchy were as follows:

	December 31, 2021				December 31, 2020			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in millions)							
Assets								
Investment securities available-for-sale [1]:								
Municipal securities	$ —	$ 2	$ —	$ 2	$ —	$ 10	$ —	$ 10
Government and agency securities	35	63	—	98	26	38	—	64
Corporate securities	—	214	—	214	—	247	—	247
Derivative instruments [2]:								
Foreign exchange contracts	—	8	—	8	—	19	—	19
Interest rate contracts	—	6	—	6	—	—	—	—
Marketable securities [3]:								
Equity securities	627	—	—	627	476	—	—	476
Deferred compensation plan [4]:								
Deferred compensation assets	89	—	—	89	78	—	—	78
Liabilities								
Derivative instruments [2]:								
Foreign exchange contracts	$ —	$ 15	$ —	$ 15	$ —	$ 28	$ —	$ 28
Interest rate contracts	—	8	—	8	—	—	—	—
Deferred compensation plan [5]:								
Deferred compensation liabilities	89	—	—	89	81	—	—	81

1 The Company's U.S. government securities are classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices for identical assets in active markets. The fair value of the Company's available-for-sale municipal securities, non-U.S. government and agency securities and corporate securities are based on observable inputs such as quoted prices, benchmark yields and issuer spreads for similar assets in active markets and are therefore included in Level 2 of the Valuation Hierarchy.

2 The Company's foreign exchange and interest rate derivative asset and liability contracts have been classified within Level 2 of the Valuation Hierarchy as the fair value is based on observable inputs such as broker quotes relating to foreign exchange for similar derivative instruments. See Note 23 (Derivative and Hedging Instruments) for further details.

3 The Company's Marketable securities are publicly held and classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices in their respective active markets.

[4] The Company has a nonqualified deferred compensation plan where assets are invested primarily in mutual funds held in a rabbi trust, which is restricted for payments to participants of the plan. The Company has elected to use the fair value option for these mutual funds, which are measured using quoted prices of identical instruments in active markets and are included in prepaid expenses and other current assets on the consolidated balance sheet.

[5] The deferred compensation liabilities are measured at fair value based on the quoted prices of identical instruments to the investment vehicles selected by the participants. These are included in other liabilities on the consolidated balance sheet.

Financial Instruments - Non-Recurring Measurements

Nonmarketable Securities

The Company's Nonmarketable securities are recorded at fair value on a non-recurring basis in periods after initial recognition under the equity method or measurement alternative method. Nonmarketable securities are classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices, the inherent lack of liquidity and unobservable inputs used to measure fair value that require management's judgment. The Company uses discounted cash flows and market assumptions to estimate the fair value of its Nonmarketable securities when certain events or circumstances indicate that impairment may exist. See Note 7 (Investments) for further details.

Debt

The Company estimates the fair value of its long-term debt based on market quotes. These debt securities are classified as Level 2 of the Valuation Hierarchy as they are not traded in active markets. At December 31, 2021, the carrying value and fair value of total long-term debt (including the current portion) was $13.9 billion and $15.3 billion, respectively. At December 31, 2020, the carrying value and fair value of long-term debt (including the current portion) was $12.7 billion and $14.8 billion, respectively. See Note 15 (Debt) for further details.

Other Financial Instruments

Certain other financial instruments are carried on the consolidated balance sheet at cost or amortized cost basis, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, restricted cash, time deposits, accounts receivable, settlement assets, restricted security deposits held for customers, accounts payable, settlement obligations and other accrued liabilities.

Note 9. Prepaid Expenses and Other Assets

Prepaid expenses and other current assets consisted of the following at December 31:

	2021	2020
	(in millions)	
Customer and merchant incentives	$ 1,326	$ 1,086
Prepaid income taxes	92	78
Other	853	719
Total prepaid expenses and other current assets	**$ 2,271**	**$ 1,883**

Other assets consisted of the following at December 31:

	2021	2020
	(in millions)	
Customer and merchant incentives	$ 3,798	$ 3,220
Equity investments	1,834	1,172
Income taxes receivable	645	553
Other	717	420
Total other assets	**$ 6,994**	**$ 5,365**

Customer and merchant incentives represent payments made to customers and merchants under business agreements. Payments directly related to entering into such an agreement are generally deferred and amortized over the life of the agreement.

Note 10. Property, Equipment and Right-of-Use Assets

Property, equipment and right-of-use assets consisted of the following at December 31:

	2021	2020
	(in millions)	
Building, building equipment and land	$ 615	$ 522
Equipment	1,456	1,321
Furniture and fixtures	96	99
Leasehold improvements	371	380
Operating lease right-of-use assets	983	970
Property, equipment and right-of-use assets	**3,521**	**3,292**
Less: Accumulated depreciation and amortization	(1,614)	(1,390)
Property, equipment and right-of-use assets, net	**$ 1,907**	**$ 1,902**

Depreciation and amortization expense for the above property, equipment and right-of-use assets was $424 million, $400 million and $336 million for 2021, 2020 and 2019, respectively.

Operating lease ROU assets and operating lease liabilities are recorded on the consolidated balance sheet as follows at December 31:

	2021	2020
	(in millions)	
Balance sheet location		
Property, equipment and right-of-use assets, net	$ 671	$ 748
Other current liabilities	127	125
Other liabilities	645	726

Operating lease amortization expense for 2021, 2020 and 2019 was $122 million, $123 million and $99 million, respectively. As of December 31, 2021 and 2020, the weighted-average remaining lease term of operating leases was 8.8 years and 9.1 years and the weighted-average discount rate for operating leases was 2.6% and 2.7%, respectively.

The following table summarizes the maturity of the Company's operating lease liabilities at December 31, 2021 based on lease term:

	Operating Leases
	(in millions)
2022	$ 145
2023	130
2024	109
2025	83
2026	75
Thereafter	322
Total operating lease payments	**864**
Less: Interest	(92)
Present value of operating lease liabilities	**$ 772**

Note 11. Goodwill

The changes in the carrying amount of goodwill for the years ended December 31 were as follows:

	2021	2020
	(in millions)	
Beginning balance	$ 4,960	$ 4,021
Additions	2,842	844
Foreign currency translation	(140)	95
Ending balance	**$ 7,662**	**$ 4,960**

The Company performed its annual qualitative assessment of goodwill during the fourth quarter of 2021 and determined a quantitative assessment was not necessary. The Company concluded that goodwill was not impaired and had no accumulated impairment losses at December 31, 2021.

Note 12. Other Intangible Assets

The following table sets forth net intangible assets, other than goodwill, at December 31:

	2021			2020		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Finite-lived intangible assets						
Capitalized software	$ 2,929	$ (1,288)	$ 1,641	$ 2,276	$ (1,126)	$ 1,150
Customer relationships	2,272	(429)	1,843	743	(322)	421
Other	59	(38)	21	44	(41)	3
Total	**5,260**	**(1,755)**	**3,505**	**3,063**	**(1,489)**	**1,574**
Indefinite-lived intangible assets						
Customer relationships	166	—	166	179	—	179
Total	**$ 5,426**	**$ (1,755)**	**$ 3,671**	**$ 3,242**	**$ (1,489)**	**$ 1,753**

The increase in the gross carrying amount of amortized intangible assets in 2021 was primarily related to businesses acquired in 2021 and software additions. See Note 2 (Acquisitions) for further details. Certain intangible assets are denominated in foreign currencies. As such, the change in intangible assets includes a component attributable to foreign currency translation. Based on the qualitative assessment performed in 2021, it was determined that the Company's indefinite-lived intangible assets were not impaired.

Amortization on the assets above amounted to $424 million, $303 million and $285 million in 2021, 2020 and 2019, respectively. The following table sets forth the estimated future amortization expense on finite-lived intangible assets on the consolidated balance sheet at December 31, 2021 for the years ending December 31:

	(in millions)
2022	$ 429
2023	378
2024	355
2025	347
2026 and thereafter	1,996
Total	**$ 3,505**

Note 13. Accrued Expenses and Accrued Litigation

Accrued expenses consisted of the following at December 31:

	2021	2020
	(in millions)	
Customer and merchant incentives	$ 4,730	$ 3,998
Personnel costs	980	727
Income and other taxes	337	208
Other	595	497
Total accrued expenses	**$ 6,642**	**$ 5,430**

Customer and merchant incentives represent amounts to be paid to customers under business agreements. As of December 31, 2021 and 2020, long-term customer and merchant incentives included in other liabilities were $1,835 million and $1,215 million, respectively.

As of December 31, 2021 and 2020, the Company's provision for litigation was $840 million and $842 million, respectively. These amounts are not included in the accrued expenses table above and are separately reported as accrued litigation on the consolidated balance sheet. See Note 21 (Legal and Regulatory Proceedings) for additional information regarding the Company's accrued litigation.

Note 14. Pension, Postretirement and Savings Plans

The Company and certain of its subsidiaries maintain various pension and other postretirement plans that cover substantially all employees worldwide.

Defined Contribution Plans

The Company sponsors defined contribution retirement plans. The primary plan is the Mastercard Savings Plan, a 401(k) plan for substantially all of the Company's U.S. employees, which is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended. In addition, the Company has several defined contribution plans outside of the U.S. The Company's total expense for its defined contribution plans was $175 million, $150 million and $127 million in 2021, 2020 and 2019, respectively.

Defined Benefit and Other Postretirement Plans

The Company sponsors pension and postretirement plans for certain non-U.S. employees (the "non-U.S. Plans") that cover various benefits specific to their country of employment. Additionally, Vocalink has a defined benefit pension plan (the "Vocalink Plan") which was permanently closed to new entrants and future accruals as of July 21, 2013, however, plan participants' obligations are adjusted for future salary changes. The Company has agreed to make contributions of £15 million (approximately $20 million as of December 31, 2021) annually until September 2022. The term "Pension Plans" includes the non-U.S. Plans and the Vocalink Plan.

The Company maintains a postretirement plan providing health coverage and life insurance benefits for substantially all of its U.S. employees hired before July 1, 2007 (the "Postretirement Plan").

The Company uses a December 31 measurement date for the Pension Plans and its Postretirement Plan (collectively the "Plans"). The Company recognizes the funded status of its Plans, measured as the difference between the fair value of the plan assets and the projected benefit obligation, on the consolidated balance sheet. The following table sets forth the Plans' funded status, key assumptions and amounts recognized on the Company's consolidated balance sheet at December 31:

	Pension Plans		Postretirement Plan	
	2021	2020	2021	2020
	($ in millions)			
Change in benefit obligation				
Benefit obligation at beginning of year	**$ 604**	**$ 531**	**$ 70**	**$ 64**
Service cost	14	13	1	1
Interest cost	9	9	2	2
Actuarial (gain) loss	(6)	43	(7)	7
Benefits paid	(17)	(18)	(4)	(4)
Transfers in	4	3	—	—
Foreign currency translation	(12)	23	—	—
Benefit obligation at end of year	**596**	**604**	**62**	**70**
Change in plan assets				
Fair value of plan assets at beginning of year	**617**	**518**	**—**	**—**
Actual gain on plan assets	63	56	—	—
Employer contributions	32	34	4	4
Benefits paid	(17)	(18)	(4)	(4)
Transfers in	4	5	—	—
Foreign currency translation	(11)	22	—	—
Fair value of plan assets at end of year	**688**	**617**	**—**	**—**
Funded status at end of year	**$ 92**	**$ 13**	**$ (62)**	**$ (70)**
Amounts recognized on the consolidated balance sheet consist of:				
Noncurrent assets	$ 105	$ 28	$ —	$ —
Other liabilities, short-term	—	—	(3)	(4)
Other liabilities, long-term	(13)	(15)	(59)	(66)
	$ 92	**$ 13**	**$ (62)**	**$ (70)**
Accumulated other comprehensive income consists of:				
Net actuarial (gain) loss	$ (38)	$ 12	$ 2	$ 9
Prior service credit	1	1	(2)	(4)
Balance at end of year	**$ (37)**	**$ 13**	**$ —**	**$ 5**
Weighted-average assumptions used to determine end of year benefit obligations				
Discount rate				
Non-U.S. Plans	0.90 %	0.70 %	*	*
Vocalink Plan	1.75 %	1.55 %	*	*
Postretirement Plan	*	*	2.75 %	2.50 %
Rate of compensation increase				
Non-U.S. Plans	1.50 %	1.50 %	*	*
Vocalink Plan	3.20 %	2.75 %	*	*
Postretirement Plan	*	*	3.00 %	3.00 %

* Not applicable

At December 31, 2021 and 2020, the Company's aggregated Pension Plan assets exceed the benefit obligations. For plans where the benefit obligations exceeded plan assets, the projected benefit obligation was $116 million and $112 million, the accumulated benefit obligation was $115 million and $111 million and plan assets were $104 million and $97 million at December 31, 2021 and 2020, respectively. Information on the Pension Plans were as follows as of December 31:

	2021	2020
	(in millions)	
Projected benefit obligation	$ 596	$ 604
Accumulated benefit obligation	592	601
Fair value of plan assets	688	617

For the year ended December 31, 2021, the Company's projected benefit obligation related to its Pension Plans decreased $8 million, primarily attributable to actuarial gains related to higher discount rate assumptions. For the year ended December 31, 2020, the Company's projected benefit obligation related to its Pension Plans increased $73 million, primarily attributable to actuarial losses related to lower discount rate assumptions.

Components of net periodic benefit cost recorded in earnings were as follows for the Plans for each of the years ended December 31:

	Pension Plans			Postretirement Plan		
	2021	2020	2019	2021	2020	2019
	(in millions)					
Service cost	$ 14	$ 13	$ 11	$ 1	$ 1	$ 1
Interest cost	9	9	13	2	2	2
Expected return on plan assets	(19)	(18)	(18)	—	—	—
Amortization of actuarial loss	(1)	—	1	—	—	—
Amortization of prior service credit	—	—	—	(1)	(1)	(1)
Net periodic benefit cost	**$ 3**	**$ 4**	**$ 7**	**$ 2**	**$ 2**	**$ 2**

The service cost component is recognized in general and administrative expenses on the consolidated statement of operations. Net periodic benefit cost, excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations.

Other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

	Pension Plans			Postretirement Plan		
	2021	2020	2019	2021	2020	2019
	(in millions)					
Current year actuarial loss (gain)	$ (50)	$ 5	$ 12	$ (7)	$ 7	$ 9
Amortization of prior service credit	—	—	—	2	1	1
Total other comprehensive loss (income)	**$(50)**	**$ 5**	**$ 12**	**$ (5)**	**$ 8**	**$ 10**
Total net periodic benefit cost and other comprehensive loss (income)	**$(47)**	**$ 9**	**$ 19**	**$ (3)**	**$ 10**	**$ 12**

Assumptions

Weighted-average assumptions used to determine net periodic benefit cost were as follows for the years ended December 31:

	Pension Plans			Postretirement Plan		
	2021	2020	2019	2021	2020	2019
Discount rate						
Non-U.S. Plans	0.70 %	0.70 %	1.80 %	*	*	*
Vocalink Plan	1.55 %	1.55 %	2.00 %	*	*	*
Postretirement Plan	*	*	*	2.50 %	3.25 %	4.25 %
Expected return on plan assets						
Non-U.S. Plans	1.60 %	1.60 %	2.10 %	*	*	*
Vocalink Plan	3.20 %	3.20 %	3.75 %	*	*	*
Rate of compensation increase						
Non-U.S. Plans	1.50 %	1.50 %	1.50 %	*	*	*
Vocalink Plan	2.75 %	2.75 %	2.50 %	*	*	*
Postretirement Plan	*	*	*	3.00 %	3.00 %	3.00 %

* Not applicable

The Company's discount rate assumptions are based on yield curves derived from high quality corporate bonds, which are matched to the expected cash flows of each respective plan. The expected return on plan assets assumptions are derived using the current and expected asset allocations of the Pension Plans' assets and considering historical as well as expected returns on various classes of plan assets. The rates of compensation increases are determined by the Company, based upon its long-term plans for such increases.

The following additional assumptions were used at December 31 in accounting for the Postretirement Plan:

	2021	2020
Healthcare cost trend rate assumed for next year	6.75 %	7.00 %
Ultimate trend rate	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	7	8

Assets

Plan assets are managed taking into account the timing and amount of future benefit payments. The Vocalink Plan assets are managed with the following target asset allocations: cash and cash equivalents 42%, U.K. government securities 18%, fixed income 17%, equity 15% and real estate 8%. For the non-U.S. Plans, the assets are concentrated primarily in insurance contracts.

The Valuation Hierarchy of the Pension Plans' assets is determined using a consistent application of the categorization measurements for the Company's financial instruments. See Note 1 (Summary of Significant Accounting Policies) for additional information.

The following tables set forth by level, within the Valuation Hierarchy, the Pension Plans' assets at fair value:

	December 31, 2021				December 31, 2020			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)							
Cash and cash equivalents [1]	$ 246	$ —	$ —	$ 246	$ 59	$ —	$ —	$ 59
Mutual funds [2]	185	102	—	287	270	117	—	387
Insurance contracts [3]	—	104	—	104	—	96	—	96
Total	$ 431	$ 206	$ —	$ 637	$ 329	$ 213	$ —	$ 542
Investments at Net Asset Value ("NAV") [4]				51				75
Total Plan Assets				**$688**				**$617**

1 Cash and cash equivalents are valued at quoted market prices, which represent the net asset value of the shares held by the Plans.

2 Certain mutual funds are valued at quoted market prices, which represent the value of the shares held by the Plans, and are therefore included in Level 1. Certain other mutual funds are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2.

3 Insurance contracts are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors.

4 Investments at NAV include mutual funds (comprised primarily of credit investments) and other investments (comprised primarily of real estate investments) and are valued using the net asset value provided by the administrator as a practical expedient, and therefore these investments are not included in the valuation hierarchy. These investments have quarterly redemption frequencies with redemption notice periods ranging from 60 to 90 days.

The following table summarizes expected benefit payments (as of December 31, 2021) through 2031 for the Pension Plans and the Postretirement Plan, including those payments expected to be paid from the Company's general assets. Actual benefit payments may differ from expected benefit payments.

	Pension Plans	Postretirement Plan
	(in millions)	
2022	$ 27	$ 3
2023	18	3
2024	21	3
2025	21	4
2026	19	4
2027 - 2031	124	19

Note 15. Debt

Long-term debt consisted of the following at December 31:

			2021	2020	Effective Interest Rate
			(in millions)		
2021 USD Notes	2.000 %	Senior Notes due November 2031	$ 750	$ —	2.112 %
	1.900 %	Senior Notes due March 2031	600	—	1.981 %
	2.950 %	Senior Notes due March 2051	700	—	3.013 %
2020 USD Notes	3.300 %	Senior Notes due March 2027	1,000	1,000	3.420 %
	3.350 %	Senior Notes due March 2030	1,500	1,500	3.430 %
	3.850 %	Senior Notes due March 2050	1,500	1,500	3.896 %
2019 USD Notes	2.950 %	Senior Notes due June 2029	1,000	1,000	3.030 %
	3.650 %	Senior Notes due June 2049	1,000	1,000	3.689 %
	2.000 %	Senior Notes due March 2025	750	750	2.147 %
2018 USD Notes	3.500 %	Senior Notes due February 2028	500	500	3.598 %
	3.950 %	Senior Notes due February 2048	500	500	3.990 %
2016 USD Notes	2.000 %	Senior Notes due November 2021	—	650	2.236 %
	2.950 %	Senior Notes due November 2026	750	750	3.044 %
	3.800 %	Senior Notes due November 2046	600	600	3.893 %
2015 EUR Notes [1]	1.100 %	Senior Notes due December 2022	793	859	1.265 %
	2.100 %	Senior Notes due December 2027	906	982	2.189 %
	2.500 %	Senior Notes due December 2030	170	184	2.562 %
2014 USD Notes	3.375 %	Senior Notes due April 2024	1,000	1,000	3.484 %
			14,019	**12,775**	
Less: Unamortized discount and debt issuance costs			(116)	(103)	
Less: Cumulative hedge accounting fair value adjustments [2]			(2)	—	
Total debt outstanding			**13,901**	**12,672**	
Less: Current portion [3]			(792)	(649)	
Long-term debt			**$ 13,109**	**$ 12,023**	

[1] €1.650 billion euro-denominated debt issued in December 2015.

[2] In 2021, the Company entered into an interest rate swap which is accounted for as a fair value hedge. See Note 23 (Derivative and Hedging Instruments) for additional information.

[3] 2015 EUR Notes due December 2022 and 2016 USD Notes due November 2021 are classified as current portion of long-term debt on the consolidated balance sheet as of December 31, 2021 and 2020, respectively.

In March 2021, the Company issued $600 million principal amount of notes due March 2031 and $700 million principal amount of notes due March 2051. In November 2021, the Company also issued $750 million principal amount of notes due November 2031. The two issuances in 2021 are collectively referred to as the "2021 USD Notes". The net proceeds from the issuance of the 2021 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $2.024 billion.

In March 2020, the Company issued $1 billion principal amount of notes due March 2027, $1.5 billion principal amount of notes due March 2030 and $1.5 billion principal amount notes due March 2050 (collectively the "2020 USD Notes"). The net proceeds from the issuance of the 2020 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $3.959 billion.

In May 2019, the Company issued $1 billion principal amount of notes due June 2029 and $1 billion principal amount of notes due June 2049. In December 2019, the Company also issued $750 million principal amount of notes due March 2025. The two issuances in 2019 are collectively referred to as the "2019 USD Notes". The net proceeds from the issuance of the 2019 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $2.724 billion.

The outstanding debt, described above, is not subject to any financial covenants and it may be redeemed in whole, or in part, at the Company's option at any time for a specified make-whole amount. These notes are senior unsecured obligations and would rank equally with any future unsecured and unsubordinated indebtedness.

Scheduled annual maturities of the principal portion of long-term debt outstanding at December 31, 2021 are summarized below.

	(in millions)
2022	$ 793
2023	—
2024	1,000
2025	750
2026	750
Thereafter	10,726
Total	**$ 14,019**

As of December 31, 2021, the Company has a commercial paper program (the "Commercial Paper Program") under which the Company is authorized to issue up to $6 billion in unsecured commercial paper notes with maturities of up to 397 days from the date of issuance. The Commercial Paper Program is available in U.S. dollars.

In conjunction with the Commercial Paper Program, the Company has a committed five-year unsecured $6 billion revolving credit facility (the "Credit Facility"). The Credit Facility, which previously expired on November 13, 2025, was amended and extended on November 13, 2021 for an additional year and now expires on November 12, 2026. The amendment and extension did not result in material changes to the terms and conditions of the Credit Facility. Borrowings under the Credit Facility are available in U.S. dollars and/or euros. The facility fee under the Credit Facility is determined according to the Company's credit rating and is payable on the average daily commitment, regardless of usage, per annum. In addition to the facility fee, interest rates on borrowings under the Credit Facility would be based on prevailing market interest rates plus applicable margins that fluctuate based on the Company's credit rating. The Credit Facility contains customary representations, warranties, affirmative and negative covenants, events of default and indemnification provisions. The Company was in compliance in all material respects with the covenants of the Credit Facility at December 31, 2021 and 2020.

Borrowings under the Commercial Paper Program and the Credit Facility are to be used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by the Company's customers. The Company may borrow and repay amounts under the Commercial Paper Program and Credit Facility from time to time. The Company had no borrowings under the Credit Facility and the Commercial Paper Program at December 31, 2021 and 2020.

Note 16. Stockholders' Equity

Classes of Capital Stock

Mastercard's amended and restated certificate of incorporation authorizes the following classes of capital stock:

Class	Par Value Per Share	Authorized Shares (in millions)	Dividend and Voting Rights
A	$0.0001	3,000	One vote per share Dividend rights
B	$0.0001	1,200	Non-voting Dividend rights
Preferred	$0.0001	300	No shares issued or outstanding at December 31, 2021 and 2020. Dividend and voting rights are to be determined by the Board of Directors of the Company upon issuance.

Dividends

The Company declared a quarterly cash dividend on its Class A and Class B Common Stock during each of the four quarters of 2021, 2020 and 2019.

The Company declared total per share dividends on its Class A and Class B Common Stock during the years ended December 31 as summarized below:

	2021	2020	2019
	(in millions, except per share data)		
Dividends declared per share	$ 1.81	$ 1.64	$ 1.39
Total dividends declared	$ 1,781	$ 1,641	$ 1,408

Ownership and Governance Structure

Equity ownership and voting power of the Company's shares were allocated as follows as of December 31:

	2021		2020	
	Equity Ownership	General Voting Power	Equity Ownership	General Voting Power
Public Investors (Class A stockholders)	88.4 %	89.2 %	88.2 %	88.9 %
Principal or Affiliate Customers (Class B stockholders)	0.8 %	— %	0.8 %	— %
Mastercard Foundation (Class A stockholders)	10.8 %	10.8 %	11.0 %	11.1 %

Class B Common Stock Conversions

Shares of Class B common stock are convertible on a one-for-one basis into shares of Class A common stock. Entities eligible to hold Mastercard's Class B common stock are defined in the Company's amended and restated certificate of incorporation (generally the Company's principal or affiliate customers), and they are restricted from retaining ownership of shares of Class A common stock. Class B stockholders are required to subsequently sell or otherwise transfer any shares of Class A common stock received pursuant to such a conversion.

Mastercard Foundation

In connection and simultaneously with its 2006 initial public offering (the "IPO"), the Company issued and donated 135 million newly authorized shares of Class A common stock to Mastercard Foundation. Mastercard Foundation is a private charitable foundation incorporated in Canada that is controlled by directors who are independent of the Company and its principal customers. Under the terms of the donation, Mastercard Foundation became able to resell the donated shares in May 2010 to the extent necessary to meet charitable disbursement requirements pursuant to Canadian tax law. Under such current law, Mastercard Foundation must annually disburse at least 3.5% of its assets not used in its charitable activities and administration in the previous eight quarters ("Disbursement Quota"). However, Mastercard Foundation obtained permission from the Canada Revenue Agency to, until December 31, 2021, meet its cumulative Disbursement Quota obligations over a period of time that, on average, demonstrates compliance with the requirement for such established time period. Mastercard Foundation will be permitted to sell all of its remaining shares beginning May 1, 2027, subject to certain conditions.

Common Stock Activity

The following table presents the changes in the Company's outstanding Class A and Class B common stock for the years ended December 31:

	Outstanding Shares	
	Class A	Class B
	(in millions)	
Balance at December 31, 2018	1,018.6	11.8
Purchases of treasury stock	(26.4)	—
Share-based payments	3.2	—
Conversion of Class B to Class A common stock	0.6	(0.6)
Balance at December 31, 2019	**996.0**	**11.2**
Purchases of treasury stock	(14.3)	—
Share-based payments	2.3	—
Conversion of Class B to Class A common stock	2.9	(2.9)
Balance at December 31, 2020	**986.9**	**8.3**
Purchases of treasury stock	(16.5)	—
Share-based payments	1.2	—
Conversion of Class B to Class A common stock	0.5	(0.5)
Balance at December 31, 2021	**972.1**	**7.8**

The Company's Board of Directors have approved share repurchase programs authorizing the Company to repurchase shares of its Class A Common Stock. The following table summarizes the Company's share repurchase authorizations of its Class A common stock for the years ended December 31:

	2021	2020	2019
	(In millions, except per share data)		
Board authorization	$ 8,000	$ 6,000	$ 8,000
Dollar-value of shares repurchased	$ 5,904	$ 4,473	$ 6,497
Shares repurchased	16.5	14.3	26.4
Average price paid per share	$ 356.82	$ 312.68	$ 245.89

As of December 31, 2021, the remaining authorization under the share repurchase programs approved by the Company's Board of Directors was $11.9 billion.

Note 17. Accumulated Other Comprehensive Income (Loss)

The changes in the balances of each component of accumulated other comprehensive income (loss), net of tax, for the years ended December 31, 2021 and 2020 were as follows:

	December 31, 2020	Increase / (Decrease)	Reclassifications	December 31, 2021
	(in millions)			
Foreign currency translation adjustments [1]	$ (352)	$ (387)	$ —	$ (739)
Translation adjustments on net investment hedges [2]	(175)	209	—	34
Cash flow hedges				
Foreign exchange contracts [3]	—	5	(1)	4
Interest rate contracts [4]	(133)	—	5	(128)
Defined benefit pension and other postretirement plans [5]	(20)	43	(2)	21
Investment securities available-for-sale	—	(1)	—	(1)
Accumulated Other Comprehensive Income (Loss)	**$ (680)**	**$ (131)**	**$ 2**	**$ (809)**

	December 31, 2019	Increase / (Decrease)	Reclassifications	December 31, 2020
	(in millions)			
Foreign currency translation adjustments [1]	$ (638)	$ 286	$ —	$ (352)
Translation adjustments on net investment hedges [2]	(38)	(137)	—	(175)
Cash flow hedges				
Interest rate contracts [4]	11	(147)	3	(133)
Defined benefit pension and other postretirement plans [5]	(9)	(10)	(1)	(20)
Investment securities available-for-sale	1	(1)	—	—
Accumulated Other Comprehensive Income (Loss)	**$ (673)**	**$ (9)**	**$ 2**	**$ (680)**

[1] During 2021, the increase in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the depreciation of the euro against the U.S. dollar. During 2020, the decrease in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the euro and British pound partially offset by the depreciation of the Brazilian real.

[2] During 2021, the increase in the accumulated other comprehensive income related to the net investment hedges was driven by the depreciation of the euro against the U.S. dollar. During 2020, the increase in the accumulated other comprehensive loss related to the net investment hedge was driven by the appreciation of the euro. See Note 23 (Derivative and Hedging Instruments) for additional information.

[3] Beginning in 2021, certain foreign exchange derivative contracts are designated as cash flow hedging instruments. Gains and losses resulting from changes in the fair value of these contracts are deferred in accumulated other comprehensive income (loss) and subsequently reclassified to the consolidated statement of operations when the underlying hedged transactions impact earnings. See Note 23 (Derivative and Hedging Instruments) for additional information.

[4] In 2019, the Company entered into treasury rate locks which are accounted for as cash flow hedges. In the first quarter of 2020, in connection with the issuance of the 2020 USD Notes, these contracts were settled for a loss of $175 million, or $136 million net of tax, recorded in accumulated other comprehensive income (loss). The

cumulative loss will be reclassified as an adjustment to interest expense over the respective terms of the 2020 USD Notes. See Note 23 (Derivative and Hedging Instruments) for additional information.

[5] During 2021, the increase in the accumulated other comprehensive income related to the Plans was driven primarily by a net actuarial gain within the Pension Plans. During 2020, the increase in the accumulated other comprehensive loss related to the Plans was driven primarily by an actuarial loss within the Postretirement Plan. See Note 14 (Pension, Postretirement and Savings Plans) for additional information.

Note 18. Share-Based Payments

In May 2006, the Company granted the following awards under the Mastercard Incorporated 2006 Long Term Incentive Plan, which was amended and restated as of June 5, 2012 (the "LTIP"). The LTIP is a stockholder-approved plan that permits the grant of various types of equity awards to employees. The Company has granted Options, RSUs and PSUs under the LTIP. The Company uses the straight-line method of attribution for expensing all equity awards. Compensation expense is recorded net of estimated forfeitures, with estimates adjusted as appropriate.

There are approximately 116 million shares of Class A common stock authorized for equity awards under the LTIP. Although the LTIP permits the issuance of shares of Class B common stock, no such shares have been authorized for issuance. Shares issued as a result of Option exercises and the conversions of RSUs and PSUs were funded primarily with the issuance of new shares of Class A common stock.

Stock Options

Options expire ten years from the date of grant and vest ratably over four years. For Options granted, a participant's unvested awards are forfeited upon termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, however, the participant retains all of their awards without providing additional service to the Company. Retirement eligibility is dependent upon age and years of service. Compensation expense is recognized over the vesting period as stated in the LTIP.

The fair value of each Option is estimated on the date of grant using a Black-Scholes option pricing model. The following table presents the weighted-average assumptions used in the valuation and the resulting weighted-average fair value per Option granted for the years ended December 31:

	2021	2020	2019
Risk-free rate of return	0.9 %	1.0 %	2.6 %
Expected term (in years)	6.00	6.00	6.00
Expected volatility	26.1 %	19.3 %	19.6 %
Expected dividend yield	0.5 %	0.6 %	0.6 %
Weighted-average fair value per Option granted	$ 91.70	$ 80.92	$ 53.09

The risk-free rate of return was based on the U.S. Treasury yield curve in effect on the date of grant. The expected term and the expected volatility were based on historical Mastercard information. The expected dividend yields were based on the Company's expected annual dividend rate on the date of grant.

The following table summarizes the Company's option activity for the year ended December 31, 2021:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in millions)		(in years)	(in millions)
Outstanding at January 1, 2021	5.7	$ 137		
Granted	0.3	$ 363		
Exercised	(0.6)	$ 96		
Forfeited/expired	—	$ 259		
Outstanding at December 31, 2021	**5.4**	**$ 152**	**5.3**	**$ 1,109**
Exercisable at December 31, 2021	**4.2**	**$ 122**	**4.6**	**$ 986**
Options vested and expected to vest at December 31, 2021	**5.3**	**$ 152**	**5.3**	**$ 1,109**

As of December 31, 2021, there was $26 million of total unrecognized compensation cost related to non-vested Options. The cost is expected to be recognized over a weighted-average period of 1.9 years.

Restricted Stock Units

For RSUs granted on or after March 1, 2020, the awards generally vest ratably over four years. For RSUs granted before March 1, 2020, the awards generally vest after three years. A participant's unvested awards are forfeited upon termination of employment. In the event of termination due to job elimination (as defined by the Company), however, a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, the participant retains all of their awards without providing additional service to the Company. Compensation expense is recognized over the shorter of the vesting periods stated in the LTIP or the date the individual becomes eligible to retire but not less than seven months.

The following table summarizes the Company's RSU activity for the year ended December 31, 2021:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2021	2.5	$ 231	
Granted	0.8	$ 358	
Converted	(1.0)	$ 199	
Forfeited	(0.1)	$ 282	
Outstanding at December 31, 2021	**2.2**	**$ 291**	**$ 781**
RSUs expected to vest at December 31, 2021	**2.1**	**$ 289**	**$ 751**

The fair value of each RSU is the closing stock price on the New York Stock Exchange of the Company's Class A common stock on the date of grant, adjusted for the exclusion of dividend equivalents. Upon vesting, a portion of the RSU award may be withheld to satisfy the minimum statutory withholding taxes. The remaining RSUs will be settled in shares of the Company's Class A common stock after the vesting period. As of December 31, 2021, there was $283 million of total unrecognized compensation cost related to non-vested RSUs. The cost is expected to be recognized over a weighted-average period of 2.6 years.

Performance Stock Units

PSUs vest after three years, however, awards granted on or after March 1, 2019 are subject to a mandatory one-year post-vest hold. A participant's unvested awards are forfeited upon termination of employment. In the event of termination due to job elimination (as defined by the Company), however, a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, the participant retains all of their awards without providing additional service to the Company.

The following table summarizes the Company's PSU activity for the year ended December 31, 2021:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2021	0.4	$ 259	
Granted	0.2	$ 385	
Converted	(0.1)	$ 226	
Other	(0.1)	$ 231	
Outstanding at December 31, 2021	**0.4**	**$ 334**	**$ 128**
PSUs expected to vest at December 31, 2021	**0.4**	**$ 334**	**$ 128**

Since 2013, PSUs containing performance and market conditions have been issued. Performance measures used to determine the actual number of shares that vest after three years include net revenue growth, EPS growth and relative total shareholder return ("TSR"). Relative TSR is considered a market condition, while net revenue and EPS growth are considered performance conditions. The Monte Carlo simulation valuation model is used to determine the grant-date fair value.

Compensation expense for PSUs is recognized over the requisite service period, or the date the individual becomes eligible to retire but not less than seven months, if it is probable that the performance target will be achieved and subsequently adjusted if the probability assessment changes. During the year ended December 31, 2020, performance targets related to PSU awards granted in 2018 ("2018 PSU Awards") were adjusted to exclude certain pandemic-related financial impacts deemed outside of the Company's control. The adjustment during the year ended December 31, 2020 required the Company to apply modification accounting to the 2018 PSU Awards which had an immaterial impact on compensation expense. As of December 31, 2021, there was $34 million of total unrecognized compensation cost related to non-vested PSUs. The cost is expected to be recognized over a weighted-average period of 1.5 years.

Additional Information

The following table includes additional share-based payment information for each of the years ended December 31:

	2021	2020	2019
	(in millions, except weighted-average fair value)		
Share-based compensation expense: Options, RSUs and PSUs	$ 273	$ 254	$ 250
Income tax benefit recognized for equity awards	57	53	53
Income tax benefit realized related to Options exercised	36	68	69
Options:			
Total intrinsic value of Options exercised	169	317	317
RSUs:			
Weighted-average grant-date fair value of awards granted	358	288	226
Total intrinsic value of RSUs converted into shares of Class A common stock	360	330	394
PSUs:			
Weighted-average grant-date fair value of awards granted	385	291	231
Total intrinsic value of PSUs converted into shares of Class A common stock	32	92	85

Note 19. Commitments

At December 31, 2021, the Company had the following future minimum payments due under noncancelable agreements, primarily related to sponsorships to promote the Mastercard brand and licensing arrangements. The Company has accrued $17 million of these future payments as of December 31, 2021.

	(in millions)
2022	$ 424
2023	202
2024	114
2025	48
2026	3
Thereafter	1
Total	**$ 792**

Note 20. Income Taxes

Components of Income and Income Tax Expense

The domestic and foreign components of income before income taxes for the years ended December 31 are as follows:

	2021	2020	2019
	(in millions)		
United States	$ 4,261	$ 3,304	$ 4,213
Foreign	6,046	4,456	5,518
Income before income taxes	**$10,307**	**$ 7,760**	**$ 9,731**

The total income tax provision for the years ended December 31 is comprised of the following components:

	2021	2020	2019
	(in millions)		
Current			
Federal	$ 663	$ 439	$ 642
State and local	51	56	81
Foreign	976	781	897
	1,690	**1,276**	**1,620**
Deferred			
Federal	(31)	106	40
State and local	(4)	9	—
Foreign	(35)	(42)	(47)
	(70)	**73**	**(7)**
Income tax expense	**$ 1,620**	**$ 1,349**	**$ 1,613**

Effective Income Tax Rate

A reconciliation of the effective income tax rate to the U.S. federal statutory income tax rate for the years ended December 31, is as follows:

	2021		2020		2019	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 10,307		$ 7,760		$ 9,731	
Federal statutory tax	2,164	21.0 %	1,630	21.0 %	2,044	21.0 %
State tax effect, net of federal benefit	60	0.6 %	57	0.7 %	65	0.7 %
Foreign tax effect	(283)	(2.7)%	(193)	(2.5)%	(208)	(2.1)%
U.S. tax benefits [1]	(132)	(1.3)%	—	— %	—	— %
Windfall benefit	(67)	(0.7)%	(119)	(1.5)%	(129)	(1.3)%
Other, net [2]	(122)	(1.2)%	(26)	(0.3)%	(159)	(1.7)%
Income tax expense	**$ 1,620**	**15.7 %**	**$ 1,349**	**17.4 %**	**$ 1,613**	**16.6 %**

[1] Refer to the description below for the components that represent U.S. tax benefits.

[2] Included within the impact of other is $27 million of tax benefits for 2019 relating to the carryback of certain foreign tax credits.

The effective income tax rates for the years ended December 31, 2021, 2020 and 2019 were 15.7%, 17.4% and 16.6%, respectively. The effective income tax rate for 2021 was lower than the effective income tax rate for 2020, primarily due to the recognition of U.S. tax benefits, the majority of which were discrete, resulting from a higher foreign derived intangible income deduction and greater utilization of foreign tax credits in the U.S. In addition, a more favorable geographic mix of earnings in 2021 contributed to the Company's lower effective tax rate. These benefits were partially offset by a lower discrete tax benefit related to share-based payments in 2021.

The effective income tax rate for 2020 was higher than the effective income tax rate for 2019, primarily due to higher discrete tax benefits in 2019, partially offset by a more favorable geographic mix of earnings in 2020. The 2019 discrete tax benefits related to a favorable court ruling, a reduction to the Company's transition tax liability and additional foreign tax credits which can be carried back under U.S. tax reform transition rules issued by the Department of the Treasury and the Internal Revenue Service.

Singapore Income Tax Rate

In connection with the expansion of the Company's operations in the Asia Pacific, Middle East and Africa region, the Company's subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL") received an incentive grant from the Singapore Ministry of Finance in 2010. The incentive had provided MAPPL with, among other benefits, a reduced income tax rate for the 10-year period commencing January 1, 2010 on taxable income in excess of a base amount. The Company continued to explore business opportunities in this region, resulting in an expansion of the incentives being granted by the Ministry of Finance, including a further reduction to the income tax rate on taxable income in excess of a revised fixed base amount commencing July 1, 2011 and continuing through December 31, 2025. Without the incentive grant, MAPPL would have been subject to the statutory income tax rate on its earnings. For 2021, 2020 and 2019, the impact of the incentive grant received from the Ministry of Finance resulted in a reduction of MAPPL's income tax liability of $300 million, or $0.30 per diluted share, $260 million, or $0.26 per diluted share, and $300 million, or $0.29 per diluted share, respectively.

Indefinite Reinvestment

As of December 31, 2021 the Company had immaterial deferred tax liabilities related to the tax effect of the estimated foreign exchange impact on unremitted earnings. The Company expects that foreign withholding taxes associated with future repatriation of these earnings will not be material. Earnings of approximately $1.1 billion remain permanently reinvested and the Company estimates that immaterial U.S. federal and state and local income tax benefits would result, primarily from foreign exchange, if these earnings were to be repatriated.

Deferred Taxes

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The components of deferred tax assets and liabilities at December 31 are as follows:

	2021	2020
	(in millions)	
Deferred Tax Assets		
Accrued liabilities	$ 497	$ 324
Compensation and benefits	260	218
State taxes and other credits	40	47
Net operating and capital losses	136	147
Unrealized gain/loss - 2015 EUR Notes	24	58
U.S. foreign tax credits	333	276
Intangible assets	206	182
Other items	137	142
Less: Valuation allowance	(415)	(353)
Total Deferred Tax Assets	**1,218**	**1,041**
Deferred Tax Liabilities		
Prepaid expenses and other accruals	114	78
Gains on equity investments	153	60
Goodwill and intangible assets	571	216
Property, plant and equipment	174	183
Previously taxed earnings and profits	3	61
Other items	112	38
Total Deferred Tax Liabilities	**1,127**	**636**
Net Deferred Tax Assets	**$ 91**	**$ 405**

The valuation allowance balance at December 31, 2021 and 2020 primarily relates to the Company's ability to recognize future tax benefits associated with the carry forward of U.S. foreign tax credits generated in the current and prior periods and certain foreign losses. The recognition of the foreign tax credits is dependent upon the realization of future foreign source income in the appropriate foreign tax credit basket in accordance with U.S. federal income tax law. The recognition of the foreign losses is dependent on the timing and character of future taxable income in such jurisdictions.

A reconciliation of the beginning and ending balance for the Company's unrecognized tax benefits for the years ended December 31, is as follows:

	2021	2020	2019
	(in millions)		
Beginning balance	$ 388	$ 203	$ 164
Additions:			
Current year tax positions	17	19	22
Prior year tax positions	4	192	37
Reductions:			
Prior year tax positions	(31)	(10)	(11)
Settlements with tax authorities	(15)	(12)	(2)
Expired statute of limitations	(3)	(4)	(7)
Ending balance	**$ 360**	**$ 388**	**$ 203**

As of December 31, 2021, the amount of unrecognized tax benefit was $360 million. This amount, if recognized, would reduce the effective income tax rate. The Company's unrecognized tax benefits increased in 2020 primarily due to a prior year tax issue resulting from a refund claim filed in 2020.

The Company is subject to tax in the U.S., Belgium, Singapore, the United Kingdom and various other foreign jurisdictions, as well as state and local jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted after considering facts and circumstances, including progress of tax audits, developments in case law and closing of statutes of limitation. Within the next twelve months, the Company believes that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. While such a change may be significant, it is not possible to provide a range of the potential change until the examinations progress further or the related statutes of limitation expire. The Company has effectively settled its U.S. federal income tax obligations through 2011. With limited exception, the Company is no longer subject to state and local or foreign examinations by tax authorities for years before 2010.

At December 31, 2021 and 2020, the Company had a net income tax-related interest payable of $20 million and $24 million, respectively, in its consolidated balance sheet. Tax-related interest income/(expense) in 2021, 2020 and 2019 was not material. In addition, as of December 31, 2021 and 2020, the amounts the Company has recognized for penalties payable in its consolidated balance sheet were not material.

Note 21. Legal and Regulatory Proceedings

Mastercard is a party to legal and regulatory proceedings with respect to a variety of matters in the ordinary course of business. Some of these proceedings are based on complex claims involving substantial uncertainties and unascertainable damages. Accordingly, except as discussed below, it is not possible to determine the probability of loss or estimate damages, and therefore, Mastercard has not established reserves for any of these proceedings. When the Company determines that a loss is both probable and reasonably estimable, Mastercard records a liability and discloses the amount of the liability if it is material. When a material loss contingency is only reasonably possible, Mastercard does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Unless otherwise stated below with respect to these matters, Mastercard cannot provide an estimate of the possible loss or range of loss based on one or more of the following reasons: (1) actual or potential plaintiffs have not claimed an amount of monetary damages or the amounts are unsupportable or exaggerated, (2) the matters are in early stages, (3) there is uncertainty as to the outcome of pending appeals or motions, (4) there are significant factual issues to be resolved, (5) the existence in many such proceedings of multiple defendants or potential defendants whose share of any potential financial responsibility has yet to be determined and/or (6) there are novel legal issues presented. Furthermore, except as identified with respect to the matters below, Mastercard does not believe that the outcome of any individual existing legal or regulatory proceeding to which it is a party will have a material adverse effect on its results of operations, financial condition or overall business. However, an adverse judgment or other outcome or settlement with respect to any proceedings discussed below could result in fines or payments by Mastercard and/or could require Mastercard to change its business practices. In addition, an adverse outcome in a regulatory proceeding could lead to the filing of civil damage claims and possibly result in significant damage awards. Any of these events could have a material adverse effect on Mastercard's results of operations, financial condition and overall business.

Interchange Litigation and Regulatory Proceedings

Mastercard's interchange fees and other practices are subject to regulatory, legal review and/or challenges in a number of jurisdictions, including the proceedings described below. When taken as a whole, the resulting decisions, regulations and legislation with respect to interchange fees and acceptance practices may have a material adverse effect on the Company's prospects for future growth and its overall results of operations, financial position and cash flows.

United States. In June 2005, the first of a series of complaints were filed on behalf of merchants (the majority of the complaints were styled as class actions, although a few complaints were filed on behalf of individual merchant plaintiffs) against Mastercard International, Visa U.S.A., Inc., Visa International Service Association and a number of financial institutions. Taken together, the claims in the complaints were generally brought under both Sections 1 and 2 of the Sherman Act, which prohibit monopolization and attempts or conspiracies to monopolize a particular industry, and some of these complaints contain unfair competition law claims under state law. The complaints allege, among other things, that Mastercard, Visa, and certain financial institutions conspired to set the price of interchange fees, enacted point of sale acceptance rules (including the no surcharge rule) in violation of antitrust laws and engaged in unlawful tying and bundling of certain products and services, resulting in merchants paying excessive costs for the acceptance of Mastercard and Visa credit and debit cards. The cases were consolidated for pre-trial proceedings in the U.S. District Court for the Eastern District of New York in MDL No. 1720. The plaintiffs filed a consolidated class action complaint that seeks treble damages.

In July 2006, the group of purported merchant class plaintiffs filed a supplemental complaint alleging that Mastercard's initial public offering of its Class A Common Stock in May 2006 (the "IPO") and certain purported agreements entered into between Mastercard and financial institutions in connection with the IPO: (1) violate U.S. antitrust laws and (2) constituted a fraudulent conveyance because the financial institutions allegedly attempted to release, without adequate consideration, Mastercard's right to assess them for Mastercard's litigation liabilities. The class plaintiffs sought treble damages and injunctive relief including, but not limited to, an order reversing and unwinding the IPO.

In February 2011, Mastercard and Mastercard International entered into each of: (1) an omnibus judgment sharing and settlement sharing agreement with Visa Inc., Visa U.S.A. Inc. and Visa International Service Association and a number of financial institutions; and (2) a Mastercard settlement and judgment sharing agreement with a number of financial institutions. The agreements provide for the apportionment of certain costs and liabilities which Mastercard, the Visa parties and the financial institutions may incur, jointly and/or severally, in the event of an adverse judgment or settlement of one or all of the merchant litigation cases. Among a number of scenarios addressed by the agreements, in the event of a global settlement involving the Visa parties, the financial institutions and Mastercard, Mastercard would pay 12% of the monetary portion of the settlement. In the event of a settlement involving only Mastercard and the financial institutions with respect to their issuance of Mastercard cards, Mastercard would pay 36% of the monetary portion of such settlement.

In October 2012, the parties entered into a definitive settlement agreement with respect to the merchant class litigation (including with respect to the claims related to the IPO) and the defendants separately entered into a settlement agreement with the individual merchant plaintiffs. The settlements included cash payments that were apportioned among the defendants pursuant to the omnibus judgment sharing and settlement sharing agreement described above. Mastercard also agreed to provide class members with a short-term reduction in default credit interchange rates and to modify certain of its business practices, including its "no surcharge" rule. The court granted final approval of the settlement in December 2013, and objectors to the settlement appealed that decision to the U.S. Court of Appeals for the Second Circuit. In June 2016, the court of appeals vacated the class action certification, reversed the settlement approval and sent the case back to the district court for further proceedings. The court of appeals' ruling was based primarily on whether the merchants were adequately represented by counsel in the settlement. As a result of the appellate court ruling, the district court divided the merchants' claims into two separate classes - monetary damages claims (the "Damages Class") and claims seeking changes to business practices (the "Rules Relief Class"). The court appointed separate counsel for each class.

In September 2018, the parties to the Damages Class litigation entered into a class settlement agreement to resolve the Damages Class claims. The time period during which Damages Class members were permitted to opt out of the class settlement agreement ended in July 2019 with merchants representing slightly more than 25% of the Damages Class interchange volume choosing to opt out of the settlement. The district court granted final approval of the settlement in December 2019. The district court's settlement approval order has been appealed and oral argument on the appeal is scheduled for March 2022. Mastercard has commenced settlement negotiations with a number of the opt-out merchants and has reached settlements and/or agreements in principle to settle a number of these claims. The Damages Class settlement agreement does not relate to the Rules Relief Class claims. Separate settlement negotiations with the Rules Relief Class are ongoing. Briefing on summary judgment motions in the Rules Relief Class and opt-out merchant cases was completed in December 2020. In September 2021, the district court granted the Rules Relief Class's motion for class certification.

As of December 31, 2021 and 2020, Mastercard had accrued a liability of $783 million as a reserve for both the Damages Class litigation and the opt-out merchant cases. As of December 31, 2021 and 2020, Mastercard had $586 million in a qualified cash settlement fund related to the Damages Class litigation and classified as restricted cash on its consolidated balance sheet. The reserve as of December 31, 2021 for both the Damages Class litigation and the opt-out merchants represents Mastercard's best estimate of its probable liabilities in these matters. The portion of the accrued liability relating to both the opt-out merchants and the Damages Class litigation settlement does not

represent an estimate of a loss, if any, if the matters were litigated to a final outcome. Mastercard cannot estimate the potential liability if that were to occur.

Europe. Since May 2012, a number of United Kingdom ("U.K.") merchants filed claims or threatened litigation against Mastercard seeking damages for excessive costs paid for acceptance of Mastercard credit and debit cards arising out of alleged anti-competitive conduct with respect to, among other things, Mastercard's cross-border interchange fees and its U.K. and Ireland domestic interchange fees (the "U.K. Merchant claimants"). In addition, Mastercard, has faced similar filed or threatened litigation by merchants with respect to interchange rates in other countries in Europe (the "Pan-European Merchant claimants"). Mastercard has resolved a substantial amount of these damages claims through settlement or judgment. Approximately £1 billion (approximately $1.2 billion as of December 31, 2021) of unresolved damages claims remain.

In January 2017, Mastercard received a liability judgment in its favor on all significant matters in a separate action brought by ten of the U.K. Merchant claimants. Three of the U.K. Merchant claimants appealed the judgment, and these appeals were combined with Mastercard's appeal of a 2016 judgment in favor of one U.K. merchant. In July 2018, the U.K. appellate court heard the appeals of

the four merchant claimants and ruled against both Mastercard and Visa on two of the three legal issues being considered. The parties appealed the rulings to the U.K. Supreme Court. In June 2020, the U.K. Supreme Court ruled against Mastercard and Visa with respect to one of the liability issues being considered by the Court related to U.K domestic interchange fees. Additionally, the U.K Supreme Court set out the legal standard that should be applied by lower trial courts with respect to determining whether interchange was exemptible under applicable law, and provided guidance to lower courts with regard to the legal standard that should be applied in assessing merchants' damages claims. The U.K. Supreme Court sent three of the merchant cases back to the trial court solely for the purpose of determining damages issues which is scheduled to commence in January 2023.

Mastercard continues to litigate with the remaining U.K. and Pan-European Merchant claimants and it has submitted statements of defense disputing liability and damages claims. The majority of these merchant claims generally had been stayed pending the decision of the U.K. Supreme Court, and a number of those matters are now progressing with motion practice and discovery. In one of the actions involving multiple merchant plaintiff claims, in November 2021 the trial court denied the plaintiffs' motion for summary judgment on certain liability issues. The plaintiffs were granted permission to appeal that ruling. In 2021 and 2020, Mastercard incurred charges of $94 million and $28 million, respectively, to reflect both the litigation settlements and estimated attorneys' fees with a number of U.K. merchants as well as settlements with a number of Pan-European merchants.

In September 2016, a proposed collective action was filed in the United Kingdom on behalf of U.K. consumers seeking damages for intra-EEA and domestic U.K. interchange fees that were allegedly passed on to consumers by merchants between 1992 and 2008. The complaint, which seeks to leverage the European Commission's 2007 decision on intra-EEA interchange fees, claims damages in an amount that exceeds £14 billion (approximately $19 billion as of December 31, 2021). In July 2017, the trial court denied the plaintiffs' application for the case to proceed as a collective action. In April 2019, the U.K. appellate court granted the plaintiffs' appeal of the trial court's decision and sent the case back to the trial court for a re-hearing on the plaintiffs' collective action application. In December 2020, the U.K. Supreme Court rejected Mastercard's appeal of this ruling. In March 2021, the trial court held a re-hearing on the plaintiffs' collective action application, during which Mastercard sought to narrow the scope of the proposed class. In August 2021, the trial court issued a decision in which it granted class certification but agreed with Mastercard's argument and narrowed the scope of the class. The plaintiffs did not appeal the trial court's decision narrowing the class.

ATM Non-Discrimination Rule Surcharge Complaints

In October 2011, a trade association of independent Automated Teller Machine ("ATM") operators and 13 independent ATM operators filed a complaint styled as a class action lawsuit in the U.S. District Court for the District of Columbia against both Mastercard and Visa (the "ATM Operators Complaint"). Plaintiffs seek to represent a class of non-bank operators of ATM terminals that operate in the United States with the discretion to determine the price of the ATM access fee for the terminals they operate. Plaintiffs allege that Mastercard and Visa have violated Section 1 of the Sherman Act by imposing rules that require ATM operators to charge non-discriminatory ATM surcharges for transactions processed over Mastercard's and Visa's respective networks that are not greater than the surcharge for transactions over other networks accepted at the same ATM. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

Subsequently, multiple related complaints were filed in the U.S. District Court for the District of Columbia alleging both federal antitrust and multiple state unfair competition, consumer protection and common law claims against Mastercard and Visa on behalf of putative classes of users of ATM services (the "ATM Consumer Complaints"). The claims in these actions largely mirror the allegations made in the ATM Operators Complaint, although these complaints seek damages on behalf of consumers of ATM services who pay allegedly inflated ATM fees at both bank and non-bank ATM operators as a result of the defendants' ATM rules. Plaintiffs seek both injunctive and monetary relief equal to treble the

damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

In January 2012, the plaintiffs in the ATM Operators Complaint and the ATM Consumer Complaints filed amended class action complaints that largely mirror their prior complaints. In February 2013, the district court granted Mastercard's motion to dismiss the complaints for failure to state a claim. On appeal, the Court of Appeals reversed the district court's order in August 2015 and sent the case back for further proceedings. In September 2019, the plaintiffs filed their motions for class certification in which the plaintiffs, in aggregate, allege over $1 billion in damages against all of the defendants. In August 2021, the trial court issued an order granting the plaintiffs' request for class certification. Visa and Mastercard's request for permission to appeal the certification decision to the appellate court was granted. Briefing on the appeal is expected to take place over the course of 2022. Mastercard intends to vigorously defend against both the plaintiffs' liability and damages claims.

U.S. Liability Shift Litigation

In March 2016, a proposed U.S. merchant class action complaint was filed in federal court in California alleging that Mastercard, Visa, American Express and Discover (the "Network Defendants"), EMVCo and a number of issuing banks (the "Bank Defendants") engaged in a conspiracy to shift fraud liability for card present transactions from issuing banks to merchants not yet in compliance with the standards for EMV chip cards in the United States (the "EMV Liability Shift"), in violation of the Sherman Act and California law. Plaintiffs allege damages equal to the value of all chargebacks for which class members became liable as a result of the EMV Liability Shift on October 1, 2015. The plaintiffs seek treble damages, attorney's fees and costs and an injunction against future violations of governing law, and the defendants have filed a motion to dismiss. In September 2016, the district court denied the Network Defendants' motion to dismiss the complaint, but granted such a motion for EMVCo and the Bank Defendants. In May 2017, the district court transferred the case to New York so that discovery could be coordinated with the U.S. merchant class interchange litigation described above. In August 2020, the district court issued an order granting the plaintiffs' request for class certification. In January 2021, the Network Defendants' request for permission to appeal the district court's certification decision to the appellate court was denied. The plaintiffs have submitted expert reports that allege aggregate damages in excess of $1 billion against the four Network Defendants. The Network Defendants have submitted expert reports rebutting both liability and damages. Briefing on summary judgment is expected to occur in 2022.

Telephone Consumer Protection Class Action

Mastercard is a defendant in a Telephone Consumer Protection Act ("TCPA") class action pending in Florida. The plaintiffs are individuals and businesses who allege that approximately 381,000 unsolicited faxes were sent to them advertising a Mastercard co-brand card issued by First Arkansas Bank ("FAB"). The TCPA provides for uncapped statutory damages of $500 per fax. Mastercard has asserted various defenses to the claims, and has notified FAB of an indemnity claim that it has (which FAB has disputed). In June 2018, the district court granted Mastercard's motion to stay the proceedings until the Federal Communications Commission makes a decision on the application of the TCPA to online fax services. In December 2019, the FCC issued a declaratory ruling clarifying that the TCPA does not apply to faxes sent to online fax services that are received via e-mail. As a result of the ruling, the stay of the litigation was lifted in January 2020. In January 2021, the magistrate judge serving on the district court issued an opinion recommending that the district court judge deny plaintiffs' class certification motion. In light of an appellate court decision, issued subsequent to the magistrate's recommendation, the district court judge instructed the parties to re-brief the motion for class certification, and the motion has been fully briefed. In December 2021, the trial court narrowed the scope of the potential class as it denied the plaintiffs' motion for class certification of a class of all fax recipients (both stand-alone faxes and online faxes sent via email). However, the court granted class certification for a narrower class of online fax recipients only. Mastercard has filed a motion for reconsideration of the part of the trial court's order granting partial certification.

U.S. Federal Trade Commission Investigation

In June 2020, the U.S. Federal Trade Commission's Bureau of Competition ("FTC") informed Mastercard that it has initiated a formal investigation into compliance with the Durbin Amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act. In particular, the investigation focuses on Mastercard's compliance with the debit routing provisions of the Durbin Amendment. The FTC has issued a subpoena and Mastercard is cooperating with it in the investigation.

U.K. Prepaid Cards Matter

In 2019, Mastercard was informed by the U.K. Payment Systems Regulator ("PSR") that Mastercard was a target of its investigation into alleged anti-competitive conduct by public sector prepaid card program managers in the U.K. This matter focused exclusively on historic behavior. In March 2021, the PSR announced the resolution and settlement of this investigation. As part of the resolution, Mastercard agreed to pay a maximum fine of £32 million. This matter has no prospective impact on

Mastercard's on-going business. In connection with this matter, in the fourth quarter of 2020, Mastercard recorded a litigation charge of $45 million. In January 2022, the PSR issued a decision which concludes the matter and which requires that Mastercard pay its previously agreed fine in March 2022.

Note 22. Settlement and Other Risk Management

Mastercard's rules guarantee the settlement of many of the transactions between its customers ("settlement risk"). Settlement exposure is the settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

Gross settlement exposure is estimated using the average daily payment volume during the three months prior to period end multiplied by the estimated number of days of exposure. The Company has global risk management policies and procedures, which

include risk standards, to provide a framework for managing the Company's settlement risk and exposure. In the event of a failed customer, Mastercard may pursue one or more remedies available under the Company's rules to recover potential losses. Historically, the Company has experienced a low level of losses from customer failures.

As part of its policies, Mastercard requires certain customers that are not in compliance with the Company's risk standards to enter into risk mitigation arrangements, including cash collateral and/or other forms of credit enhancement such as letters of credit and guarantees. This requirement is based on a review of the individual risk circumstances for each customer. Mastercard monitors its credit risk portfolio and the adequacy of its risk mitigation arrangements on a regular basis. Additionally, from time to time, the Company reviews its risk management methodology and standards. As such, the amounts of estimated settlement exposure are revised as necessary.

The Company's estimated settlement exposure was as follows at December 31:

	2021	2020
	(in millions)	
Gross settlement exposure	$ 59,571	$ 52,360
Risk mitigation arrangements applied to settlement exposure	(7,710)	(6,021)
Net settlement exposure	**$ 51,861**	**$ 46,339**

Mastercard also provides guarantees to customers and certain other counterparties indemnifying them from losses stemming from failures of third parties to perform duties. This includes guarantees of Mastercard-branded travelers cheques issued, but not yet cashed of $361 million and $370 million at December 31, 2021 and 2020, respectively, of which the Company has risk mitigation arrangements for $287 million and $294 million at December 31, 2021 and 2020, respectively. In addition, the Company enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. Certain indemnifications do not provide a stated maximum exposure. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable. Historically, payments made by the Company under these types of contractual arrangements have not been material.

Note 23. Derivative and Hedging Instruments

The Company monitors and manages its foreign currency and interest rate exposures as part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. A primary objective of the Company's risk management strategies is to reduce the financial impact that may arise from volatility in foreign currency exchange rates principally through the use of both foreign exchange derivative contracts and foreign currency denominated debt. In addition, the Company may enter into interest rate derivative contracts to manage the effects of interest rate movements on the Company's aggregate liability portfolio, including potential future debt issuances.

Cash Flow Hedges

The Company may enter into foreign exchange derivative contracts, including forwards and options, to manage the impact of foreign currency variability on anticipated revenues and expenses, which fluctuate based on currencies other than the functional currency of the entity. The objective of these hedging activities is to reduce the effect of movement in foreign exchange rates for a portion of revenues and expenses forecasted to occur. As these contracts are designated as cash flow hedging instruments, gains and losses resulting from changes in fair value of these contracts are deferred in accumulated other comprehensive income (loss) and subsequently reclassified to the consolidated statement of operations when the underlying hedged transactions impact earnings.

In addition, the Company may enter into interest rate derivative contracts to manage the effects of interest rate movements on the Company's aggregate liability portfolio, including potential future debt issuances, and designate such derivatives as hedging instruments in a cash flow hedging relationship. In 2019, the Company entered into treasury rate locks which are accounted for as cash flow hedges. In the first quarter of 2020, in connection with the issuance of the 2020 USD Notes, these contracts were settled at a loss of $136 million, after tax, in accumulated other comprehensive income (loss). As of December 31, 2021, a cumulative loss of $128 million, after tax, remains in accumulated other comprehensive income (loss) associated with these contracts and will be reclassified as an adjustment to interest expense over the respective terms of the 2020 USD Notes due in March 2030 and March 2050.

Fair Value Hedges

The Company may enter into interest rate derivative contracts, including interest rate swaps, to manage the effects of interest rate movements on the fair value of the Company's fixed-rate debt and designate such derivatives as hedging instruments in a fair value hedging relationship. Changes in fair value of these contracts and changes in fair value of fixed-rate debt attributable to changes in the hedged benchmark interest rate generally offset each other and are recorded in interest expense on the consolidated statement of operations. Gains or losses related to the net settlements of interest rate swaps are also recorded in interest expense on the consolidated statement of operations. The periodic cash settlements are included in operating activities on the consolidated statement of cash flows.

During the fourth quarter of 2021, the Company entered into an interest rate swap designated as a fair value hedge related to $1.0 billion of the 3.850% Senior Notes due March 2050. In effect, the interest rate swap synthetically converts the fixed interest rate on this debt to a variable interest rate based on the Secured Overnight Financing Rate ("SOFR") Overnight Index Swap Rate. The net impact to interest expense for the year ended December 31, 2021 was not material.

Net Investment Hedges

The Company may use foreign currency denominated debt and/or foreign exchange derivative contracts to hedge a portion of its net investment in foreign subsidiaries against adverse movements in exchange rates. The effective portion of the net investment hedge is recorded as a currency translation adjustment in accumulated other comprehensive income (loss). Forward points are designated as an excluded component and recognized in general and administrative expenses on the consolidated statement of operations over the hedge period. The amounts recognized in earnings related to forward points for 2021 were not material.

In 2015, the Company designated its €1.65 billion euro-denominated debt as a net investment hedge for a portion of its net investment in its European operations. During 2021, 2020 and 2019 the Company recorded a pre-tax net foreign currency gain of $155 million, loss of $177 million and gain of $36 million, respectively, in other comprehensive income (loss).

As of December 31, 2021 and 2020, the Company had a net foreign currency gain of $34 million and loss of $175 million, after tax, respectively, in accumulated other comprehensive income (loss) associated with this hedging activity.

Non-designated Derivatives

The Company may also enter into foreign exchange derivative contracts to serve as economic hedges, such as to offset possible changes in the value of monetary assets and liabilities due to foreign exchange fluctuations, without designating these derivative contracts as hedging instruments. In addition, the Company is subject to foreign exchange risk as part of its daily settlement activities. This risk is typically limited to a few days between when a payment transaction takes place and the subsequent settlement with customers. To manage this risk, the Company may enter into short duration foreign exchange derivative contracts based upon anticipated receipts and disbursements for the respective currency position. The objective of these activities is to reduce the Company's exposure to volatility arising from gains and losses resulting from fluctuations of foreign currencies against its functional currencies. Gains and losses resulting from changes in fair value of these contracts are recorded in general and administrative expenses on the consolidated statement of operations, net, along with the foreign currency gains and losses on monetary assets and liabilities.

The following table summarizes the fair value of the Company's derivative financial instruments and the related notional amounts:

	December 31, 2021		December 31, 2020	
	Notional	Fair Value	Notional	Fair Value
	(in millions)			
Derivative assets:				
Derivatives designated as hedging instruments				
Foreign exchange contracts in a cash flow hedge [1]	$ 102	$ 7	$ —	$ —
Interest rate contracts in a fair value hedge [2]		** 6	—	—
Derivatives not designated as hedging instruments				
Foreign exchange contracts [1]	124	1	483	19
Total Derivative Assets	**$ 226**	**$ 14**	**$ 483**	**$ 19**
Derivative liabilities:				
Derivatives designated as hedging instruments				
Foreign exchange contracts in a cash flow hedge [1]	$ 104	$ 3	$ —	$ —
Interest rate contracts in a fair value hedge [2]	1,000	8	—	—
Foreign exchange contracts in a net investment hedge [1]	1,473	4	—	—
Derivatives not designated as hedging instruments				
Foreign exchange contracts [1]	406	8	1,016	28
Total Derivative Liabilities	**$ 2,983**	**$ 23**	**$ 1,016**	**$ 28**

[1] Foreign exchange derivative assets and liabilities are recorded at fair value and are included within prepaid expenses and other current assets and other current liabilities, respectively, on the consolidated balance sheet.

[2] Interest rate derivative assets and liabilities are recorded at fair value and are included within prepaid and other current assets and other liabilities, respectively, on the consolidated balance sheet.

** As of December 31, 2021, the total notional of interest rate contracts in a fair value hedge is $1.0 billion.

The pre-tax gain (loss) related to the Company's derivative financial instruments designated as hedging instruments are as follows:

	Gain (Loss) Recognized in OCI				Gain (Loss) Reclassified from AOCI		
	Year ended December 31,				Year ended December 31,		
	2021	2020	2019	Location of Gain (Loss) Reclassified from AOCI into Earnings	2021	2020	2019
	(in millions)				(in millions)		
Derivative financial instruments in a cash flow hedge relationship:							
Foreign exchange contracts	$ 6	$ —	$ —	Net revenue	$ 1	$ —	$ —
Interest rate contracts	$ —	$ (189)	$ 14	Interest expense	$ (6)	$ (4)	$ —
Derivative financial instruments in a net investment hedge relationship:							
Foreign exchange contracts	$ 114	$ —	$ —				

The Company estimates that $1 million, pre-tax, of the net deferred loss on cash flow hedges recorded in accumulated other comprehensive income (loss) at December 31, 2021 will be reclassified into the consolidated statement of operations within the next 12 months. The term of the foreign exchange derivative contracts designated in hedging relationships are generally less than 18 months.

The amount of gain (loss) recognized on the consolidated statement of operations for non-designated derivative contracts is summarized below:

	Year ended December 31,		
Derivatives not designated as hedging instruments:	**2021**	**2020**	**2019**
	(in millions)		
Foreign exchange derivative contracts			
General and administrative	$ (10)	$ 40	$ (39)

The Company's derivative financial instruments are subject to both market and counterparty credit risk. Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as foreign currency exchange rates, interest rates and other related variables. Counterparty credit risk is the risk of loss due to failure of the counterparty to perform its obligations in accordance with contractual terms. The Company's derivative contracts are subject to enforceable master netting arrangements, which contain various netting and setoff provisions. To mitigate counterparty credit risk, the Company enters into derivative contracts with a diversified group of selected financial institutions based upon their credit ratings and other factors. Generally, the Company does not obtain collateral related to derivatives because of the high credit ratings of the counterparties.

Note 24. Segment Reporting

Mastercard has concluded it has one reportable operating segment, "Payment Solutions." Mastercard's Chief Executive Officer has been identified as the chief operating decision-maker. All of the Company's activities are interrelated, and each activity is dependent upon and supportive of the other. Accordingly, all significant operating decisions are based upon analysis of Mastercard at the consolidated level.

Revenue by geographic market is based on the location of the Company's customer that issued the card, the location of the merchant acquirer where the card is being used or the location of the customer receiving services. Revenue generated in the U.S. was approximately 32% of total revenue in 2021, 33% in 2020 and 32% in 2019. No individual country, other than the U.S., generated more than 10% of total revenue in those periods. Mastercard did not have any individual customer that generated greater than 10% of net revenue in 2021, 2020 or 2019.

The following table reflects the geographical location of the Company's property, equipment and right-of-use assets, net, as of December 31:

	2021	**2020**	**2019**
	(in millions)		
United States	$ 1,117	$ 1,185	$ 1,147
Other countries	790	717	681
Total	**$ 1,907**	**$ 1,902**	**$ 1,828**

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

Not applicable.

Item 9A. Controls and procedures

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our President and Chief Executive Officer and our Chief Financial Officer, to allow timely decisions regarding disclosure. The President and Chief Executive Officer and the Chief Financial Officer, with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2021 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of such date.

Internal Control over Financial Reporting

In addition, Mastercard Incorporated's management assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2021. Management's report on internal control over financial reporting is included in Part II, Item 8. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There was no change in Mastercard's internal control over financial reporting that occurred during the three months ended December 31, 2021 that has materially affected, or is reasonably likely to materially affect, Mastercard's internal control over financial reporting.

Item 9B. Other Information

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, we hereby incorporate by reference herein the disclosure contained in Exhibit 99.1 of this Report.

PART III

Item 10. Directors, executive officers and corporate governance

Item 11. Executive compensation

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

Item 13. Certain relationships and related transactions, and director independence

Item 14. Principal accountant fees and services

Item 10. Directors, executive officers and corporate governance

Information regarding our executive officers is included in section "Information about our executive officers" in Part I of this Report. Additional information required by this Item with respect to our directors and executive officers, code of ethics, procedures for recommending nominees, audit committee, audit committee financial experts and compliance with Section 16(a) of the Exchange Act will appear in our definitive proxy statement to be filed with the SEC and delivered to stockholders in connection with our 2022 annual meeting of stockholders (the "Proxy Statement").

The aforementioned information in the Proxy Statement is incorporated by reference into this Report.

Item 11. Executive compensation

The information required by this Item with respect to executive officer and director compensation will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

The information required by this Item with respect to security ownership of certain beneficial owners and management equity and compensation plans will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 13. Certain relationships and related transactions, and director independence

The information required by this Item with respect to transactions with related persons, the review, approval or ratification of such transactions and director independence will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 14. Principal accountant fees and services

The information required by this Item with respect to auditors' services and fees will appear in the Proxy Statement and is incorporated by reference into this Report.

PART IV

Item 15. Exhibits and financial statement schedules

Item 16. Form 10-K summary

Item 15. Exhibits and financial statement schedules

(a) The following documents are filed as part of this Report:

1 Consolidated Financial Statements

See Index to Consolidated Financial Statements in Part II, Item 8.

2 Consolidated Financial Statement Schedules

None.

3 The following exhibits are filed as part of this Report or, where indicated, were previously filed and are hereby incorporated by reference:

Refer to the Exhibit Index included herein.

Item 16. Form 10-K summary

None.

Exhibit index

Exhibit number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed June 23, 2021 (File No. 001-32877)).
3.2	Amended and Restated By-Laws of Mastercard Incorporated (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed June 23, 2021 (File No. 001-32877)).
4.1	Indenture, dated as of March 31, 2014, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.2	Officer's Certificate of the Company, dated as of March 31, 2014 (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.3	Form of Global Note representing the Company's 2.000% Notes due 2019 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.4	Form of Global Note representing the Company's 3.375% Notes due 2024 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.5	Officer's Certificate of the Company, dated as of December 1, 2015 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.6	Form of Global Note representing the Company's 1.100% Notes due 2022 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.7	Form of Global Note representing the Company's 2.100% Notes due 2027 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.8	Form of Global Note representing the Company's 2.500% Notes due 2030 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.9	Officer's Certificate of the Company, dated as of November 21, 2016 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.10	Form of Global Note representing the Company's 2.000% Notes due 2021 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.11	Form of Global Note representing the Company's 2.950% Notes due 2026 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.12	Form of Global Note representing the Company's 3.800% Notes due 2046 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.13	Officer's Certificate of the Company, dated as of February 26, 2018 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.14	Form of Global Note representing the Company's 3.5% Notes due 2028 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by reference to Exhibit 4.1 of the of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.15	Form of Global Note representing the Company's 3.95% Notes due 2048 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February

+ Management contracts or compensatory plans or arrangements.
* Filed or furnished herewith.
** Exhibit omits certain information that has been filed separately with the U.S. Securities and Exchange Commission and has been granted confidential treatment.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and should not be relied upon for that purpose. In particular, any representations and warranties made by the Company in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

MASTERCARD INCORPORATED

(Registrant)

Date: February 11, 2022 By: /s/ MICHAEL MIEBACH

Michael Miebach
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Date: February 11, 2022	By:	/s/ MICHAEL MIEBACH **Michael Miebach** **President and Chief Executive Officer; Director** **(Principal Executive Officer)**
Date: February 11, 2022	By:	/s/ SACHIN MEHRA **Sachin Mehra** **Chief Financial Officer** **(Principal Financial Officer)**
Date: February 11, 2022	By:	/s/ SANDRA ARKELL **Sandra Arkell** **Corporate Controller** **(Principal Accounting Officer)**
Date: February 11, 2022	By:	/s/ CANDIDO BRACHER **Candido Bracher** **Director**
Date: February 11, 2022	By:	/s/ RICHARD K. DAVIS **Richard K. Davis** **Director**
Date: February 11, 2022	By:	/s/ STEVEN J. FREIBERG **Steven J. Freiberg** **Director**
Date: February 11, 2022	By:	/s/ JULIUS GENACHOWSKI **Julius Genachowski** **Director**
Date: February 11, 2022	By:	/s/ CHOON PHONG GOH **Choon Phong Goh** **Director**
Date: February 11, 2022	By:	/s/ MERIT E. JANOW **Merit E. Janow** **Chairman of the Board; Director**
Date: February 11, 2022	By:	/s/ OKI MATSUMOTO **Oki Matsumoto** **Director**
Date: February 11, 2022	By:	/s/ YOUNGME MOON **Youngme Moon** **Director**
Date: February 11, 2022	By:	/s/ RIMA QURESHI **Rima Qureshi** **Director**
Date: February 11, 2022	By:	/s/ JOSÉ OCTAVIO REYES LAGUNES **José Octavio Reyes Lagunes** **Director**

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2020

Or

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

For the transition period from to

Commission file number: 001-32877

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Mastercard Incorporated

(Exact name of registrant as specified in its charter)

Delaware	**13-4172551**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification Number)**
2000 Purchase Street **Purchase, NY**	**10577**
(Address of principal executive offices)	**(Zip Code)**

(914) 249-2000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange of which registered
Class A Common Stock, par value $0.0001 per share	MA	New York Stock Exchange
1.1% Notes due 2022	MA22	New York Stock Exchange
2.1% Notes due 2027	MA27	New York Stock Exchange
2.5% Notes due 2030	MA30	New York Stock Exchange

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

Class B common stock, par value $0.0001 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rul
of the Securities Act.

Indicate by check mark if the registrant is not required to file reports pursuant to Section
Section 15(d) of the Act.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed
Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 month
for such shorter period that the registrant was required to file such reports), and (2) has b
subject to such filing requirements for the past 90 days.

Indicate by check mark whether the registrant has submitted electronically every Interact
Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of th
chapter) during the preceding 12 months (or for such shorter period that the registrant wa
required to submit such files).

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

Large accelerated filer	☒		☐	Accelerated filer
Non-accelerated filer	☐	(do not check if a smaller reporting company)	☐	Smaller reporting company
			☐	Emerging growth company

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

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

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

The aggregate market value of the registrant's Class A common stock, par value $0.0001 per share, held by non-affiliates (using the New York Stock Exchange closing price as of June 30, 2020, the last business day of the registrant's most recently completed second fiscal quarter) was approximately $261.3 billion. There is currently no established public trading market for the registrant's Class B common stock, par value $0.0001 per share. As of February 9, 2021, there were 985,146,914 shares outstanding of the registrant's Class A common stock, par value $0.0001 per share and 8,215,424 shares outstanding of the registrant's Class B common stock, par value $0.0001 per share.

Portions of the registrant's definitive proxy statement for the 2021 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

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MASTERCARD INCORPORATED FISCAL YEAR 2020 FORM 10-K ANNUAL REPORT

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In this Report on Form 10-K ("Report"), references to the "Company," "Mastercard," "we," "us" or "our" refer to the business conducted by Mastercard Incorporated and its consolidated subsidiaries, including our operating subsidiary, Mastercard International Incorporated, and to the Mastercard brand.

Forward-Looking Statements

This Report contains forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts may be forward-looking statements. When used in this Report, the words "believe", "expect", "could", "may", "would", "will", "trend" and similar words are intended to identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements that relate to the Company's future prospects, developments and business strategies.

Many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved. Any one of those factors could cause our actual results to differ materially from those expressed or implied in writing in any forward-looking statements made by Mastercard or on its behalf, including, but not limited to, the following factors:

- regulation directly related to the payments industry (including regulatory, legislative and litigation activity with respect to interchange rates and surcharging)
- the impact of preferential or protective government actions
- regulation of privacy, data, security and the digital economy
- regulation that directly or indirectly applies to us based on our participation in the global payments industry (including anti-money laundering, counter financing of terrorism, economic sanctions and anti-corruption; account-based payment systems; and issuer practice legislation and regulation)
- the impact of changes in tax laws, as well as regulations and interpretations of such laws or challenges to our tax positions
- potential or incurred liability and limitations on business related to any litigation or litigation settlements
- the impact of the global coronavirus (COVID-19) pandemic and containment measures taken in response
- the impact of competition in the global payments industry (including disintermediation and pricing pressure)
- the challenges relating to rapid technological developments and changes
- the challenges relating to operating a real-time account-based payment system and to working with new customers and end users
- the impact of information security incidents, account data breaches or service disruptions
- issues related to our relationships with our customers (including loss of substantial business from significant customers, competitor relationships with our customers and banking industry consolidation), merchants and governments
- exposure to loss or illiquidity due to our role as guarantor and other contractual obligations
- the impact of global economic, political, financial and societal events and conditions, including adverse currency fluctuations and foreign exchange controls
- reputational impact, including impact related to brand perception and lack of visibility of our brands in products and services
- the inability to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture
- issues related to acquisition integration, strategic investments and entry into new businesses
- issues related to our Class A common stock and corporate governance structure

Please see “Risk Factors” in Part I, Item 1A for a complete discussion of these risk factors. We caution you that the important factors referenced above may not contain all of the factors that are important to you. Our forward-looking statements speak only as of the date of this Report or as of the date they are made, and we undertake no obligation to update our forward-looking statements.

PART I

Item 1. Business
Item 1A. Risk factors
Item 1B. Unresolved staff comments
Item 2. Properties
Item 3. Legal proceedings
Item 4. Mine safety disclosures
Information about our executive officers

Item 1. Business

Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We operate a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through our unique and proprietary global payments network, which we refer to as our core network, we switch (authorize, clear and settle) payment transactions and deliver related products and services. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). We also provide integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs, processing and open banking. Our payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our customers.

We generate revenues from assessing our customers based on the gross dollar volume ("GDV") of activity on the products that carry our brands, from the fees we charge to our customers for providing transaction switching and from other payment-related products and services.

For a full discussion of our business, please see page 8.

Our Performance

The following are our key financial and operational highlights for 2020, including growth rates over the prior year:

GAAP		
Net revenue **$15.3B** down 9%	Net income **$6.4B** down 21%	Diluted EPS **$6.37** down 20%
Non-GAAP [1] (currency-neutral)		
Net revenue **$15.3B** down 8%	Adjusted net income **$6.5B** down 17%	Adjusted diluted EPS **$6.43** down 16%
$6.1B in capital returned to stockholders	**$4.5B** Repurchased shares **$1.6B** Dividends paid	**$7.2B** cash flows from operations
Gross dollar volume (growth on a local currency basis) $6.3T flat	Cross-border volume (growth on a local currency basis) down 29%	Switched transactions 90.1B up 3%

[1] Non-GAAP results exclude the impact of gains and losses on equity investments, Special Items and/or foreign currency. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results Overview" in Part II, Item 7 for the reconciliation to the most direct comparable GAAP financial measures.

The coronavirus ("COVID-19") outbreak and its negative impact on the global economy affected our 2020 performance, during which we saw unfavorable trends compared to historical periods. For a full discussion of this impact, see "Management's Discussion and Analysis of Financial Condition and Results of Operation" in Item II, Part 7.

Our Strategy

We grow, diversify and build our business through a combination of organic and inorganic strategic initiatives. Our ability to grow our business is influenced by:

- personal consumption expenditure ("PCE") growth
- driving cash and check transactions toward electronic forms of payment
- increasing our share in the payments space
- providing integrated value-added products and services
- providing enhanced payment capabilities to capture new payment flows, such as business to business ("B2B"), person to person ("P2P"), business to consumer ("B2C") and government payments.

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GROW	**DIVERSIFY**	**BUILD**
CORE	**CUSTOMERS AND GEOGRAPHIES**	**NEW AREAS**
Credit	Financial Inclusion	Data Analytics
Debit	New Markets	Consulting
Commercial	Businesses	Marketing Services
Prepaid	Governments	Loyalty
Digital-Physical Convergence	Merchants	Cyber and Intelligence
Acceptance	Digital Players	Processing
	Local Schemes/Switches	New Payment Flows
		Open Banking

ENABLED BY BRAND, DATA, TECHNOLOGY AND PEOPLE

Grow. We focus on growing our core business globally, including growing our consumer and commercial products and solutions, as well as increasing the number of payment transactions we switch. We also look to provide effective and efficient payments solutions that cater to the evolving ways people interact and transact in the growing digital economy. This includes expanding merchant access to electronic payments through new technologies in an effort to deliver a better consumer experience, while creating greater efficiencies and security.

Diversify. We diversify our business by:

- working with new customers, including governments, merchants, financial technology companies (fintechs), digital players, mobile providers and other corporate businesses
- scaling our capabilities and business into new geographies, including growing acceptance in markets with limited electronic payments acceptance today
- broadening financial inclusion for the unbanked and underbanked

Build. We build our business by:

- creating and acquiring differentiated products and platforms to provide unique, innovative solutions that we bring to market to support new payment flows and related applications, such as real-time account-based payments and the Mastercard Track™ suite of products
- providing services across data analytics, consulting, marketing services, loyalty, cyber and intelligence, and processing

- providing open banking capabilities to enable the reliable access, transmission and management of consumer-consented data

Strategic Partners. We work with a variety of stakeholders. We provide financial institutions with solutions to help them increase revenue by driving preference for our products and services. We help merchants, financial institutions, governments, and other organizations by delivering data-driven insights and other services that help them grow and create simple and secure customer

experiences. We partner with technology companies such as digital players, fintechs and mobile providers to deliver digital payment solutions powered by our technology, expertise and security protocols. We help national and local governments improve financial inclusion and efficiencies, reduce costs, increase transparency of financial transactions and data to reduce crime and corruption and advance social programs. For consumers, we provide faster, safer and more convenient ways to pay and transfer funds and exchange information to enable services.

Talent and Culture. Our success is driven by the skills, experience, integrity and mindset of the talent we hire. We attract and retain top talent from diverse backgrounds and industries by building a world-class culture based on decency, respect and inclusion where people have opportunities to perform purpose-driven work that impacts customers, communities and co-workers on a global scale. The diversity and skill sets of our people underpin everything we do.

Our Business

Our Operations and Network

We operate a multi-rail network that offers our customers one partner to turn to for their domestic and cross-border needs. Our core network links issuers and acquirers around the globe to facilitate the switching of transactions, permitting account holders to use a Mastercard product at millions of acceptance locations worldwide. Our core network facilitates an efficient and secure means for receiving payments, a convenient, quick and secure payment method for consumers to access their funds and a channel for businesses to receive insight through information that is derived from our network. We enable transactions for our customers through our core network in more than 150 currencies and in more than 210 countries and territories. Our range of capabilities extend beyond our core network into real-time account-based payments and open banking.

Core Network Transactions. Our core network supports what is often referred to as a "four-party" payments network. The following diagram depicts a typical transaction on our core network, and our role in that transaction:

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In a typical transaction, an account holder purchases goods or services from a merchant using one of our payment products. After the transaction is authorized by the issuer, the issuer pays the acquirer an amount equal to the value of the transaction, minus the interchange fee (described below), and then posts the transaction to the account holder's account. The acquirer pays the amount of the purchase, net of a discount (referred to as the "merchant discount" rate), to the merchant.

- ***Interchange Fees.*** Interchange fees reflect the value merchants receive from accepting our products and play a key role in balancing the costs and benefits that consumers and merchants derive. Generally, interchange fees are collected from acquirers and paid to issuers to reimburse the issuers for a portion of the costs incurred. These costs are incurred by issuers in providing services that benefit all participants in the system, including acquirers and merchants, whose participation in the network enables increased sales to their existing and new customers, efficiencies in the delivery of existing and new products, guaranteed payments and improved experience for the customers. We (or, alternatively, financial institutions) establish "default interchange fees" that apply when there are no other established settlement terms in place between an issuer and an acquirer. We administer the collection and remittance of interchange fees through the settlement process.

- ***Additional Four-Party System Fees.*** The merchant discount rate is established by the acquirer to cover its costs of both participating in the four-party system and providing services to merchants. The rate takes into consideration the amount of the interchange fee which the acquirer generally pays to the issuer. Additionally, acquirers may charge merchants processing and related fees in addition to the merchant discount rate. Issuers may also charge account holders fees for the transaction, including, for example, fees for extending revolving credit.

Switched Transactions

- ***Authorization, Clearing and Settlement.*** Through our core network, we enable the routing of a transaction to the issuer for its approval, facilitate the exchange of financial transaction information between issuers and acquirers after a successfully conducted transaction, and help to settle the transaction by facilitating the exchange of funds between parties via settlement banks chosen by us and our customers.
- ***Cross-Border and Domestic.*** Our core network switches transactions throughout the world when the merchant country and country of issuance are different ("cross-border transactions"), providing account holders with the ability to use, and merchants to accept, our products and services across country borders. We also provide switched transaction services to customers where the merchant country and the country of issuance are the same ("domestic transactions"). We switch over 55% of all transactions for Mastercard and Maestro-branded cards, including nearly all cross-border transactions. We switch the majority of Mastercard and Maestro-branded domestic transactions in the United States, United Kingdom, Canada, Brazil and a select number of other countries.

Core Network Architecture. Our core network features a globally integrated structure that provides scale for our issuers, enabling them to expand into regional and global markets. It is based largely on a distributed (peer-to-peer) architecture with an intelligent edge that enables the network to adapt to the needs of each transaction. Our core network accomplishes this by performing intelligent routing and applying multiple value-added services (such as fraud scoring, tokenization services, etc.) to appropriate transactions in real time. Our core network's architecture enables us to connect all parties regardless of where or how the transaction is occurring. It has 24-hour a day availability and world-class response time.

Real-time Account-based Payment Infrastructure and Applications. Augmenting our core network, we offer real-time account-based payment capabilities, enabling payments between bank accounts in real-time in countries in which it has been deployed.

Open Banking. We offer a platform that enables data providers and third parties to reliably access, securely transmit and confidently manage customer-consented data to improve the customer experience.

Payments System Security. Our payment solutions and products are designed to ensure safety and security for the global payments system. Our core network and additional platforms incorporate multiple layers of protection, providing greater resiliency and best-in-class security protection. Our programs are assessed by third parties and incorporate benchmarking and other data from peer companies and consultants. We engage in many efforts to mitigate information security challenges, including maintaining an information security program, an enterprise resilience program and insurance coverage, as well as regularly testing our systems to address potential vulnerabilities. Through the combined efforts of our Security Operations Centers, Fusion Centers and Mastercard Intelligence Center, we work with experts across the organization (as well as through other sources such as public-private partnerships), to monitor and respond quickly to a range of cyber and physical threats.

As part of our multi-layered approach to protect the global payments system, we also work with issuers, acquirers, merchants, governments and payments industry associations to help develop and put in place standards (e.g., EMV) for safe and secure transactions.

Digital Payments. Our network supports and enables our digital payment platforms, products and solutions, reflecting the growing digital economy where consumers are increasingly seeking to use their payment accounts to pay when, where and how they want. For a full discussion of the ways our innovation capabilities enable digital payments, see "Our Products and Services - Digital Enablement" below.

Customer Risk. We guarantee the settlement of many of the transactions from issuers to acquirers to ensure the integrity of our core network. We refer to the amount of this guarantee as our settlement exposure. We do not, however, guarantee payments to merchants by their acquirers or the availability of unspent prepaid account holder account balances.

Our Franchise. We manage an ecosystem of stakeholders who participate in our network. Our franchise creates and sustains a comprehensive series of value exchanges across our ecosystem. We ensure a balanced ecosystem where all participants benefit from the availability, innovation and safety and security of our network. We achieve this through the following key activities:

- ***Participant Onboarding.*** We ensure the capability of new customers to use our network, and define the roles and responsibilities for their operations once on the network

- ***Safety and Security.*** We establish the core principles, including ensuring consumer protections and integrity, so participants feel confident to transact on the network.
- ***Operating Standards.*** We define the operational, technical and financial policies to which network participants are required to adhere.
- ***Responsible Stewardship.*** We establish performance standards to support ecosystem growth and optimization and establish proactive monitoring to ensure participant performance.
- ***Issue Resolution.*** We operate a framework to enable the resolution of disputes for both customers and consumers.

Our Products and Services

We provide a wide variety of integrated products and services that support products that customers can offer to their account holders and merchants. These offerings facilitate transactions across our multi-rail payment network among account holders, merchants, financial institutions, businesses, governments and other organizations in markets globally.

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Core Payment Products

Consumer Credit. We offer a number of products that enable issuers to provide consumers with credit that allow them to defer payment. These programs are designed to meet the needs of our customers around the world and address standard, premium and affluent consumer segments.

Consumer Debit. We support a range of payment products and solutions that allow our customers to provide consumers with convenient access to funds in deposit and other accounts. Our debit and deposit access programs can be used to make purchases and to obtain cash in bank branches, at ATMs and, in some cases, at the point of sale. Our branded debit programs consist of Mastercard (including standard, premium and affluent offerings), Maestro (the only PIN-based solution that operates globally) and Cirrus (our primary global cash access solution).

Prepaid. Prepaid accounts are a type of electronic payment that enables consumers to pay in advance whether or not they previously had a bank account or a credit history. These accounts can be tailored to meet specific program, customer or consumer needs, such as paying bills, sending person-to-person payments or withdrawing cash from an ATM. Our focus ranges from digital accounts (such as fintech and gig economy platforms) to business programs such as employee payroll, health savings accounts and solutions for small business owners). Our prepaid programs also offer opportunities in the private and public sectors to drive financial inclusion of previously unbanked individuals through social security payments, unemployment benefits and salary cards.

We also provide prepaid program management services, primarily outside of the United States, that provide processing and end-to-end services on behalf of issuers or distributor partners such as airlines, foreign exchange bureaus and travel agents.

Commercial Credit and Debit. We offer commercial credit and debit payment products and solutions that meet the payment needs of large corporations, midsize companies, small businesses and government entities. Our solutions streamline procurement and payment processes, manage information and expenses (such as travel and entertainment) and reduce administrative costs. Our card offerings include travel, small business (debit and credit), purchasing and fleet cards. Our SmartData platform provides expense management and reporting capabilities. Our Mastercard In Control™ platform generates virtual account numbers which provide businesses with enhanced controls, more security and better data. Our Mastercard Track Business Payment Service™ (Track BPS) is aimed at improving the way businesses pay and get paid by providing a single connection enabling access to multiple payment rails, greater control and richer data to optimize B2B transactions for both buyers and suppliers.

The following chart provides GDV and number of cards featuring our brands in 2020 for select programs and solutions:

	Year Ended December 31, 2020			As of December 31, 2020	
	GDV			Cards	
	(in billions)	Growth (Local)	% of Total GDV	(in millions)	Percentage Increase from December 31, 2019
Mastercard-branded Programs[1,2]					
Consumer Credit	$ 2,425	(7)%	38 %	894	2 %
Consumer Debit and Prepaid	3,230	8 %	51 %	1,338	11 %
Commercial Credit and Debit	682	(6)%	11 %	102	22 %

1 Excludes Maestro and Cirrus cards and volume generated by those cards.
2 Prepaid includes both consumer and commercial prepaid.

New Payment Products and Open Banking

In addition to the switching capabilities of our core network, we offer platforms with payment capabilities that support new payment flows and related applications:

- We offer real-time account-based payments for ACH transactions. This platform enables payments between bank accounts in real time and provides enhanced data and messaging capabilities.
- We offer applications including those that make it easier for consumers to view, manage and pay their bills either with cards or real-time and batch ACH payments from their bank accounts, and that enable consumers, businesses, governments and merchants to send and receive money beyond borders with greater speed and ease.
- We offer an open banking platform that allows data providers and third parties to reliably access, securely transmit and confidently manage customer-consented data to improve the customer experience.

Value-Added Products and Services

Cyber and Intelligence. We offer integrated products and services to prevent, detect and respond to fraud and cyber-attacks and to ensure the safety of transactions made using Mastercard products. We do this using a multi-layered safety and security strategy:

- The "Prevent" layer protects infrastructure, devices and data from attacks. We have continued to grow global usage of EMV chip and contactless security technology, helping to reduce fraud. Greater

usage of this technology has increased the number of EMV cards issued and the transaction volume on EMV cards.

- The "Identify" layer allows us to help banks and merchants verify the authenticity of consumers during the payment process using various biometric technologies, including fingerprint, face and iris scanning technology to verify online purchases on mobile devices, as well as a card with biometric technology built in.
- The "Detect" layer spots fraudulent behavior and cyber-attacks and takes action to stop these activities once detected. Our offerings in this space include alerts when accounts are exposed to data breaches or security incidents, fraud scoring technology that scans billions of dollars of money flows each day while increasing approvals and reducing false declines, and network-level monitoring on a global scale to help identify the occurrence of widespread fraud attacks when the customer (or their processor) may be unable to detect or defend against them.
- The "Experience" layer improves the security experience for our stakeholders in areas from the speed of transactions, enhancing approvals for online and card-on-file payments, to the ability to differentiate legitimate consumers from fraudulent ones. Our offerings in this space include solutions for consumer alerts and controls and a suite of digital token services. We also offer an e-

commerce fraud and dispute management network that enables merchants to stop delivery when a fraudulent or disputed transaction is identified, and issuers to refund the cardholder to avoid the chargeback process. Moreover, we use our AI and data analytics, along with our cyber risk assessment capabilities, to help financial institutions, merchants, corporations and governments secure their digital assets

We have also worked with our customers to provide products to consumers globally with increased confidence through the benefit of "zero liability", where the consumer bears no responsibility for counterfeit or lost card losses in the event of fraud.

Loyalty and Rewards. We have built a scalable rewards platform that enables customers to provide consumers with a variety of benefits and services, such as personalized offers and rewards, access to a global airline lounge network, concierge services, insurance services, emergency card replacement, emergency cash advances and a 24-hour account holder service center. For merchants, we provide campaigns with targeted offers and rewards, management services for publishing offers, and accelerated points programs for co-brand and rewards program members. We also provide a loyalty platform that enables stronger relationships with retailers, restaurants, airlines and consumer packaged goods companies by creating experiences that drive loyalty and impactful consumer engagement.

Processing. We extend our processing capabilities in the payments value chain in various regions and across the globe with an expanded suite of offerings, including:

- Issuer solutions designed to provide customers with a complete processing solution to help them create differentiated products and services and allow quick deployment of payments portfolios across banking channels.
- Payment gateways that offer a single interface to provide e-commerce merchants with the ability to process secure online and in-app payments and offer value-added solutions, including outsourced electronic payments, fraud prevention and alternative payment options.
- Mobile gateways that facilitate transaction routing and processing for mobile-initiated transactions.

Data Analytics and Consulting. We provide proprietary analysis, data-driven consulting and marketing services solutions to help clients optimize, streamline and grow their businesses, as well as deliver value to consumers.

Our capabilities incorporate payments expertise and analytical and executional skills to create end-to-end solutions which are increasingly delivered via platforms embedded in our customers' day-to-day operations. By observing patterns of payments behavior based on billions of transactions switched globally, we leverage anonymized and aggregated information and a consultative approach to help our customers make better business decisions. Our executional skills such as marketing, digital implementation and program management allow us to assist customers to implement actions based on these insights.

We utilize our expertise and tools to collaborate with, and increasingly drive, innovation at financial institutions, merchants and governments. Through our global innovation and development arm, Mastercard Labs, we offer "Launchpad," a five-day app prototyping workshop, as well as other customized innovation programs such as in-lab usability testing and concept design. Through our Test & Learn software as a service platform, we can help our customers conduct disciplined business experiments for in-market tests to drive more profitable decision making.

Digital Enablement

Our innovation capabilities enable broader reach to scale digital payment services beyond cards to multiple channels, including mobile devices, and our standards, services and governance model help us to serve as the connection that allows financial institutions, fintechs and technology companies to interoperate and enable consumers to engage through digital channels:

- Delivering better digital experiences everywhere. We are using our technologies and security protocols to develop solutions to make digital shopping and selling experiences, such as on smartphones and other connected devices, simpler, faster and safer for both consumers and merchants. We also offer products that make it easier for merchants to accept payments and expand their customer base, as well as products and practices to facilitate acceptance via mobile devices.

- Securing more transactions. We are leveraging tokenization, biometrics and machine learning technologies in our push to secure every transaction. These efforts include driving EMV-level security and benefits through all our payment channels.
- Digitizing personal and business payments. We provide solutions that enable our customers to offer consumers the ability to send and receive money quickly and securely domestically and around the world. These solutions allow our customers to address new payment flows from any funding source, such as cash, card, bank account or mobile money account, to any destination globally, securely and often in real time.
- Simplifying access to, and integration of, our digital assets. Our Mastercard Developer platform makes it easy for customers and partners to leverage our many digital assets and services. By providing a single access point with tools and capabilities to find what we believe are some of the best-in-class Application Program Interfaces ("APIs") across a broad range of Mastercard services, we enable easy integration of our services into new and existing solutions.

- Identifying and experimenting with future technologies, start-ups and trends. Through Mastercard Labs, we continue to bring customers and partners access to thought leadership, innovation methodologies, new technologies and relevant early-stage fintech players.

Brand

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Our family of well-known brands includes Mastercard, Maestro and Cirrus. We manage and promote our brands and brand identities (including our sonic brand identity) through advertising, promotions and sponsorships, as well as digital, mobile and social media initiatives, in order to increase people's preference for our brands and usage of our products. We sponsor a variety of sporting, entertainment and charity-related marketing properties to align with consumer segments important to us and our customers. Our advertising plays an important role in building brand visibility, preference and overall usage among account holders globally. Our "Priceless®" advertising campaign, which has run in more than 50 languages and in more than 120 countries worldwide, promotes Mastercard usage benefits and acceptance, markets Mastercard payment products and solutions and provides Mastercard with a consistent, recognizable message that supports our brand around the globe.

Human Capital Management

As of December 31, 2020, we employed approximately 21,000 persons globally.

We are dedicated to supporting our workforce during the global COVID-19 pandemic:

- We had no COVID-19 related layoffs in 2020
- We introduced a COVID-19 global employee benefit providing up to 10 business days of additional paid leave for sick, childcare or eldercare related needs
- We covered 100% of the costs associated with COVID-19 testing for all employees and provided access to free COVID-related telemedicine consultations for our U.S. employees
- We provided employees with flexibility for how and where they get work done and put precautionary health and safety measures in place at each office location

Management regularly reviews our people strategy and culture, as well as related risks, with our Human Resources and Compensation Committee, and reviews this annually with our Board of Directors. Our strategy focuses on recruitment, development, succession and retention, including:

- Attracting top talent with the strength of our talent brand, which includes our culture of being a "force for good"
- Developing our depth of talent through acquisitions and recruitment
- Strong development and succession planning for key roles, including talent and leadership programs across various levels that:
  - Embed our culture principles
  - Focus on diverse populations and
  - Aim to develop talent and people managers through personalized and group executive development programs
- Using learning to drive innovation and growth, including a focus on scaling digital fluency globally, product training certification, creating an environment for employees to drive their own learning, and focusing on developing capability in key skill areas
- Retaining and growing an inclusive workforce, including:
  - Ongoing development conversations and personalized development plans
  - A focus on talent movement, including career moves and rotations and
  - Competitive and differentiated pay and benefits, including pay equity on the basis of gender and (in the U.S.) race and ethnicity, as well as a flexible work model

As an organization, we are focused on maintaining a world-class culture, built on a foundation of decency:

- We are mindful of the health of our culture, looking at retention of critical roles, our external brand reputation, internal levels of engagement, and diverse representation

- We are committed to providing a safe and respectful workplace built on a culture of decency and a focus on the well-being of our employees, as well as monitoring for potential disruptions to our culture and reputation - especially with respect to such events as the COVID-19 pandemic
- We are focused on providing and supporting a culture of volunteering
- We have established a culture of high ethical business practices and compliance standards, grounded in honesty, decency, trust and personal accountability. It is driven by "tone at the top," reinforced with regular training, fostered in a speak-up environment, and measured by a risk culture and climate survey

Diversity and inclusion underpin everything we do:

- We look at our recruitment, development, succession and retention practices (including global attrition rates) with a focus on gender, race (in the U.S.) and generational mix of our employee population
- We have developed regional and functional action plans to identify priorities and actions that will help us make more progress for diversity and inclusion, including balance and inclusion in gender and racial representation
- As part of our commitment to racial justice, we have committed to our "In Solidarity" initiative, which focuses on people, market and society to harness our culture of decency and build on our efforts to advance inclusion and equality

We encourage you to review our Sustainability Report (located on our website) for more detailed information regarding our people strategy.

Recent Developments

We are focused on helping individuals and businesses weather the challenges presented by the COVID-19 pandemic by ensuring our network remains secure, resilient and reliable. We are applying our technology, philanthropy, and data and cybersecurity expertise to help rebuild communities, ensure that economic growth is inclusive and help address new challenges facing governments, small businesses and consumers.

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Consumer

While technology has increasingly changed the way people get information, interact, shop and make purchases, consumers continue to expect a seamless experience where their payment is simple and secure. Our teams are creating innovative solutions that meet the needs of consumers and merchants in a digital environment by applying emerging technologies. During the global COVID-19 pandemic, we have seen continued trends toward a preference for contactless and the rapid adoption of e-commerce. These trends are further accelerating the secular shift to digital forms of payment. In 2020, we:

- expanded "click to pay", the activation of the EMV Secure Remote Commerce industry standard that enables a faster, more secure checkout experience across web and mobile sites, mobile apps and connected devices. This checkout experience is designed to provide consumers the same convenience and security in a digital environment that they have when paying in a store, make it easier for merchants to implement secure digital payments and provide issuers with improved fraud detection and prevention capability.
- continued our focus on contactless payments technology to help deliver a simple and intuitive way to pay, as well as health and safety benefits when consumers are looking for low-touch options. These efforts include raising contactless purchase limits in virtually all geographies.
- announced a suite of frictionless solutions in various markets designed to deliver low-touch high engagement experiences for retailers and the consumer. For example, our Shop Anywhere platform enables merchants to create simple, personalized shopping experiences in store, offering consumers no wait, no checkout lines and a secure way to pay.
- expanded our Digital First Card Program to each of our regions to provide our customers with foundational guidelines that will enable them to offer their cardholders a fully digital payment experience with an optional physical card. This solution enables our customers to meet cardholder

expectations of immediacy, safety, and convenience, including during card application, authentication and instant card access, making secure purchases (whether contactless in-store, in-app, or via the web), and managing alerts, controls, and benefits.

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Commercial and B2B

Building on our corporate T&E, fleet, purchasing card and small business capabilities, we have been increasingly focused on developing solutions to address other ways that businesses move money. In 2020, we:

- added account-to-account payment functionality to Mastercard Track BPS, our open-loop commercial service platform built to simplify and automate payments between suppliers and buyers. With this launch, businesses in the United States can now have a similar experience within this service for account-to-account payments as they do for card payments - exchanging data with greater efficiency and facilitating payments across multiple payment rails including real-time and batch ACH payments.
- launched Digital Doors, a dedicated program to help small businesses successfully adapt to the changing needs of their customers by establishing and protecting an online presence, including accepting digital payments. We have also created a free Small Business Digital Readiness Diagnostic to identify the first steps needed in this transition.

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New Payment Products and Open Banking

In order to help grow our business and offer more electronic payment options to consumers, businesses and governments, Mastercard has developed and enhanced solutions beyond the principal switching capabilities available on our core network. We believe this will allow us to capture more payment flows, including B2B, P2P, B2C and government disbursements. In 2020, we:

- continued to expand our support of real-time payments globally, including being selected to build and operate a new real-time clearing and settlement platform in Canada and partnering with the Saudi Arabian Monetary Authority to enable instant account-to-account payments in the country for the first time. These developments build on other recent achievements, including our selection to enhance the InstaPay real-time retail payment system in the Philippines (including operating the infrastructure for and providing anti-money laundering tools to the its national clearing switch). As of December 31, 2020, we either operated or were implementing real-time payments infrastructure in 12 of the top 50 markets as measured by GDP.
- positioned ourselves to add to our real-time payments solutions, including our pending acquisition of the majority of the Corporate Services business of Nets Denmark A/S. The pending acquisition primarily comprises the clearing and instant payment services, and e-billing solutions of the business.
- strengthened Mastercard's open-banking platform with our acquisition of Finicity, a leading North American provider of real-time access to financial data and insights. The acquisition enables a greater choice of financial services, reinforcing our long-standing partnerships with and commitment to financial institutions and fintechs across the globe. This acquisition also enables us to expand our capabilities across North America and globally, and in particular accelerate the adoption of Finicity's services in North America. Together with Finicity, we will be able to focus on serving the needs of the lending market, including through helping to streamline loan application processes and improve credit decisioning, thereby helping to drive further financial inclusion.
- further extended Mastercard Cross-Border Services to customers, including financial institutions and fintechs, in every region across the globe. These services enable a wide range of payment flows and use cases, including trade, remittances and disbursements. These flows are enabled via a distribution network that continues to evolve across multiple channels, including account, card, and wallets. In particular, these services have enabled inbound B2B payments into China.
- extended our blockchain initiatives, providing additional transparency and efficiencies to the cross-border B2B payments space and proof of provenance - innovative, secure solutions across the global supply chain.

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Value-Added Products and Services

We provide products and services including cyber and intelligence, loyalty, processing, data analytics and consulting that meet evolving requirements and the expectations of our stakeholders. We recently:

- extended our investments in Artificial Intelligence ("AI") by:
  - launching Mastercard ThreatScan, an AI-powered solution that helps banks proactively identify potential vulnerabilities in their authorization systems. The service works alongside an issuer's existing fraud tools, imitating known criminal transaction behavior to identify potential weaknesses and prompt action before fraud potentially occurs.

  - scaling Decision Intelligence™, our fraud scoring technology, to score billions of transactions in real time every day while increasing approvals and reducing false declines.
- scaled digital services in our Loyalty and Engagement capabilities to support customers in their response to the accelerated demand of digital services from consumers during the pandemic. This scaling includes additional capabilities for real-time promotions and cash back offers, digital acquisition, digital training and online offers to bring a full suite of digital loyalty and marketing solutions to merchants and financial institutions.
- enhanced the services we are able to offer to customers based on account-to-account flows, including data insights we are providing U.K. and U.S. customers to help them with anti-money laundering compliance and identification and prevention of other financial crimes.
- launched Recovery Insights, a set of data, tech and research tools that can help airlines, restaurants, consumer packaged goods companies, banks, governments and others navigate the rise in e-commerce, fine-tune operations, and prioritize investments.

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Key Initiatives

- In light of the digital inequality gaps being exacerbated by COVID-19, we have expanded our worldwide commitment to financial inclusion, pledging to bring a total of 1 billion people and 50 million micro and small businesses into the digital economy by 2025. As part of this effort, we are focused on providing 25 million women entrepreneurs with solutions that can help them grow their businesses.
- Engaged with several hundred national and local governments around the world to support their efforts to respond to the pandemic crisis, including facilitating electronic disbursements of vital benefits and providing access to data-driven insights in order to assess the impact of COVID-19 on their communities and optimize their recovery plans.
- We have committed $250 million in financial, technology, product and insight assets over the next five years to support the financial security and vitality of small businesses and their workers, including supporting the transition of low-income entrepreneurs to digital banking and helping small businesses access federal relief.
- We began to implement our "In Solidarity" initiative, which focuses on people, market and society to harness our culture of decency and build on our efforts to advance inclusion and equality.
- We launched the Priceless Planet Coalition, a platform to unite corporate sustainability efforts and make meaningful investments to preserve the environment. Together with partners who share a commitment to doing well by doing good, the coalition is pledging to plant 100 million trees over five years.
- We announced the expansion of Start Path, our startup engagement program, adding new seed businesses and more technology partners. Through this program, we provide entrepreneurs access to expert engineers and specialists that can help them deploy new services quickly and efficiently and help them grow their businesses and scale sustainably.

Revenue Sources

We generate revenue primarily from assessing our customers based on GDV on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services. Our net revenues are classified into five categories: domestic assessments, cross-border volume fees, transaction processing, other revenues and rebates and incentives (contra-revenue).

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Revenue" in Part II, Item 7 and Note 3, Revenue for more detail about our revenue, GDV, processed transactions and our other payment-related products and services.

Intellectual Property

We own a number of valuable trademarks that are essential to our business, including Mastercard, Maestro and Cirrus, through one or more affiliates. We also own numerous other trademarks covering

various brands, programs and services offered by us to support our payment programs. Trademark and service mark registrations are generally valid indefinitely as long as they are used and/or properly maintained. Through license agreements with our customers, we authorize the use of our trademarks on a royalty-free basis in connection with our customers' issuing and merchant acquiring businesses. In addition, we own a number of patents and patent applications relating to payment solutions, transaction processing, smart cards, contactless, mobile, biometrics, AI, security systems, blockchain and other technologies, which are important to our business operations. These patents expire at varying times depending on the jurisdiction and filing date.

Competition

We face competition in all categories of payment, including:

- cash and checks
- card-based payments, including credit, charge, debit, ATM and prepaid products, as well as limited-use products such as private label
- contactless, mobile and e-commerce payments, as well as cryptocurrency
- other electronic payments, including ACH payments and wire transfers

We face a number of competitors both within and outside of the global payments industry:

- ***Cash, Check and Legacy ACH.*** Cash and checks continue to represent one of the most widely used forms of payment. However, an even larger share of payments on a U.S. dollar volume basis are made via legacy, or "slow," ACH platforms.
- ***General Purpose Payment Networks.*** We compete worldwide with payment networks such as Visa, American Express, JCB, China UnionPay and Discover, among others. Some competitors have more market share than we do in certain jurisdictions. Some also have different business models that may provide an advantage in pricing, regulatory compliance burdens or otherwise. Globally, financial institutions may issue both Mastercard and Visa-branded payment products, and we compete with Visa for business on the basis of individual portfolios or programs. In addition, a number of our customers issue American Express and/or Discover-branded payment cards in a manner consistent with a four-party system. We continue to face intense competitive pressure on the prices we charge our issuers and acquirers, and we seek to enter into business agreements with them through which we offer incentives and other support to issue and promote our payment products.
- ***Debit and Local Networks.*** We compete with ATM and point-of-sale debit networks in various countries. In addition, in many countries outside of the United States, local debit brands serve as the main domestic brands, while our brands are used mostly to enable cross-border transactions (typically representing a small portion of overall transaction volume). Certain jurisdictions have also created domestic card schemes focused mostly on debit. In addition, several governments are promoting, or considering promoting, local networks for domestic switching. See "Risk Factors" in Part I, Item 1A for a more detailed discussion of the risks related to payments system regulation and government actions that may prevent us from competing effectively.
- ***Real-time Account-based Payment Systems.*** We face competition in the real-time account-based payment space from other companies that provide infrastructure, applications and services to support these payment solutions.
- ***Alternative Payments Systems and New Entrants.*** As the global payments industry becomes more complex, we face increasing competition from alternative payment systems and emerging payment providers. Many of these providers, who in many circumstances can also be our partners or customers, have developed payments systems focused on online activity in e-commerce and mobile channels (in some cases, expanding to other channels), and may process payments using in-house account transfers, real-time account-based payment networks or global or local networks. Examples include digital wallet providers (such as Paytm, PayPal, Alipay and Amazon), POS financing/buy now pay later providers (such as Klarna), mobile operator services, mobile phone-based money transfer and microfinancing services (such as mPesa), handset manufacturers and cryptocurrencies. We also compete with merchants and governments.
- ***Value-Added Products and Service Providers.*** We face competition from companies that provide alternatives to our value-added products and services, including information services and consulting firms that provide consulting services and insights to financial institutions, merchants and governments and technology companies that provide cyber and fraud solutions, as well as companies that compete against us as providers of loyalty and program management solutions. Regulatory initiatives could also lead to increased competition in this space.

Mastercard is a trusted intermediary in a complex system. Our competitive advantages include our:

- globally recognized brands

- highly adaptable global acceptance network built over more than 50 years which can reach a variety of parties enabling payments
- global payments network with world-class operating performance
- expertise in real-time account-based payments and open banking
- development and adoption of innovative products and digital solutions
- safety and security solutions embedded in our networks
- analytics insights and consulting services that help issuers and merchants optimize their payments and related businesses
- loyalty solutions that enhance the payments value proposition for issuers and merchants

- ability to serve a broad array of participants in global payments due to our expanded on-soil presence in individual markets and a heightened focus on working with governments
- world class talent and culture, with a focus on inclusion and being a "force for good"

Government Regulation

General. Government regulation impacts key aspects of our business. We are subject to regulations that affect the payments industry in the many countries in which our integrated products and services are used. We are committed to comply with all applicable laws and regulations and implement policies, procedures and programs designed to promote compliance. We coordinate globally while acting locally and leverage our relationships to manage the effects of regulation on us. See "Risk Factors" in Part I, Item 1A for more detail and examples of the regulation to which we are subject.

Payments Oversight and Regulation. Central banks and other regulators in several jurisdictions around the world either have, or are seeking to establish, formal oversight over the payments industry, as well as authority to regulate certain aspects of the payment systems in their countries. Such authority has resulted in regulation of various aspects of our business. In the European Union, Mastercard is subject to systemic importance regulation, which includes various requirements we must meet, including obligations related to governance and risk management. In the U.K., the Bank of England designated Vocalink, our real-time account-based payment network platform, to be a "specified service provider", which includes supervisions and examination requirements. In addition, European Union legislation requires us to separate our scheme activities (brand, products, franchise and licensing) from our switching activities and other processing in terms of how we go to market, make decisions and organize our structure.

Interchange Fees. Interchange fees that support the function and value of four-party payments systems like ours are being reviewed or challenged in various jurisdictions around the world via legislation to regulate interchange fees, competition-related regulatory proceedings, central bank regulation and litigation. Examples include statutes in the United States that cap debit interchange for certain regulated activities, our settlement with the European Commission resolving its investigation into our interregional interchange fees and the European Union legislation capping consumer credit and debit interchange fees on payments issued and acquired within the European Economic Area (the "EEA"). For more detail, see "Risk Factors - Other Regulation" in Part I, Item 1A and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Preferential or Protective Government Actions. Some governments have taken action to provide resources, preferential treatment or other protection to selected domestic payments and processing providers, as well as to create their own national providers. For example, governments in some countries mandate switching of domestic payments either entirely in that country or by only domestic companies. In China, we are currently excluded from domestic switching and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval. We are in active discussions to explore different solutions.

Anti-Money Laundering, Counter Financing of Terrorism, Economic Sanctions and Anti-Corruption. We are subject to anti-money laundering ("AML") and counter-financing of terrorism ("CFT") laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by the U.S. Office of Foreign Assets Control ("OFAC"). We have implemented a comprehensive AML/CFT program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payment network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including its list of Specially Designated Nationals and Blocked Persons (the "SDN List"). We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to

comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran and Syria have been identified by the U.S. State Department as terrorist-sponsoring states, and we have no offices, subsidiaries or affiliated entities located in these countries and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk.

Financial Sector Oversight. We are or may be subject to regulations related to our role in the financial industry and our relationship with our financial institution customers. In addition, we are or may be subject to regulation by a number of agencies charged with

oversight of, among other things, consumer protection, financial and banking matters. The regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products.

Issuer Practice Legislation and Regulation. Our customers are subject to numerous regulations and investigations applicable to banks, financial institutions and others in their capacity as issuers and otherwise, impacting us as a consequence. Additionally, regulations such as the revised Payment Services Directive (commonly referred to as "PSD2") in the EEA require financial institutions to provide third-party payment-processors access to consumer payment accounts, enabling them to route transactions away from Mastercard products and provide payment initiation and account information services directly to consumers who use our products. PSD2 also requires a new standard for authentication of transactions, which necessitates additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

Regulation of Internet and Digital Transactions. Various jurisdictions have enacted or have proposed regulation related to internet transactions. The legislation applies to payments system participants, including us and our U.S. customers, and is implemented through a federal regulation. We may also be impacted by evolving laws surrounding gambling, including fantasy sports. Certain jurisdictions are also considering regulatory initiatives in digital-related areas that could impact us, such as cyber-security and copyright and trademark infringement.

Privacy, Data and Information Security. Aspects of our operations or business are subject to increasingly complex privacy and data protection laws in the United States, the European Union and elsewhere around the world. For example, in the United States, we and our customers are respectively subject to Federal Trade Commission and federal banking agency information safeguarding requirements under the Gramm-Leach-Bliley Act that require the maintenance of a written, comprehensive information security program. In the European Union, we are subject to the General Data Protection Regulation (the "GDPR"), which requires a comprehensive privacy and data protection program to protect the personal and sensitive data of EEA residents. A number of regulators and policymakers around the globe are using the GDPR as a reference to adopt new or updated privacy and data protection laws, including in the U.S. (California), Argentina, Brazil, Canada, Chile, India, Indonesia and Kenya. Some jurisdictions, such as India, are currently considering adopting or have adopted "data localization" requirements, which mandate the collection, processing, and/or storage of data within their borders. We believe that various forms of data localization requirements are under consideration in other countries and jurisdictions, including the European Union. Due to increasing data collection and data flows, numerous data breaches and security incidents as well as the use of emerging technologies such as artificial intelligence, regulations in this area are constantly evolving with regulatory and legislative authorities in numerous parts of the world adopting proposals to regulate data and protect information. In addition, the interpretation and application of these privacy and data protection laws are often uncertain and in a state of flux, thus requiring constant monitoring for compliance.

Additional Regulatory Developments. Various regulatory agencies also continue to examine a wide variety of issues that could impact us, including evolving laws surrounding marijuana, prepaid payroll cards, virtual currencies, identity theft, account management guidelines, disclosure rules, security and marketing that would impact our customers directly.

Additional Information

Mastercard Incorporated was incorporated as a Delaware corporation in May 2001. We conduct our business principally through our principal operating subsidiary, Mastercard International Incorporated, a Delaware non-stock (or membership) corporation that was formed in November 1966. For more information about our capital structure, including our Class A common stock (our voting stock) and Class B common stock (our non-voting stock), see Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8.

Website and SEC Reports

Our internet address is www.mastercard.com. From time to time, we may use our corporate website as a channel of distribution of material company information. Financial and other material information is routinely posted and accessible on the investor relations section of our corporate website. You can also visit "Investor Alerts" in the investor relations section to enroll your email address to automatically receive email alerts and other information about Mastercard.

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available for review, without charge, on the investor relations section of our corporate website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission (the "SEC"). The information contained on our corporate website is not incorporated by reference into this Report. Our filings are also available electronically from the SEC at www.sec.gov.

Item 1A. Risk factors

RISK HIGHLIGHTS

Legal and Regulatory	Business and Operations	
Payments Industry Regulation	COVID-19	Global Economic and Political Environment
Preferential or Protective Government Actions	Competition and Technology	Brand and Reputational Impact
Privacy, Data and Security	Information Security and Service Disruptions	Talent and Culture
Other Regulation	Stakeholder Relationships	Acquisitions
Litigation	Settlement and Third-Party Obligations	

Class A Common Stock and Governance Structure

Legal and Regulatory

Payments Industry Regulation

Global regulatory and legislative activity directly related to the payments industry may have a material adverse impact on our overall business and results of operations.

Regulators increasingly seek to regulate certain aspects of payments systems such as ours, or establish or expand their authority to do so. Many jurisdictions have enacted such regulations, establishing, and potentially further expanding, obligations or restrictions with respect to the types of products and services that we may offer, the countries in which our integrated products and services may be used, the way we structure and operate our business and the types of consumers and merchants who can obtain or accept our products or services. New regulations and oversight could also relate to our clearing and settlement activities (including risk management policies and procedures, collateral requirements, participant default policies and procedures, the ability to complete timely switching of financial transactions, and capital and financial resource requirements). Several jurisdictions have also inquired about the network fees we charge to our customers (typically as part of broader market reviews of retail payments). In addition, several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry. In some cases, we have been designated as a "systemically important payment system", and other regulators may consider designating us as systemically important or in a similar category resulting in heightened regulatory oversight. These obligations, designations and restrictions may further expand and could conflict with each other as more jurisdictions impose oversight of payment systems. Moreover, as regulators around the world increasingly look to replicate similar regulation of payments and other industries, efforts in any one jurisdiction may influence approaches in other jurisdictions. Similarly, new initiatives within a jurisdiction involving one product may lead to regulation of similar or related products (for example, debit regulations could lead to regulation of credit products). As a result, the risks to our business created by any one new law or regulation are magnified by the potential it has to be replicated in other jurisdictions or involve other products within any particular jurisdiction.

Increased regulation and oversight of payment systems may result in costly compliance burdens or otherwise increase our costs. As a result, issuers and acquirers could be less willing to participate in our payments system, reduce the benefits offered in connection with the use of our products (making our products less desirable to consumers), reduce the volume of domestic and cross-border transactions or other operational metrics, disintermediate us, impact our profitability and limit our ability to innovate or offer differentiated products and services, all of which could materially and

adversely impact our financial performance. In addition, any regulation that is enacted related to the type and level of network fees we charge our customers could also materially and adversely

impact our results of operations. Regulators could also require us to obtain prior approval for changes to our system rules, procedures or operations, or could require customization with regard to such changes, which could negatively impact us. Such changes could lead to new or different criteria for participation in and access to our payments system by financial institutions or other customers. Moreover, failure to comply with the laws and regulations to which we are subject could result in fines, sanctions, civil damages or other penalties, which could materially and adversely affect our overall business and results of operations, as well as have an impact on our brand and reputation.

Increased regulatory, legislative and litigation activity with respect to interchange rates could have an adverse impact on our business.

Interchange rates are a significant component of the costs that merchants pay in connection with the acceptance of our products. Although we do not earn revenues from interchange, interchange rates can impact the volume of transactions we see on our payment products. If interchange rates are too high, merchants may stop accepting our products or route transactions away from our network. If interchange rates are too low, issuers may stop promoting our integrated products and services, eliminate or reduce loyalty rewards programs or other account holder benefits (e.g., free checking or low interest rates on balances), or charge fees to account holders (e.g., annual fees or late payment fees).

Governments and merchant groups in a number of countries have implemented or are seeking interchange rate reductions through legislation, competition law, central bank regulation and litigation. See "Business - Government Regulation" in Part I, Item 1 and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details.

If issuers cannot collect or we are forced to reduce interchange rates, issuers may be less willing to participate in our four-party payments system, or may reduce the benefits offered in connection with the use of our products, reducing the attractiveness of our products to consumers. In particular, changes to interregional interchange fees as a result of the resolution of the European Commission's investigation could impact our cross-border transaction activity disproportionately versus competitors that are not subject to similar reductions. These and other impacts could lower transaction volumes, and/or make proprietary three-party networks or other forms of payment more attractive. Issuers could reduce the benefits associated with our products or choose to charge higher fees to consumers to attempt to recoup a portion of the costs incurred for their services. In addition, issuers could seek a fee reduction from us to decrease the expense of their payment programs, particularly if regulation has a disproportionate impact on us as compared to our competitors in terms of the fees we can charge. This could make our products less desirable to consumers, reduce the volume of transactions and our profitability, and limit our ability to innovate or offer differentiated products.

We are devoting substantial resources to defending our right to establish interchange rates in regulatory proceedings, litigation and legislative activity. The potential outcome of any of these activities could have a more positive or negative impact on us relative to our competitors. If we are ultimately unsuccessful in defending our ability to establish interchange rates, any resulting legislation, regulation and/or litigation may have a material adverse impact on our overall business and results of operations. In addition, regulatory proceedings and litigation could result (and in some cases has resulted) in us being fined and/or having to pay civil damages, the amount of which could be material.

Limitations on our ability to restrict merchant surcharging could materially and adversely impact our results of operations.

We have historically implemented policies, referred to as no-surcharge rules, in certain jurisdictions, including the United States, that prohibit merchants from charging higher prices to consumers who pay using our products instead of other means. Authorities in several jurisdictions have acted to end or limit the application of these no-surcharge rules (or indicated interest in doing so). Additionally, we have modified our no-surcharge rules to permit U.S. merchants to surcharge credit cards, subject to certain limitations. It is possible that over time merchants in some or all merchant categories in these jurisdictions may choose to surcharge as permitted by the rule change. This could result in consumers viewing our products less favorably and/or using alternative means of payment instead of electronic products, which could result in a decrease in our overall transaction volumes, and which in turn could materially and adversely impact our results of operations.

Preferential or Protective Government Actions

Preferential and protective government actions related to domestic payment services could adversely affect our ability to maintain or increase our revenues.

Governments in some countries have acted, or in the future may act, to provide resources, preferential treatment or other protection to selected national payment and switching providers, or have created, or may in the future create, their own national provider. This action may displace us from, prevent us from entering into, or substantially restrict us from participating in, particular geographies, and may prevent us from competing effectively against those providers. For example:

- Governments in some countries have implemented, or may implement, regulatory requirements that mandate switching of domestic payments either entirely in that country or by only domestic companies.

- Some jurisdictions are considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications.
- Geopolitical events and resulting OFAC sanctions, adverse trade policies or other types of government actions could lead jurisdictions affected by those sanctions to take actions in response that could adversely affect our business.
- Regional groups of countries are considering, or may consider, efforts to restrict our participation in the switching of regional transactions.

Such developments prevent us from utilizing our global switching capabilities for domestic or regional customers. Our inability to effect change in, or work with, these jurisdictions could adversely affect our ability to maintain or increase our revenues and extend our global brand.

Additionally, some jurisdictions have implemented, or may implement, foreign ownership restrictions, which could potentially have the effect of forcing or inducing the transfer of our technology and proprietary information as a condition of access to their markets. Such restrictions could adversely impact our ability to compete in these markets.

Privacy, Data and Security

Regulation of privacy, data, security and the digital economy could increase our costs, as well as negatively impact our growth.

We are subject to increasingly complex regulations related to privacy, data and information security in the jurisdictions in which we do business. These regulations could result in negative impacts to our business. As we continue to develop integrated and personalized products and services to meet the needs of a changing marketplace, as well as acquire new companies, we have expanded our information profile through the collection of additional data from additional sources and across multiple channels. This expansion has amplified the impact of these regulations on our business. Regulation of privacy and data and information security often times require monitoring of and changes to our data practices in regard to the collection, use, disclosure, storage, transfer and/or security of personal and sensitive information, as well as increased care in our data management, governance and quality practices. While we make every effort to comply with all regulatory requirements and we deploy a privacy-by-design and data-by-design approach to all of our product development, the speed and pace of change may not allow us to meet rapidly evolving expectations. We are also subject to enhanced compliance and operational requirements in the European Union, and policymakers around the globe are using these requirements as a reference to adopt new or updated privacy laws that could result in similar or stricter requirements in other jurisdictions. Some jurisdictions are also considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications. Other jurisdictions are considering adopting sector-specific regulations for the payments industry, including forced data sharing requirements or additional verification requirements that overlap or conflict with, or diverge from, general privacy rules. Failure to comply with these laws, regulations and requirements could result in fines, sanctions or other penalties, which could materially and adversely affect our results of operations and overall business, as well as have an impact on our reputation.

New requirements or interpretations of existing requirements in these areas, or the development of new regulatory schemes related to the digital economy in general, may also increase our costs and/or restrict our ability to leverage data for innovation. This could impact the products and services we offer and other aspects of our business, such as fraud monitoring, the need for improved data management, governance and quality practices, the development of information-based products and solutions, and technology operations. In addition, these requirements may increase the costs to our customers of issuing payment products, which may, in turn, decrease the number of our payment products that they issue. Moreover, due to account data compromise events and privacy abuses by other companies, as well as the disclosure of monitoring activities by certain governmental agencies in combination with the use of artificial intelligence and new technologies, there has been heightened legislative and regulatory scrutiny around the world that could lead to further regulation and requirements and/or future enforcement. Those developments have also raised public attention on companies' data practices and have changed consumer and societal expectations for enhanced privacy and data protection. Any of

these developments could materially and adversely affect our overall business and results of operations.

In addition, fraudulent activity and increasing cyberattacks have encouraged legislative and regulatory intervention, which could damage our reputation and reduce the use and acceptance of our integrated products and services or increase our compliance costs. Criminals are using increasingly sophisticated methods to capture consumer personal information to engage in illegal activities such as counterfeiting or other fraud. As outsourcing and specialization become common in the payments industry, there are more third parties involved in processing transactions using our payment products. While we are taking measures to make card and digital payments more secure, increased fraud levels involving our integrated products and services, or misconduct or negligence by third parties switching or otherwise servicing our integrated products and services, could lead to legislative or regulatory intervention, such as enhanced security requirements and liabilities, as well as damage to our reputation.

Other Regulation

Regulations that directly or indirectly apply to Mastercard as a result of our participation in the global payments industry may materially and adversely affect our overall business and results of operations.

We are subject to regulations that affect the payments industry in the many jurisdictions in which our integrated products and services are used. Many of our customers are also subject to regulations applicable to banks and other financial institutions that, at times, consequently affect us. Regulation of the payments industry, including regulations applicable to us and our customers, has increased significantly in the last several years. See "Business - Government Regulation" in Part I, Item 1 for a detailed description of such regulation and related legislation. Examples include:

- ***Anti-Money Laundering, Counter Financing of Terrorism, Economic Sanctions and Anti-Corruption*** - We are subject to AML and CFT laws and regulations globally. Economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies, and persons and entities. We are also subject to anti-corruption laws and regulations globally, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage.
- ***Account-based Payment Systems*** - In the U.K., aspects of our Vocalink business are subject to the U.K. payment system oversight regime and are directly overseen by the Bank of England.
- ***Issuer Practice Legislation and Regulation*** - Certain regulations (such as PSD2 in the EEA) may impact various aspects of our business. For example, PSD2's strong authentication requirement could increase the number of transactions that consumers abandon if we are unable to secure a frictionless authentication experience under the new standards. An increase in the rate of abandoned transactions could adversely impact our volumes or other operational metrics.

Increased regulatory focus on us, such as in connection with the matters discussed above, may result in costly compliance burdens and/or may otherwise increase our costs. Similarly, increased regulatory focus on our customers may cause such customers to reduce the volume of transactions processed through our systems, or may otherwise impact the competitiveness of our products. Actions by regulators could influence other organizations around the world to enact or consider adopting similar measures, amplifying any potential compliance burden. Finally, failure to comply with the laws and regulations discussed above to which we are subject could result in fines, sanctions or other penalties. In particular, a violation and subsequent judgment or settlement against us, or those with whom we may be associated, under economic sanctions and AML, CFT, and anti-corruption laws could subject us to substantial monetary penalties, damages, and/or have a significant reputational impact. Each instance may individually or collectively materially and adversely affect our financial performance and/or our overall business and results of operations, as well as have an impact on our reputation.

We could be subject to adverse changes in tax laws, regulations and interpretations or challenges to our tax positions.

We are subject to tax laws and regulations of the U.S. federal, state and local governments as well as various non-U.S. jurisdictions. Potential changes in existing tax laws, including future regulatory guidance, may impact our effective income tax rate and tax payments. There can be no assurance that changes in tax laws or regulations, both within the U.S. and the other jurisdictions in which we operate, will not materially and adversely affect our effective income tax rate, tax payments, financial condition and results of operations. Similarly, changes in tax laws and regulations that impact our customers and counterparties or the economy generally may also impact our financial condition and results of operations.

In addition, tax laws and regulations are complex and subject to varying interpretations, and any significant failure to comply with applicable tax laws and regulations in all relevant jurisdictions could give rise to substantial penalties and liabilities. Any changes in enacted tax laws, rules or regulatory or judicial interpretations; any adverse outcome in connection with tax audits in any jurisdiction; or any change in the pronouncements relating to accounting for income taxes could materially and adversely impact our effective income tax rate, tax payments, financial condition and results of operations.

Litigation

Liabilities we may incur or limitations on our business related to any litigation or litigation settlements could materially and adversely affect our results of operations.

We are a defendant on a number of civil litigations and regulatory proceedings and investigations, including among others, those alleging violations of competition and antitrust law and those involving intellectual property claims. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details regarding the allegations contained in these complaints and the status of these proceedings. In the event we are found liable in any material litigations or proceedings, particularly in the event we may be found liable in a large class-action lawsuit or on the basis of an antitrust claim entitling the plaintiff to treble damages or under which we were jointly and severally liable, we could be subject to significant damages, which could have a material adverse impact on our overall business and results of operations.

Certain limitations have been placed on our business in recent years because of litigation and litigation settlements, such as changes to our no-surcharge rule in the United States. Any future limitations on our business resulting from litigation or litigation settlements could impact our relationships with our customers, including reducing the volume of business that we do with them, which may materially and adversely affect our overall business and results of operations.

Business and Operations

COVID-19

The global COVID-19 pandemic and containment measures taken in response to it have adversely impacted our business, results of operations and financial condition, and may continue to do so depending on future developments, which are uncertain.

Global health concerns relating to the COVID-19 outbreak have impacted the macroeconomic environment, and the outbreak has significantly increased economic uncertainty. The outbreak resulted in governments in countries across the globe implementing measures to try to contain the virus, such as travel restrictions, social distancing, and restrictions on business operations which have impacted consumers and businesses. These measures have adversely impacted and may further impact our workforce and operations and the operations of our customers, suppliers and business partners. While some of these measures have eased in certain jurisdictions, others have remained in place. The extent to which current measures are removed or new measures are put in place will depend how the pandemic evolves, as well as the progress of the global roll-out of vaccines.

The spread of COVID-19 has caused us to modify our business practices (including employee travel, employee work locations, and working in a remote environment), and we may take further actions as required by government authorities or that are in the best interests of our employees, customers and business partners. There is no certainty that such measures will be sufficient to mitigate the risks posed by the virus or otherwise be satisfactory to government authorities.

The COVID-19 pandemic has adversely impacted our business, results of operations and financial condition. There are no comparable recent events which may provide guidance as to the effect of the spread of COVID-19 and a global pandemic, and, as a result, the ultimate impact of COVID-19 or a similar health epidemic is highly uncertain and subject to change. The extent to which COVID-19 further impacts our business, results of operations and financial condition will depend on future developments, which are uncertain, including, but not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. Even after the COVID-19 pandemic has subsided, we may continue to experience materially adverse impacts to our business and our result of operations as a result of its global economic impact, including any recession that has occurred or may occur in the future.

Competition and Technology

Substantial and intense competition worldwide in the global payments industry may materially and adversely affect our overall business and results of operations.

The global payments industry is highly competitive. Our payment programs compete against all forms of payment, including cash and checks; electronic, mobile and e-commerce payment platforms; cryptocurrencies; ACH payment services; and other payments networks, which can have several competitive impacts on our business:

- Some of our traditional competitors, as well as alternative payment service providers, may have substantially greater financial and other resources than we have, may offer a wider range of programs and services than we offer or may use more effective advertising and marketing strategies to achieve broader brand recognition or merchant acceptance than we have.
- Our ability to compete may also be affected by the outcomes of litigation, competition-related regulatory proceedings, central bank activity and legislative activity.

Certain of our competitors operate three-party payments systems with direct connections to both merchants and consumers and these competitors may derive competitive advantages from their business models. If we continue to attract more regulatory scrutiny than these competitors because we operate a four-party system, or we are regulated because of the system we operate in a way in which our competitors are not, we could lose business to these competitors. See “Business - Competition” in Part I, Item 1.

If we are not able to differentiate ourselves from our competitors, drive value for our customers and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively against these threats. Our competitors may also introduce their own innovative programs and services that adversely impact our growth. Beyond our traditional competitors, we also compete against new entrants that have developed alternative payments systems, e-commerce payments systems and payments systems for mobile devices, as well as physical store locations. A number of these new entrants rely principally on the Internet to support their services and may enjoy lower costs than we do, which could put us at a competitive disadvantage. Our

failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Disintermediation from stakeholders both within and outside of the payments value chain could harm our business.

As the payments industry continues to develop and change, we face disintermediation and related risks, including:

- Parties that process our transactions in certain countries may try to eliminate our position as an intermediary in the payment process. For example, merchants could switch (and in some cases are switching) transactions directly with issuers. Additionally, processors could process transactions directly between issuers and acquirers. Large scale consolidation within processors could result in these processors developing bilateral agreements or in some cases switching the entire transaction on their own network, thereby disintermediating us.
- Regulation (such as PSD2 in the EEA) may disintermediate issuers by enabling third-party providers opportunities to route payment transactions away from our network and products and towards other forms of payment by offering account information or payment initiation services directly to those who currently use our products. This may also allow these processors to commoditize the data that are included in the transactions. If our customers are disintermediated in their business, we could face diminished demand for our integrated products and services.
- Although we partner with fintechs and technology companies (such as digital players and mobile providers) that leverage our technology, platforms and networks to deliver their products, they could develop platforms or networks that disintermediate us from digital payments and impact our ability to compete in the digital economy. This risk is heightened when we have relationships with these entities where we share Mastercard data. While we share this data in a controlled manner subject to applicable anonymization and privacy and data standards, without proper oversight we could give the partner a competitive advantage.
- Competitors, customers, fintechs, technology companies, governments and other industry participants may develop products that compete with or replace value-added products and services we currently provide to support our switched transaction and payment offerings. These products could replace our own switching and payments offerings or could force us to change our pricing or practices for these offerings. In addition, governments that develop or encourage the creation of national payment platforms may promote their platforms in such a way that could put us at a competitive disadvantage in those markets, or require us to compete differently.
- Participants in the payments industry may merge, create joint ventures or form other business combinations that may strengthen their existing business services or create new payment products and services that compete with our products and services.

Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Continued intense pricing pressure may materially and adversely affect our overall business and results of operations.

In order to increase transaction volumes, enter new markets and expand our Mastercard-branded cards and enabled products and services, we seek to enter into business agreements with customers through which we offer incentives, pricing discounts and other support that promote our products. In order to stay competitive, we may have to increase the amount of these incentives and pricing discounts. We continue to experience pricing pressure. The demand from our customers for better pricing arrangements and greater rebates and incentives moderates our growth. We may not be able to continue our expansion strategy to switch additional transaction volumes or to provide additional services to our customers at levels sufficient to compensate for such lower fees or increased costs in the future, which could materially and adversely affect our overall business and results of operations. In addition, increased pressure on prices increases the importance of cost containment and productivity initiatives in areas other than those relating to customer incentives.

In the future, we may not be able to enter into agreements with our customers if they require terms that we are unable or unwilling to offer, and we may be required to modify existing agreements in

order to maintain relationships and to compete with others in the industry. Some of our competitors are larger and have greater financial resources than we do and accordingly may be able to charge lower prices to our customers. In addition, to the extent that we offer discounts or incentives under such agreements, we will need to further increase transaction volumes or the amount of services provided thereunder in order to benefit incrementally from such agreements and to increase revenue and profit, and we may not be successful in doing so, particularly in the current regulatory environment. Our customers also may implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability. These factors could have a material adverse impact on our overall business and results of operations.

Rapid and significant technological developments and changes could negatively impact our overall business and results of operations or limit our future growth.

The payments industry is subject to rapid and significant technological changes, which can impact our business in several ways:

- Technological changes, including continuing developments of technologies in the areas of smart cards and devices, contactless and mobile payments, e-commerce, cryptocurrency and block chain technology, machine learning and AI, could result in new technologies that may be superior to, or render obsolete, the technologies we currently use in our programs and services. Moreover, these changes could result in new and innovative payment methods and products that could place us at a competitive disadvantage and that could reduce the use of our products.
- We rely in part on third parties, including some of our competitors and potential competitors, for the development of and access to new technologies. The inability of these companies to keep pace with technological developments, or the acquisition of these companies by competitors, could negatively impact our offerings.
- Our ability to develop and adopt new services and technologies may be inhibited by industry-wide solutions and standards (such as those related to EMV, tokenization or other safety and security technologies), and by resistance from customers or merchants to such changes.
- Our ability to develop evolving systems and products may be inhibited by any difficulty we may experience in attracting and retaining technology experts.
- Our ability to adopt these technologies can also be inhibited by intellectual property rights of third parties. We have received, and we may in the future receive, notices or inquiries from patent holders (for example, other operating companies or non-practicing entities) suggesting that we may be infringing certain patents or that we need to license the use of their patents to avoid infringement. Such notices may, among other things, threaten litigation against us or our customers or demand significant license fees.
- Our ability to develop new technologies and reflect technological changes in our payments offerings will require resources, which may result in additional expenses.
- We work with fintechs and technology companies (such as digital players and mobile providers) that use our technology to enhance payment safety and security and to deliver their payment-related products and services quickly and efficiently to consumers. Our inability to keep pace technologically could negatively impact the willingness of these customers to work with us, and could encourage them to use their own technology and compete against us.
- Regulatory or government requirements could require us to host and deliver certain products and services on-soil in certain markets, which would require us to alter our technology and delivery model, potentially resulting in additional expenses.
- Various central banks are experimenting with digital currencies called Central Bank Digital Currencies (CBDC). CBDCs may be launched with their own networks to transfer money between participants. Policy and design considerations that governments adopt could impact the extent of our role in facilitating CBDC-based payment transactions, potentially impacting the transactions that we may process over our network.

We cannot predict the effect of technological changes on our business, and our future success will depend, in part, on our ability to anticipate, develop or adapt to technological changes and evolving industry standards. Failure to keep pace with these technological developments or otherwise bring to market products that reflect these technologies could lead to a decline in the use of our products, which could have a material adverse impact on our overall business and results of operations.

Operating a real-time account-based payment network presents risks that could materially affect our business.

U.K. regulators have designated Vocalink, our real-time account-based payment network platform, to be a "specified service provider" and regulators in other countries may in the future expand their regulatory oversight of real-time account-based payment systems in similar ways. In addition, any prolonged service outage on this network could result in quickly escalating impacts, including potential intervention by the Bank of England and significant reputational risk to Vocalink and us. For a

discussion of the regulatory risks related to our real-time account-based payment platform, see our risk factor in "Risk Factors - Payments Industry Regulation" in this Part I, Item 1A. Furthermore, the complexity of this payment technology requires careful management to address security vulnerabilities that are different from those faced on our core network. Operational difficulties, such as the temporary unavailability of our services or products, or security breaches on our real-time account-based payment network could cause a loss of business for these products and services, result in potential liability for us and adversely affect our reputation.

Working with new customers and end users as we expand our integrated products and services can present operational and onboarding challenges, be costly and result in reputational damage if the new products or services do not perform as intended.

The payments markets in which we compete are characterized by rapid technological change, new product introductions, evolving industry standards and changing customer and consumer needs. In order to remain competitive and meet the needs of the

payments markets, we are continually involved in diversifying our integrated products and services. These efforts carry the risks associated with any diversification initiative, including cost overruns, delays in delivery and performance problems. These projects also carry risks associated with working with different types of customers, for example organizations such as corporations that are not financial institutions and non-governmental organizations ("NGOs"), and end users other than those we have traditionally worked with. These differences may present new operational challenges in the development and implementation of our new products or services. These new customers are typically less regulated, and as a result, enhanced infrastructure and monitoring is required.

Our failure to deliver these integrated products and services could make our other integrated products and services less desirable to customers, or put us at a competitive disadvantage. In addition, if there is a delay in the implementation of our products or services or if our products or services do not perform as anticipated, or we are unable to adequately anticipate risks related to new types of customers, we could face additional regulatory scrutiny, fines, sanctions or other penalties, which could materially and adversely affect our overall business and results of operations, as well as negatively impact our brand and reputation.

Information Security and Service Disruptions

Information security incidents or account data compromise events could disrupt our business, damage our reputation, increase our costs and cause losses.

Information security risks for payments and technology companies such as ours have significantly increased in recent years in part because of the proliferation of new technologies, the use of the Internet and telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties. These threats may derive from fraud or malice on the part of our employees or third parties, or may result from human error or accidental technological failure. These threats include cyber-attacks such as computer viruses, malicious code, phishing attacks or information security breaches and could lead to the misappropriation of consumer account and other information and identity theft. The advent of the global COVID-19 pandemic has resulted in a significant rise in these types of threats due to a significant portion of our workforce working from home in a mostly remote environment.

Our operations rely on the secure processing, transmission and storage of confidential, proprietary and other information and technology in our computer systems and networks, as well as the systems of our third-party providers. Our customers and other parties in the payments value chain, as well as account holders, rely on our digital technologies, computer systems, software and networks to conduct their operations. In addition, to access our integrated products and services, our customers and account holders increasingly use personal smartphones, tablet PCs and other mobile devices that may be beyond our control. We, like other financial technology organizations, routinely are subject to cyber-threats and our technologies, systems and networks, as well as the systems of our third-party providers, have been subject to attempted cyber-attacks. Because of our position in the payments value chain, we believe that we are likely to continue to be a target of such threats and attacks. Additionally, geopolitical events and resulting government activity could also lead to information security threats and attacks by affected jurisdictions and their sympathizers.

To date, we have not experienced any material impact relating to cyber-attacks or other information security breaches. However, future attacks or breaches could lead to security breaches of the networks, systems (including third-party provider systems) or devices that our customers use to access our integrated products and services, which in turn could result in the unauthorized disclosure, release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information (including account data information) or data security compromises. Such attacks or breaches could also cause service interruptions, malfunctions or other failures in the physical infrastructure or operations systems that support our businesses and customers (such as the lack of availability of our value-added services), as well as the operations of our customers or other third parties. In addition, they could lead to damage to our reputation with our customers and other parties and the market, additional costs to us (such as repairing systems, adding new personnel or protection technologies or compliance costs), regulatory penalties, financial losses to both us and our customers

and partners and the loss of customers and business opportunities. If such attacks are not detected immediately, their effect could be compounded.

Despite various mitigation efforts that we undertake, there can be no assurance that we will be immune to these risks and not suffer material breaches and resulting losses in the future, or that our insurance coverage would be sufficient to cover all losses. Our risk and exposure to these matters remain heightened because of, among other things, the evolving nature of these threats, our prominent size and scale and our role in the global payments and technology industries, our plans to continue to implement our digital and mobile channel strategies and develop additional remote connectivity solutions to serve our customers and account holders when and how they want to be served, our global presence, our extensive use of third-party vendors and future joint venture and merger and acquisition opportunities. As a result, information security and the continued development and enhancement of our controls, processes and practices designed to protect our systems, computers, software, data and networks

from attack, damage or unauthorized access remain a priority for us. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Any of the risks described above could materially adversely affect our overall business and results of operations.

In addition to information security risks for our systems, we also routinely encounter account data compromise events involving merchants and third-party payment processors that process, store or transmit payment transaction data, which affect millions of Mastercard, Visa, Discover, American Express and other types of account holders. Further events of this type may subject us to reputational damage and/or lawsuits involving payment products carrying our brands. Damage to our reputation or that of our brands resulting from an account data breach of either our systems or the systems of our customers, merchants and other third parties could decrease the use and acceptance of our integrated products and services. Such events could also slow or reverse the trend toward electronic payments. In addition to reputational concerns, the cumulative impact of multiple account data compromise events could increase the impact of the fraud resulting from such events by, among other things, making it more difficult to identify consumers. Moreover, while most of the lawsuits resulting from account data breaches do not involve direct claims against us and while we have releases from many issuers and acquirers, we could still face damage claims, which, if upheld, could materially and adversely affect our results of operations. Such events could have a material adverse impact on our transaction volumes, results of operations and prospects for future growth, or increase our costs by leading to additional regulatory burdens being imposed on us.

Service disruptions that cause us to be unable to process transactions or service our customers could materially affect our overall business and results of operations.

Our transaction switching systems and other offerings have experienced in limited instances and may continue to experience interruptions as a result of technology malfunctions, fire, weather events, power outages, telecommunications disruptions, terrorism, workplace violence, accidents or other catastrophic events. Our visibility in the global payments industry may also put us at greater risk of attack by terrorists, activists, or hackers who intend to disrupt our facilities and/or systems. Additionally, we rely on third-party service providers for the timely transmission of information across our global data network. Inadequate infrastructure in lesser-developed markets could also result in service disruptions, which could impact our ability to do business in those markets. If one of our service providers fails to provide the communications capacity or services we require, as a result of natural disaster, operational disruptions, terrorism, hacking or any other reason, the failure could interrupt our services. Although we maintain a enterprise resiliency program to analyze risk, assess potential impacts, and develop effective response strategies, we cannot ensure that our business would be immune to these risks, because of the intrinsic importance of our switching systems to our business, any interruption or degradation could adversely affect the perception of the reliability of products carrying our brands and materially adversely affect our overall business and our results of operations.

Stakeholder Relationships

Losing a significant portion of business from one or more of our largest customers could lead to significant revenue decreases in the longer term, which could have a material adverse impact on our business and our results of operations.

Most of our customer relationships are not exclusive and may be terminated by our customers. Our customers can reassess their commitments to us at any time in the future and/or develop their own competitive services. Accordingly, our business agreements with these customers may not reduce the risk inherent in our business that customers may terminate their relationships with us in favor of relationships with our competitors, or for other reasons, or might not meet their contractual obligations to us.

In addition, a significant portion of our revenue is concentrated among our five largest customers. Loss of business from any of our large customers could have a material adverse impact on our overall business and results of operations.

Exclusive/near exclusive relationships certain customers have with our competitors may have a material adverse impact on our business.

Certain customers have exclusive, or nearly-exclusive, relationships with our competitors to issue payment products, and these relationships may make it difficult or cost-prohibitive for us to do significant amounts of business with them to increase our revenues. In addition, these customers may be more successful and may grow faster than the customers that primarily issue our payment products, which could put us at a competitive disadvantage. Furthermore, we earn substantial revenue from customers with nearly-exclusive relationships with our competitors. Such relationships could provide advantages to the customers to shift business from us to the competitors with which they are principally aligned. A significant loss of our existing revenue or transaction volumes from these customers could have a material adverse impact on our business.

Consolidation in the banking industry could materially and adversely affect our overall business and results of operations.

The banking industry has undergone substantial, accelerated consolidation in the past. Consolidations have included customers with a substantial Mastercard portfolio being acquired by institutions with a strong relationship with a competitor. If significant consolidation among customers were to continue, it could result in the substantial loss of business for us, which could have a material adverse impact on our business and prospects. In addition, one or more of our customers could seek to merge with, or acquire, one of our competitors, and any such transaction could also have a material adverse impact on our overall business. Consolidation could also produce a smaller number of large customers, which could increase their bargaining power and lead to lower prices and/or more favorable terms for our customers. These developments could materially and adversely affect our results of operations.

Our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and, in many jurisdictions, their ability to effectively manage or help manage our brands.

While we work directly with many stakeholders in the payments system, including merchants, governments, fintechs and large digital companies and other technology companies, we are, and will continue to be, significantly dependent on our relationships with our issuers and acquirers and their respective relationships with account holders and merchants to support our programs and services. Furthermore, we depend on our issuing partners and acquirers to continue to innovate to maintain competitiveness in the market. We do not issue cards or other payment devices, extend credit to account holders or determine the interest rates or other fees charged to account holders. Each issuer determines these and most other competitive payment program features. In addition, we do not establish the discount rate that merchants are charged for acceptance, which is the responsibility of our acquiring customers. As a result, our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and the strength of our relationships with them. In turn, our customers' success depends on a variety of factors over which we have little or no influence, including economic conditions in global financial markets or their disintermediation by competitors or emerging technologies, as well as regulation. If our customers become financially unstable, we may lose revenue or we may be exposed to settlement risk. See our risk factor in "Risk Factors - Settlement and Third-Party Obligations" in this Part I, Item 1A with respect to how we guarantee certain third-party obligations for further discussion.

With the exception of the United States and a select number of other jurisdictions, most in-country (as opposed to cross-border) transactions conducted using Mastercard, Maestro and Cirrus cards are authorized, cleared and settled by our customers or other processors. Because we do not provide domestic switching services in these countries and do not, as described above, have direct relationships with account holders, we depend on our close working relationships with our customers to effectively manage our brands, and the perception of our payments system, among consumers in these countries. We also rely on these customers to help manage our brands and perception among regulators and merchants in these countries, alongside our own relationships with them. From time to time, our customers may take actions that we do not believe to be in the best interests of our payments system overall, which may materially and adversely impact our business.

Merchants' continued focus on acceptance costs may lead to additional litigation and regulatory proceedings and increase our incentive program costs, which could materially and adversely affect our profitability.

Merchants are important constituents in our payments system. We rely on both our relationships with them, as well as their relationships with our issuer and acquirer customers, to continue to expand the acceptance of our integrated products and services. We also work with merchants to help them enable new sales channels, create better purchase experiences, improve efficiencies, increase revenues and fight fraud. In the retail industry, there is a set of larger merchants with increasingly global scope and influence. We believe that these merchants are having a significant impact on all participants in the global payments industry, including Mastercard. Some large merchants have supported the legal, regulatory and legislative challenges to interchange fees that Mastercard has been defending, including the U.S. merchant litigations. Some merchants are increasingly asking regulators to review and potentially regulate our own network fees, in addition to interchange. See our risk factor in "Risk

Factors – Other Regulation" in this Part I, Item 1A with respect to payments industry regulation, including interchange fees. The continued focus of merchants on the costs of accepting various forms of payment, including in connection with the growth of digital payments, may lead to additional litigation and regulatory proceedings.

Certain larger merchants are also able to negotiate incentives from us and pricing concessions from our issuer and acquirer customers as a condition to accepting our products. We also make payments to certain merchants to incentivize them to create co-branded payment programs with us. As merchants consolidate and become even larger, we may have to increase the amount of incentives that we provide to certain merchants, which could materially and adversely affect our results of operations. Competitive and regulatory pressures on pricing could make it difficult to offset the costs of these incentives. Additionally, if the rate of merchant acceptance growth slows our business could suffer.

Our work with governments exposes us to unique risks that could have a material impact on our business and results of operations.

As we increase our work with national, state and local governments, both indirectly through financial institutions and with them directly as our customers, we may face various risks inherent in associating or contracting directly with governments. These risks include, but are not limited to, the following:

- Governmental entities typically fund projects through appropriated monies. Changes in governmental priorities or other political developments, including disruptions in governmental operations, could impact approved funding and result in changes in the scope, or lead to the termination, of the arrangements or contracts we or financial institutions enter into with respect to our payment products and services.
- Our work with governments subjects us to U.S. and international anti-corruption laws, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation and subsequent judgment or settlement under these laws could subject us to substantial monetary penalties and damages and have a significant reputational impact.
- Working or contracting with governments, either directly or via our financial institution customers, can subject us to heightened reputational risks, including extensive scrutiny and publicity, as well as a potential association with the policies of a government as a result of a business arrangement with that government. Any negative publicity or negative association with a government entity, regardless of its accuracy, may adversely affect our reputation.

Settlement and Third-Party Obligations

Our role as guarantor, as well as other contractual obligations, expose us to risk of loss or illiquidity.

We are a guarantor of certain third-party obligations, including those of certain of our customers. In this capacity, we are exposed to credit and liquidity risk from these customers and certain service providers. We may incur significant losses in connection with transaction settlements if a customer fails to fund its daily settlement obligations due to technical problems, liquidity shortfalls, insolvency or other reasons. Concurrent settlement failures of more than one of our larger customers or of several of our smaller customers either on a given day or over a condensed period of time may exceed our available resources and could materially and adversely affect our results of operations.

We have significant contractual indemnification obligations with certain customers. Should an event occur that triggers these obligations, such an event could materially and adversely affect our overall business and result of operations.

Global Economic and Political Environment

Global economic, political, financial and societal events or conditions could result in a material and adverse impact on our overall business and results of operations.

Adverse economic trends in key countries in which we operate may adversely affect our financial performance. Such impact may include, but is not limited to, the following:

- Customers mitigating their economic exposure by limiting the issuance of new Mastercard products and requesting greater incentive or greater cost stability from us
- Consumers and businesses lowering spending, which could impact domestic and cross-border spend
- Government intervention (including the effect of laws, regulations and/or government investments on or in our financial institution customers), as well as uncertainty due to changing political regimes in executive, legislative and/or judicial branches of government, that may have potential negative effects on our business and our relationships with customers or otherwise alter their strategic direction away from our products
- Tightening of credit availability that could impact the ability of participating financial institutions to lend to us under the terms of our credit facility

Additionally, we switch substantially all cross-border transactions using Mastercard, Maestro and Cirrus-branded cards and generate a significant amount of revenue from cross-border volume fees and

fees related to switched transactions. Revenue from switching cross-border and currency conversion transactions for our customers fluctuates with the levels and destinations of cross-border travel and our customers' need for transactions to be converted into their base currency. Cross-border activity has, and may continue to be, adversely affected by world geopolitical, economic, health, weather and other conditions. These include COVID-19, as well as the threat of terrorism and separate outbreaks of flu, viruses and other diseases, as well as major environmental events (including those related to climate change). The uncertainty that could result from such events could decrease cross-border activity. Additionally, any regulation of interregional interchange fees could also negatively impact our cross-border activity. In each case, decreased cross-border activity could decrease the revenue we receive.

Our operations as a global payments network rely in part on global interoperable standards to help facilitate safe and simple payments. To the extent geopolitical events result in jurisdictions no longer participating in the creation or adoption of these standards, or the creation of competing standards, the products and services we offer could be negatively impacted.

Any of these developments could have a material adverse impact on our overall business and results of operations.

Adverse currency fluctuations and foreign exchange controls could negatively impact our results of operations.

During 2020, approximately 67% of our revenue was generated from activities outside the United States. This revenue (and the related expense) could be transacted in a non-functional currency or valued based on a currency other than the functional currency of the entity generating the revenues. Resulting exchange gains and losses are included in our net income. Our risk management activities provide protection with respect to adverse changes in the value of only a limited number of currencies and are based on estimates of exposures to these currencies.

In addition, some of the revenue we generate outside the United States is subject to unpredictable currency fluctuations including devaluation of currencies where the values of other currencies change relative to the U.S. dollar. If the U.S. dollar strengthens compared to currencies in which we generate revenue, this revenue may be translated at a materially lower amount than expected. Furthermore, we may become subject to exchange control regulations that might restrict or prohibit the conversion of our other revenue currencies into U.S. dollars, such as what we have experienced in Venezuela.

The occurrence of currency fluctuations or exchange controls could have a material adverse impact on our results of operations.

Brand and Reputational Impact

Negative brand perception may materially and adversely affect our overall business.

Our brands and their attributes are key assets of our business. The ability to attract consumers to our branded products and retain them depends upon the external perception of us and our industry. Our business may be affected by actions taken by our customers, merchants or other organizations that impact the perception of our brands or the payments industry in general. From time to time, our customers may take actions that we do not believe to be in the best interests of our brands, such as creditor practices that may be viewed as "predatory". Moreover, adverse developments with respect to our industry or the industries of our customers or other companies and organizations that use our products and services (including certain legally permissible but high risk merchant categories, such as alcohol, tobacco, fire-arms and adult content) may also, by association, impair our reputation, or result in greater public, regulatory or legislative scrutiny. We have also been pursuing the use of social media channels at an increasingly rapid pace. Under some circumstances, our use of social media, or the use of social media by others as a channel for criticism or other purposes, could also cause rapid, widespread reputational harm to our brands by disseminating rapidly and globally actual or perceived damaging information about us, our products or merchants or other end users who utilize our products. To the extent any of our published sustainability metrics are subsequently viewed as inaccurate or we are unable to execute on our sustainability initiatives, we may be viewed negatively by consumers, investors and other stakeholders concerned about these matters. Also, as we are headquartered in the United States, a negative perception of the United States could impact the perception of our company, which could adversely affect our business. Any of the above issues could have a material and adverse effect to our overall business.

Lack of visibility of our brand in our products and services, or in the products and services of our partners who use our technology, may materially and adversely affect our business.

As more players enter the global payments system, the layers between our brand and consumers and merchants increase. In order to compete with other powerful consumer brands that are also becoming part of the consumer payment experience, we often partner with those brands on payment solutions. These brands include large digital companies and other technology companies who are our customers and use our networks to build their own acceptance brands. In some cases, our brand may not be

featured in the payment solution or may be secondary to other brands. Additionally, as part of our relationships with some issuers, our payment brand is only included on the back of the card. As a result, our brand may either be invisible to consumers or may not be the primary brand with which consumers associate the payment experience. This brand invisibility, or any consumer confusion as to our role in the consumer payment experience, could decrease the value of our brand, which could adversely affect our business.

Talent and Culture

We may not be able to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture, which could impact our ability to grow effectively.

Our performance largely depends on the talents and efforts of our employees, particularly our key personnel and senior management. We may be unable to retain or to attract highly qualified employees. The market for key personnel is highly competitive, particularly in technology and other skill areas significant to our business. Additionally, changes in immigration and work permit laws and visa regulations and related enforcement have made it difficult for employees to work in, or transfer among, jurisdictions in which we have operations and could impair our ability to attract and retain qualified employees. Moreover, as a result of the global COVID-19 pandemic, a significant portion of our workforce is working in a mostly remote environment. This remote environment may continue after the pandemic due to potential resulting trends, and could impact the quality of our corporate culture. Failure to attract, hire, develop, motivate and retain highly qualified and diverse employee talent, or to maintain a corporate culture that fosters innovation, creativity and teamwork could harm our overall business and results of operations.

We rely on key personnel to lead with integrity and decency. To the extent our leaders behave in a manner that is not consistent with our values, we could experience significant impact to our brand and reputation, as well as to our corporate culture.

Acquisitions

Acquisitions, strategic investments or entry into new businesses could be impacted by regulatory scrutiny, and if successful, could disrupt our business and harm our results of operations or reputation.

As we continue to evaluate our strategic acquisitions of, or acquiring interests in joint ventures or other entities related to, complementary businesses, products or technologies, we face increasing regulatory scrutiny with respect to antitrust and other considerations. Such scrutiny could prevent us from successfully completing such acquisitions in the future.

To the extent we do make these acquisitions, we may not be able to successfully partner with or integrate them, despite original intentions and focused efforts. In addition, such an integration may divert management's time and resources from our core business and disrupt our operations. Moreover, we may spend time and money on acquisitions or projects that do not meet our expectations or increase our revenue. To the extent we pay the purchase price of any acquisition in cash, it would reduce our cash reserves available to us for other uses, and to the extent the purchase price is paid with our stock, it could be dilutive to our stockholders. Furthermore, we may not be able to successfully finance the business following the acquisition as a result of costs of operations, including any litigation risk which may be inherited from the acquisition.

Any acquisition or entry into a new business could subject us to new regulations, both directly as a result of the new business as well as in the other existing parts of our business, with which we would need to comply. This compliance could increase our costs, and we could be subject to liability or reputational harm to the extent we cannot meet any such compliance requirements. Our expansion into new businesses could also result in unanticipated issues which may be difficult to manage.

Class A Common Stock and Governance Structure

Provisions in our organizational documents and Delaware law could be considered anti-takeover provisions and have an impact on change-in-control.

Provisions contained in our amended and restated certificate of incorporation and bylaws and Delaware law could be considered anti-takeover provisions, including provisions that could delay or prevent entirely a merger or acquisition that our stockholders consider favorable. These provisions may also discourage acquisition proposals or have the effect of delaying or preventing entirely a change in control, which could harm our stock price. For example, subject to limited exceptions, our amended and restated certificate of incorporation prohibits any person from beneficially owning more than 15%

of any of the Class A common stock or any other class or series of our stock with general voting power, or more than 15% of our total voting power. In addition:

- our stockholders are not entitled to the right to cumulate votes in the election of directors
- our stockholders are not entitled to act by written consent
- a vote of 80% or more of all of the outstanding shares of our stock then entitled to vote is required for stockholders to amend any provision of our bylaws
- any representative of a competitor of Mastercard or of Mastercard Foundation is disqualified from service on our board of directors

Mastercard Foundation's substantial stock ownership, and restrictions on its sales, may impact corporate actions or acquisition proposals favorable to, or favored by, the other public stockholders.

As of February 9, 2021, Mastercard Foundation owned 108,210,635 shares of Class A common stock, representing approximately 11.0% of our general voting power. Mastercard Foundation may not sell or otherwise transfer its shares of Class A common stock prior to May 1, 2027, except to the extent necessary to satisfy its charitable disbursement requirements, for which purpose earlier sales are permitted and have occurred. Mastercard Foundation is permitted to sell all of its remaining shares after May 1, 2027, subject to certain conditions. The directors of Mastercard Foundation are required to be independent of us and our customers. The ownership of Class A common stock by Mastercard Foundation, together with the restrictions on transfer, could discourage or make more difficult acquisition proposals favored by the other holders of the Class A common stock. In addition, because Mastercard Foundation is restricted from selling its shares for an extended period of time, it may not have the same interest in short or medium-term movements in our stock price as, or incentive to approve a corporate action that may be favorable to, our other stockholders.

Item 1B. Unresolved staff comments

Not applicable.

Item 2. Properties

We own our corporate headquarters, located in Purchase, New York, and our principal technology and operations center, located in O'Fallon, Missouri. As of December 31, 2020, Mastercard and its subsidiaries owned or leased commercial properties throughout the U.S. and other countries around the world, consisting of corporate and regional offices, as well as our operations centers.

We believe that our facilities are suitable and adequate for the business that we currently conduct. However, we periodically review our space requirements and may acquire or lease new space to meet the needs of our business, or consolidate and dispose of facilities that are no longer required.

Item 3. Legal proceedings

Refer to Note 13 (Accrued Expenses and Accrued Litigation) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Item 4. Mine Safety Disclosures

Not applicable.

Information about our executive officers

(as of February 12, 2021)

Name *Current Position*	Age	Previous Mastercard Experience	Previous Business Experience
Ajay Banga Executive Chairman since January 2021	61	Chief Executive Officer (2020) President and Chief Executive Officer (2010-2020) President and COO (2009-2010)	Several executive positions at Citigroup, including CEO, Asia Pacific region and Chairman and CEO, International Global Consumer Group Previous senior leadership experience at Nestlé India and PepsiCo in roles of increasing responsibility
Ajay Bhalla *President, Cyber and Intelligence Solutions* since November 2018	55	President, Enterprise Security Solutions (2014-2018) President, Digital Gateway Services (2011-2013) President, South Asia and Southeast Asia (2008-2011) Various senior leadership positions, including President, Southeast Asia; Country Manager, Singapore and Head of Marketing, Southeast Asia; Vice President	Various leadership positions at HSBC and Xerox Corporation
Ann Cairns *Vice Chairman* since June 2018	64	President, International (2011-2018)	Managing director, Alvarez & Marsal CEO, ABN AMRO Senior corporate and investment banking roles at Citigroup
Gilberto Caldart *President, International* since June 2018	61	President, Latin America and Caribbean region (2013-2018) Division President, South Latin America/Brazil (2008-2013)	Various leadership positions at Citigroup, including Country Business Manager, Brazil
Michael Fraccaro *Chief People Officer* since July 2016	55	Executive Vice President, Human Resources, Global Products and Solutions (2014-2016) Senior Vice President, Human Resources, Global Products and Solutions (2012-2014)	Various executive-level human resources positions at HSBC Group, Hong Kong (2000-2012) Various senior human resources positions in banking and financial services in Australia and the Middle East
Michael Froman *Vice Chairman and President, Strategic Growth* since April 2018	58	Mr. Froman joined the Company in 2018 in his current role	U.S. Trade Representative in the Executive Office of President Obama (2013-2017) Assistant to the President and Deputy National Security Advisor for International Economic Policy (2009-2013) Various senior leadership positions at Citigroup, including CEO, CitiInsurance and COO of Citigroup's alternative investments business

PART I
EXECUTIVE OFFICERS

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Linda Kirkpatrick *President, North America* since January 2021	44	President, U.S. Issuers (2020) Executive Vice President, Merchants and Acceptance (2016-2020) Senior Vice President, Core Merchants (2013-2016) Senior Vice President, Franchise Development (2011-2013) Vice President, U.S. Region (2008-2011) Vice President, Investor Relations	
Edward McLaughlin *President, Operations and Technology* since May 2017	55	Chief Information Officer (2016-2017) Chief Emerging Payments Officer (2010-2015) Various senior leadership roles, including Chief Franchise Development Officer and Senior Vice President, Bill Payment and Healthcare	Group Vice President, Product and Strategy, Metavante Corporation Co-Founder and CEO, Paytrust, Inc.
Sachin Mehra *Chief Financial Officer* since April 2019	50	Chief Financial Operations Officer (2018-2019) Executive Vice President, Commercial Products (2015-2018) Executive Vice President and Business Financial Officer, North America (2013-2015) Corporate Treasurer (2010-2013)	Various senior positions at Hess Corporation, including Vice President and Treasurer Various senior treasury and finance positions, General Motors Corporation and GMAC
Michael Miebach *President and Chief Executive Officer* since January 2021	53	President (2020) Chief Product Officer (2016-2020) President, Middle East and Africa (2010-2015)	Managing Director, Middle East and North Africa and Managing Director, Sub-Saharan Africa, Barclays Bank PLC Various executive positions at Citigroup in Germany, Austria, U.K. and Turkey
Tim Murphy *General Counsel* since April 2014	53	Chief Product Officer (2009-2014) Various senior leadership roles, including President, U.S. Region; Executive Vice President, Customer Business Planning and Analysis; and Senior Vice President and Associate General Counsel	Associate, Cleary, Gottlieb, Steen and Hamilton, New York and London
Raja Rajamannar *Chief Marketing and Communications Officer and President, Healthcare* since January 2016	59	Chief Marketing Officer (2013-2015)	Executive Vice President-Senior Business and Chief Transformation Officer, Anthem (formerly, WellPoint, Inc.) (2012- 2013) Senior Vice President and Chief Innovation and Marketing Officer, Humana Inc. (2009-2012) Various management positions at Citigroup, including Executive Vice President and Chief Marketing Officer-Citi Global Cards

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Raj Seshadri *President, Data and Services* since January 2020	55	President, U.S. Issuers (2016-2019)	Managing Director, Head of iShares U.S. Wealth Advisory business, BlackRock (2014-2016) Managing Director, Global Marketing Officer of iShares, BlackRock, Inc. (2012-2014) Various leadership positions at Citigroup, U.S. Trust Company and McKinsey & Company, Inc.
Kevin Stanton *Chief Transformation Officer* since January 2020	59	Chief Services Officer (2018-2019) President, Mastercard Advisors (2010-2017) Various senior leadership roles, including President, Canada; Senior Vice President, Strategy and Market Development; and Vice President, Senior Counsel and North America Region Counsel	Vice President, Counsel, Shawmut National Corporation
Craig Vosburg *Chief Product Officer* since January 2021	53	President, North America (2016-2020) Chief Product Officer (2014-2015) Executive Vice President, U.S. Market Development (2010-2014) Various senior leadership roles, including Head of Mastercard Advisors, U.S. and Canada and Head of Mastercard Advisors, Southeast Asia, Greater China and South Asia/Middle East/Africa	Senior member-financial services practice, Bain & Company and A.T. Kearney Vice president, CoreStates Financial Corporation

PART II

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Item 6. Selected financial data

Item 7. Management's discussion and analysis of financial condition and results of operations

Item 7A. Quantitative and qualitative disclosures about market risk

Item 8. Financial statements and supplementary data

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

Item 9A. Controls and procedures

Item 9B. Other information

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". At February 9, 2021, we had 73 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Class A common stock is held in "street name" by brokers.

There is currently no established public trading market for our Class B common stock. There were approximately 257 holders of record of our non-voting Class B common stock as of February 9, 2021, constituting approximately 0.8% of our total outstanding equity.

Stock Performance Graph

The graph and table below compare the cumulative total stockholder return of Mastercard's Class A common stock, the S&P 500 and the S&P 500 Financials for the five-year period ended December 31, 2020. The graph assumes a $100 investment in our Class A common stock and both of the indices and the reinvestment of dividends. Mastercard's Class B common stock is not publicly traded or listed on any exchange or dealer quotation system.

Comparison of cumulative five-year total return

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Total returns to stockholders for each of the years presented were as follows:

		Indexed Returns				
	Base period	For the Years Ended December 31,				
Company/Index	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Mastercard	$ 100.00	$ 106.91	$ 157.88	$ 197.86	$ 314.91	$ 378.44
S&P 500	100.00	111.96	136.40	130.42	171.49	203.04
S&P 500 Financials	100.00	122.80	150.04	130.49	172.41	169.49

Dividend Declaration and Policy

On December 8, 2020, our Board of Directors declared a quarterly cash dividend of $0.44 per share paid on February 9, 2021 to holders of record on January 8, 2021 of our Class A common stock and Class B common stock. On February 8, 2021, our Board of Directors declared a quarterly cash dividend of $0.44 per share payable on May 7, 2021 to holders of record on April 9, 2021 of our Class A common stock and Class B common stock.

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Class A common stock and Class B common stock. However, 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.

Issuer Purchases of Equity Securities

During the fourth quarter of 2020, we repurchased a total of approximately 3.1 million shares for $1.03 billion at an average price of $330.34 per share of Class A common stock. See Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion with respect to our share repurchase programs. The following table presents our repurchase activity on a cash basis during the fourth quarter of 2020:

Period	Total Number of Shares Purchased	Average Price Paid per Share (including commission cost)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that may yet be Purchased under the Plans or Programs [1]
October 1 – 31	1,552,273	$ 335.39	1,552,273	$4,340,730,451
November 1 – 30	779,892	314.13	779,892	4,095,745,017
December 1 – 31	785,846	336.44	785,846	9,831,351,292
Total	3,118,011	330.34	3,118,011	

[1] Dollar value of shares that may yet be purchased under the share repurchase programs are as of the end of each period presented.

Item 6. Selected financial data

The statement of operations data and the cash dividends declared per share for the years ended December 31, 2020, 2019 and 2018, and the balance sheet data as of December 31, 2020 and 2019, are presented in the audited consolidated financial statements of Mastercard Incorporated included in Part II, Item 8. The statement of operations data and the cash dividends declared per share for the years ended December 31, 2017 and 2016, and the balance sheet data as of December 31, 2018, 2017 and 2016, are not included in this Report, and are provided in Part II, Item 8 of our Annual Reports on Form 10-K for the years ended December 31, 2018, 2017 and 2016.

Item 7. Management's discussion and analysis of financial condition and results of operations

The following discussion should be read in conjunction with the consolidated financial statements and notes of Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International") (together, "Mastercard" or the "Company"), included elsewhere in this Report. Percentage changes provided throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" were calculated on amounts rounded to the nearest thousand. For discussion related to the results of operations for the year ended December 31, 2019 compared to the year ended December 31, 2018, please see Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2019.

Business Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We operate a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through our unique and proprietary global payments network, which we refer to as our core network, we switch (authorize, clear and settle) payment transactions and deliver related products and services. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). We also provide integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs, processing and open banking. Our payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our customers.

COVID-19

The coronavirus ("COVID-19") pandemic has spread rapidly across the globe and has had significant negative effects on the global economy. This outbreak has affected business activity, adversely impacting consumers, our customers, suppliers and business partners, as well as our workforce. We continue to monitor the effects of the pandemic and actions taken by governments as they relate to travel restrictions, social distancing measures and restrictions on business operations, as well as the continued impact of these actions on consumers and businesses. While some of these measures have eased in certain jurisdictions, others have remained in place. The extent to which current measures are removed or new measures are put in place will depend upon how the pandemic evolves, as well as the progress of the global roll-out of vaccines.

The COVID-19 outbreak affected our 2020 performance, during which we noted unfavorable trends compared to historical periods. The following table provides a summary of trends in our key metrics for 2020 as compared to the respective periods in 2019:

	Quarter ended				Year ended December 31
	March 31	June 30	September 30	December 31	
	Increase/(Decrease)				
Gross dollar volume (local currency basis)	8 %	(10)%	1 %	1 %	— %
Cross-border volume (local currency basis)	(1)%	(45)%	(36)%	(29)%	(29)%
Switched transactions	13 %	(10)%	5 %	4 %	3 %

The impact of this outbreak started in the first quarter of 2020 as we experienced declines in our key metrics compared to historical periods, primarily due to travel restrictions and stay-at-home orders implemented by governments in many regions and countries across the globe. Our key metrics continued to be impacted throughout 2020 as follows:

- Gross dollar volumes were flat in 2020 as compared to 2019, recovering gradually in the second half of the year from a decline during the second quarter in part due to the global relaxation of both restrictions on business operations and social distancing measures.

- Cross-border volumes were negatively impacted by the pandemic during 2020 due to a significant decrease in global travel as a result of compliance with travel restrictions and quarantine requirements. While cross-border volumes are still lower compared to prior year periods, these volumes have improved throughout the second half of 2020.
- Switched transactions were negatively impacted by the pandemic primarily in the second quarter. Subsequently, switched transactions improved during the third quarter in part due to the global relaxation of both restrictions on business operations and social distancing measures. During the fourth quarter, switched transactions growth slowed slightly as compared to the third quarter.

The full extent to which the pandemic, and measures taken in response, affect our business, results of operations and financial condition will depend on future developments, including the duration of the pandemic and its impact on the global economy, which are uncertain, and cannot be predicted at this time.

Financial Results Overview

The following table provides a summary of our key GAAP operating results, as reported:

	Year ended December 31,				
	2020	2019	2018	2020 Increase/ (Decrease)	2019 Increase/ (Decrease)
	($ in millions, except per share data)				
Net revenue	$ 15,301	$ 16,883	$ 14,950	(9)%	13%
Operating expenses	$ 7,220	$ 7,219	$ 7,668	—%	(6)%
Operating income	$ 8,081	$ 9,664	$ 7,282	(16)%	33%
Operating margin	52.8 %	57.2 %	48.7 %	(4.4) ppt	8.5 ppt
Income tax expense	$ 1,349	$ 1,613	$ 1,345	(16)%	20%
Effective income tax rate	17.4 %	16.6 %	18.7 %	0.8 ppt	(2.1) ppt
Net income	$ 6,411	$ 8,118	$ 5,859	(21)%	39%
Diluted earnings per share	$ 6.37	$ 7.94	$ 5.60	(20)%	42%
Diluted weighted-average shares outstanding	1,006	1,022	1,047	(2)%	(2)%

The following table provides a summary of our key non-GAAP operating results[1], adjusted to exclude the impact of gains and losses on our equity investments, special items (which represent litigation judgments and settlements and certain one-time items) and the related tax impacts on our non-GAAP adjustments. In addition, we have presented growth rates, adjusted for the impact of currency:

	Year ended December 31,			2020 Increase/ (Decrease)		2019 Increase/ (Decrease)	
	2020	2019	2018	As adjusted	Currency-neutral	As adjusted	Currency-neutral
	($ in millions, except per share data)						
Net revenue	$ 15,301	$ 16,883	$ 14,950	(9)%	(8)%	13%	16%
Adjusted operating expenses	$ 7,147	$ 7,219	$ 6,540	(1)%	(1)%	10%	12%
Adjusted operating margin	53.3 %	57.2 %	56.2 %	(4.0) ppt	(3.7) ppt	1.0 ppt	1.3 ppt
Adjusted effective income tax rate	17.2 %	17.0 %	18.5 %	0.2 ppt	0.3 ppt	(1.5) ppt	(1.3) ppt
Adjusted net income	$ 6,463	$ 7,937	$ 6,792	(19)%	(17)%	17%	20%
Adjusted diluted earnings per share	$ 6.43	$ 7.77	$ 6.49	(17)%	(16)%	20%	23%

Note: Tables may not sum due to rounding.

[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

Key highlights for 2020 as compared to 2019 were as follows:

Net revenue		
GAAP	Non-GAAP (currency-neutral)	
down 9%	down 8%	Net revenue decreased 8% on a currency-neutral basis due to COVID-19 impacts, and includes a 1 percentage point benefit from acquisitions. Gross dollar volume was flat on a local currency basis. The primary drivers of net revenue were: - Cross-border volume decline of 29% on a local currency basis - Rebates and incentives growth of 3%, or 4% on a currency-neutral basis These decreases to net revenue were partially offset by: - Switched transactions growth of 3% - Other revenues growth of 14%, or 15% on a currency-neutral basis, which includes 3 percentage points of growth due to acquisitions

Operating expenses	**Adjusted operating expenses**	
GAAP	Non-GAAP (currency-neutral)	
flat	down 1%	Adjusted operating expense decreased 1% on a currency-neutral basis, which included a 4 percentage point increase due to acquisitions. Excluding acquisitions, expenses declined 5 percentage points primarily due to reduced spending on advertising and marketing, travel and professional fees, partially offset by higher personnel and data processing costs to support continued investment in our strategic initiatives.

Effective income tax rate	**Adjusted effective income tax rate**	
GAAP	Non-GAAP (currency-neutral)	
17.4%	17.2%	Adjusted effective income tax rate of 17.2% was higher than prior year primarily due to a discrete tax benefit related to a favorable court ruling in 2019.

Other 2020 financial highlights were as follows:

- We generated net cash flows from operations of $7.2 billion.
- We completed the acquisitions of businesses for total consideration of $1.1 billion.
- We repurchased 14.3 million shares of our common stock for $4.5 billion and paid dividends of $1.6 billion.
- We completed debt offerings for an aggregate principal amount of $4.0 billion.

Non-GAAP Financial Information

Non-GAAP financial information is defined as a numerical measure of a company's performance that excludes or includes amounts so as to be different than the most comparable measure calculated and presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Our non-GAAP financial measures exclude the impact of special items, where applicable, which represent litigation judgments and settlements and certain one-time items, as well as the related tax impacts ("Special Items"). Starting in 2019, our non-GAAP financial measures also exclude the impact of gains and losses on our equity investments which primarily includes mark-to-market fair value adjustments, impairments and gains and losses upon disposition and the related tax impacts. The 2018 amounts were not restated, as the impact of the change was immaterial in relation to our non-GAAP results. Our non-GAAP financial measures for the comparable periods exclude the impact of the following:

Gains and Losses on Equity Investments

- During 2020 and 2019, we recorded net gains of $30 million ($15 million after tax, or $0.01 per diluted share) and $167 million ($124 million after tax, or $0.12 per diluted share), respectively. The net gains were primarily related to unrealized fair market value adjustments on marketable and non-marketable equity securities.

Special Items

Litigation provisions

- During 2020, we recorded pre-tax charges of $73 million ($67 million after tax, or $0.07 per diluted share) related to litigation provisions which included pre-tax charges of:
  - $45 million related to an ongoing confidential legal matter associated with our prepaid cards in the U.K., and
  - $28 million related to estimated attorneys' fees and litigation settlements with U.K. and Pan-European merchants.
- During 2018, we recorded pre-tax charges of $1,128 million ($1,008 million after tax, or $0.96 per diluted share) related to litigation provisions which included pre-tax charges of:
  - $654 million related to a fine issued by the European Commission,
  - $237 million related to both the U.S. merchant class litigation and the filed and anticipated opt-out U.S. merchant cases, and
  - $237 million related to litigation settlements with U.K. and Pan-European merchants.

Tax act

- During 2019, we recorded a $57 million net tax benefit ($0.06 per diluted share), which included a $30 million benefit related to a reduction to the 2017 one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax") resulting from final tax regulations issued in 2019 and a $27 million benefit related to additional foreign tax credits which can be carried back under transition rules.
- During 2018, we recorded a $75 million net tax benefit ($0.07 per diluted share), which included a $90 million benefit related to the carryback of foreign tax credits due to transition rules, offset by a net $15 million expense primarily related to an increase to our Transition Tax.

See Note 7 (Investments), Note 20 (Income Taxes) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion. We excluded these items because management evaluates the underlying operations and performance of the Company separately from these recurring and nonrecurring items.

We believe that the non-GAAP financial measures presented facilitate an understanding of our operating performance and provide a meaningful comparison of our results between periods. We use non-GAAP financial measures to, among other things, evaluate our ongoing operations in relation to historical results, for internal planning and forecasting purposes and in the calculation of performance-based compensation.

In addition, we present growth rates adjusted for the impact of currency, which is a non-GAAP financial measure. Currency-neutral growth rates are calculated by remeasuring the prior period's results using the current period's exchange rates for both the translational and transactional impacts on operating results. The impact of currency translation represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency. The impact of the transactional currency represents the effect of converting revenue and expenses occurring in a currency other than the functional currency. We believe the presentation of currency-neutral growth rates provides relevant information to facilitate an understanding of our operating results.

Net revenue, operating expenses, operating margin, other income (expense), effective income tax rate, net income and diluted earnings per share adjusted for the impact of gains and losses on our equity investments, Special Items and/or the impact of currency, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP.

The following tables reconcile our reported financial measures calculated in accordance with GAAP to the respective non-GAAP adjusted financial measures:

	Year ended December 31, 2020					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 7,220	52.8 %	$ (321)	17.4 %	$ 6,411	$ 6.37
(Gains) losses on equity investments	**	**	(30)	(0.1)%	(15)	(0.01)
Litigation provisions	(73)	0.5 %	**	(0.1)%	67	0.07
Non-GAAP	$ 7,147	53.3 %	$ (351)	17.2 %	$ 6,463	$ 6.43

	Year ended December 31, 2019					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 7,219	57.2 %	$ 67	16.6 %	$ 8,118	$ 7.94
(Gains) losses on equity investments	**	**	(167)	(0.2)%	(124)	(0.12)
Tax act	**	**	**	0.6 %	(57)	(0.06)
Non-GAAP	$ 7,219	57.2 %	$ (100)	17.0 %	$ 7,937	$ 7.77

	Year ended December 31, 2018					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$ 7,668	48.7 %	$ (78)	18.7 %	$ 5,859	5.60
Ligitation provisions	(1,128)	7.5 %	**	(1.1)%	1,008	0.96
Tax act	**	**	**	0.9 %	(75)	(0.07)
Non-GAAP	$ 6,540	56.2 %	$ (78)	18.5 %	$ 6,792	$ 6.49

Note: Tables may not sum due to rounding.
** Not applicable

The following tables represent the reconciliation of our growth rates reported under GAAP to our non-GAAP growth rates:

	Year Ended December 31, 2020 as compared to the Year Ended December 31, 2019					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	(9)%	— %	(4.4) ppt	0.8 ppt	(21)%	(20)%
(Gains) losses on equity investments	**	**	**	— ppt	1 %	1 %
Litigation provisions	**	(1)%	0.5 ppt	(0.1) ppt	1 %	1 %
Tax act	**	**	**	(0.6) ppt	1 %	1 %
Non-GAAP	(9)%	(1)%	(4.0) ppt	0.2 ppt	(19)%	(17)%
Currency impact [2]	1 %	— %	0.3 ppt	0.2 ppt	1 %	1 %
Non-GAAP - currency-neutral	(8)%	(1)%	(3.7)ppt	0.3 ppt	(17)%	(16)%

	Year Ended December 31, 2019 as compared to the Year Ended December 31, 2018					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	13 %	(6)%	8.5 ppt	(2.1) ppt	39 %	42 %
(Gains) losses on equity investments [1]	**	**	**	(0.2) ppt	(2)%	(2)%
Tax act	**	**	**	(0.3) ppt	1 %	1 %
Litigation provisions	**	16 %	(7.5) ppt	1.1 ppt	(20)%	(21)%
Non-GAAP	13 %	10 %	1.0 ppt	(1.5) ppt	17 %	20 %
Currency impact [2]	3 %	2 %	0.3 ppt	0.2 ppt	3 %	3 %
Non-GAAP - currency-neutral	16 %	12 %	1.3 ppt	(1.3) ppt	20 %	23 %

Note: Tables may not sum due to rounding.
** Not applicable
[1] In 2019 we updated our non-GAAP methodology to prospectively exclude the impact of gains and losses on our equity investments. The 2018 period was not restated as the impact of the change was immaterial in relation to our non-GAAP results.
[2] Represents the translational and transactional impact of currency.

Key Metrics

In addition to the financial measures described above in "Financial Results Overview", we review the following metrics to evaluate and identify trends in our business, measure our performance, prepare financial projections and make strategic decisions. We believe that the key metrics presented facilitate

an understanding of our operating and financial performance and provide a meaningful comparison of our results between periods.

Gross Dollar Volume ("GDV")[1] measures dollar volume of activity on cards carrying our brands during the period, on a local currency basis and U.S. dollar-converted basis. Dollar volume represents purchase volume plus cash volume and includes the impact of balance transfers and convenience checks; "purchase volume" means the aggregate dollar amount of purchases made with Mastercard-branded cards for the relevant period; and "cash volume" means the aggregate dollar amount of cash disbursements and includes the impact of balance transfers and convenience checks obtained with Mastercard-branded cards for the relevant period. Information denominated in U.S. dollars relating to GDV is calculated by applying an established U.S. dollar/local currency exchange rate for each local currency in which Mastercard volumes are reported. These exchange rates are calculated on a quarterly basis using the average exchange rate for each quarter. Mastercard reports period-over-period rates of change in purchase volume and cash volume on the basis of local currency information, in order to eliminate the impact of changes in the value of currencies against the U.S. dollar in calculating such rates of change.

Cross-border Volume[2] measures cross-border dollar volume initiated and switched through our network during the period, on a local currency basis and U.S. dollar-converted basis, for all Mastercard-branded programs.

Switched Transactions[2] measures the number of transactions switched by Mastercard. We define transactions switched as the number of transactions initiated and switched through our network during the period.

Operating Margin measures how much profit we make on each dollar of sales after our operating costs but before other income (expense) and income tax expense. Operating margin is calculated by dividing our operating income by net revenue.

[1] Data used in the calculation of GDV is provided by Mastercard customers and is subject to verification by Mastercard and partial cross-checking against information provided by Mastercard's transaction switching systems. All data is subject to revision and amendment by Mastercard or Mastercard's customers.

[2] Normalized to eliminate the effects of differing switching and carryover days between periods. Carryover days are those where transactions and volumes from days where the company does not clear and settle are processed.

Foreign Currency

Currency Impact

Our primary revenue functional currencies are the U.S. dollar, euro, Brazilian real and the British pound. Our overall operating results are impacted by currency translation, which represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency.

Our operating results are also impacted by transactional currency. The impact of the transactional currency represents the effect of converting revenue and expense transactions occurring in a currency other than the functional currency. Changes in currency exchange rates directly impact the calculation of gross dollar volume ("GDV") and gross euro volume ("GEV"), which are used in the calculation of our domestic assessments, cross-border volume fees and certain volume-related rebates and incentives. In most non-European regions, GDV is calculated based on local currency spending volume converted to U.S. dollars using average exchange rates for the period. In Europe, GEV is calculated based on local currency spending volume converted to euros using average exchange rates for the period. As a result, certain of our domestic assessments, cross-border volume fees and volume-related rebates and incentives are impacted by the strengthening or weakening of the U.S. dollar versus non-European local currencies and the strengthening or weakening of the euro versus other European local currencies. For example, our billing in Australia is in the U.S. dollar, however, consumer spend in Australia is in the Australian dollar. The currency transactional impact of converting Australian dollars to our U.S. dollar billing currency will have an impact on the revenue generated. The strengthening or weakening of the U.S. dollar is evident when GDV growth on a U.S. dollar-converted basis is compared to GDV growth on a local currency basis. In 2020, GDV on a U.S. dollar-converted basis decreased 2.0%, while GDV on a local currency basis increased 0.1% versus 2019. In 2019, GDV on a U.S. dollar-converted basis increased 9.8%, while GDV on a local currency basis increased 13.1% versus 2018. Further, the impact from transactional currency occurs in transaction processing revenue, other revenue and operating expenses when the local currency of these items is different than the functional currency of the entity.

The translational and transactional impact of currency ("Currency impact") has been identified in our drivers of change tables and has been excluded from our currency-neutral growth rates, which are non-GAAP financial measures. See "Financial Results - Revenue and Operating Expenses" for our drivers of change impact tables and "Non-GAAP Financial Information" for further information on our non-GAAP adjustments.

2021 Hedge Accounting Designation

Through December 31, 2020, our approach to manage our transactional currency exposure consisted of hedging a portion of anticipated revenues impacted by transactional currencies by entering into foreign exchange derivative contracts, and recording the related changes in fair value in general and administrative expenses on the consolidated statement of operations. Beginning in January 2021, we started to formally designate certain newly-executed foreign exchange derivative contracts, which meet the established accounting criteria, as cash flow hedges. Starting in the first quarter of 2021, gains and losses resulting from changes in fair value of these designated contracts will be deferred in accumulated other comprehensive income (loss) and subsequently recognized in the respective

component of net revenue when the underlying forecasted transactions impact earnings. The related impact of our foreign exchange cash flow hedging activities will be excluded from our currency-neutral growth rates as part of our Currency impact.

Foreign Exchange Activity

We incur foreign currency gains and losses from remeasuring monetary assets and liabilities, including settlement receivables and payables with our customers, that are denominated in a currency other than the functional currency of the entity. To manage this foreign exchange risk, we may enter into foreign exchange derivative contracts to economically hedge the foreign currency exposure of a portion of our nonfunctional monetary assets and liabilities. The gains or losses resulting from changes in fair value of these contracts are intended to reduce the potential effect of the underlying hedged exposure and are recorded net within general and

administrative expenses on the consolidated statement of operations. The impact of foreign exchange activity, including the related hedging activities, has not been eliminated in our currency-neutral results.

Our foreign exchange risk management activities are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8.

Risk of Currency Devaluation

We are exposed to currency devaluation in certain countries. In addition, we are subject to exchange control regulations that restrict the conversion of financial assets into U.S. dollars. While these revenues and assets are not material to us on a consolidated basis, we can be negatively impacted should there be a continued and sustained devaluation of local currencies relative to the U.S. dollar and/or a continued and sustained deterioration of economic conditions in these countries.

Financial Results

Revenue

Primary drivers of net revenue, versus the prior year, were as follows:

Gross revenue decreased 5%, or 4% on a currency-neutral basis, driven by decreased cross-border volumes reflecting impacts of the COVID-19 outbreak, partially offset by increases in our value-added products and services and the number of switched transactions. Gross dollar volume of $6.3 trillion was flat.

Rebates and incentives increased 3%, or 4% on a currency-neutral basis, due to new and renewed deals partially offset by a favorable mix of volume-based incentives.

Net revenue decreased 9%, or 8% on a currency-neutral basis, including 1 percentage point of growth from our acquisitions.

See Note 3 (Revenue) to the consolidated financial statements included in Part II, Item 8 for a further discussion of how we recognize revenue.

The components of net revenue were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2020	2019	2018	2020	2019
	($ in millions)				
Domestic assessments	$ 6,656	$ 6,781	$ 6,138	(2)%	10%
Cross-border volume fees	3,512	5,606	4,954	(37)%	13%
Transaction processing	8,731	8,469	7,391	3%	15%
Other revenues	4,717	4,124	3,348	14%	23%
Gross revenue	23,616	24,980	21,831	(5)%	14%
Rebates and incentives (contra-revenue)	(8,315)	(8,097)	(6,881)	3%	18%
Net revenue	$ 15,301	$ 16,883	$ 14,950	(9)%	13%

The following table summarizes the drivers of change in net revenue:

	For the Years Ended December 31,									
	Volume		Acquisitions		Currency Impact [1]		Other [2]		Total	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
Domestic assessments	—%	13%	—%	—%	(3)%	(3)%	1 %	1 %	(2)%	10 %
Cross-border volume fees	(30)%	14%	—%	—%	—%	(3)%	(7)%	2 %	(37)%	13 %
Transaction processing	3%	14%	—%	—%	—%	(2)%	— %	3 %	3 %	15 %
Other revenues	**	**	3%	2%	(1)%	(1)%	12 %	22 %	14 %	23 %
Rebates and incentives	(6)% [5]	9% [5]	—%	—%	(2)%	(3)%	10 %	11 %	3 %	18 %
Net revenue	(5)%	13%	1%	1%	(1)%	(3)%	(4)%	2 %	(9)%	13 %

Note: Table may not sum due to rounding
** Not applicable
[1] Represents the translational and transactional impact of currency.
[2] Includes impact from pricing, other non-volume based fees and geographic mix.
[3] Includes impact of the allocation of revenue to service deliverables, which are primarily recorded in other revenue when services are performed.
[4] Includes impacts from cyber and intelligence fees, data analytics and consulting fees and other payment-related products and services.
[5] Includes the impact from mix on volume-based incentives.
[6] Includes the impact of new, renewed and expired agreements.

The following tables provide a summary of the trend in volumes and transactions.

	For the Years Ended December 31,			
	2020		2019	
	Increase/(Decrease)			
	USD	Local	USD	Local
Mastercard-branded GDV [1]	(2)%	— %	10 %	13 %
Asia Pacific/Middle East/Africa	(3)%	(2)%	8 %	12 %
Canada	(4)%	(3)%	4 %	7 %
Europe	(2)%	1 %	12 %	18 %
Latin America	(17)%	(2)%	9 %	15 %
United States	2 %	2 %	10 %	10 %
Cross-border volume [1]		(29)%		16 %

[1] Excludes volume generated by Maestro and Cirrus cards.

	For the Years Ended December 31,	
	Increase/ (Decrease)	
	2020	2019
Switched transactions	3 %	19 %

No individual country, other than the United States, generated more than 10% of net revenue in any such period. A significant portion of our net revenue is concentrated among our five largest customers. In 2020, the net revenue from these customers was approximately $3.4 billion, or 22%, of total net revenue. The loss of any of these customers or their significant card programs could adversely impact our revenue.

Operating Expenses

Operating expenses were flat in 2020 versus the prior year. Adjusted operating expenses decreased 1% on both an as adjusted and a currency-neutral basis versus the prior year. Current year results include growth of approximately 4 percentage points from acquisitions. Excluding acquisitions, expenses declined 5% primarily due to reduced spending on advertising and marketing, travel and professional fees, partially offset by higher personnel and data processing costs to support continued investment in our strategic initiatives.

The components of operating expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2020	2019	2018	2020	2019
	($ in millions)				
General and administrative	$ 5,910	$ 5,763	$ 5,174	3 %	11 %
Advertising and marketing	657	934	907	(30)%	3 %
Depreciation and amortization	580	522	459	11 %	14 %
Provision for litigation	73	—	1,128	**	**
Total operating expenses	7,220	7,219	7,668	— %	(6)%
Special Items[1]	(73)	—	(1,128)	**	**
Adjusted operating expenses (excluding Special Items[1])	$ 7,147	$ 7,219	$ 6,540	(1)%	10 %

Note: Table may not sum due to rounding.
** Not meaningful
[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

The following table summarizes the drivers of changes in operating expenses:

	For the Years Ended December 31,									
	Operational		Special Items [1]		Acquisitions		Currency Impact [2]		Total	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
General and administrative	(1)%	11 %	**	**	4 %	2 %	— %	(2)%	3 %	11 %
Advertising and marketing	(30)%	5 %	**	**	— %	— %	(1)%	(2)%	(30)%	3 %
Depreciation and amortization	5%	9 %	**	**	6 %	7 %	— %	(2)%	11 %	14 %
Provision for litigation	**	**	**	**	**	**	**	**	**	**
Total operating expenses	(5)%	10 %	1 %	(16)%	4 %	2 %	— %	(2)%	— %	(6)%

Note: Table may not sum due to rounding.
** Not meaningful
[1] See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.
[2] Represents the translational and transactional impact of currency.

General and Administrative

General and administrative expenses increased 3% on both an as reported and a currency-neutral basis in 2020 versus the prior year. Current year results include growth of approximately 4 percentage points from acquisitions. Excluding acquisitions, expenses declined 1% primarily due to reduced spending on travel and professional fees, partially offset by an increase in personnel and data processing costs to support continued investment in our strategic initiatives.

The components of general and administrative expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2020	2019	2018	2020	2019
	($ in millions)				
Personnel	$ 3,787	$ 3,537	$ 3,214	7%	10%
Professional fees	384	447	377	(14)%	19%
Data processing and telecommunications	756	666	600	14%	11%
Foreign exchange activity [1]	9	32	(36)	**	**
Other	974	1,081	1,019	(10)%	6%
Total general and administrative expenses	5,910	5,763	5,174	3%	11%

Note: Table may not sum due to rounding.
** Not meaningful
[1] Foreign exchange activity includes gains and losses on foreign exchange derivative contracts and the impact of remeasurement of assets and liabilities denominated in foreign currencies. See Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Advertising and Marketing

Advertising and marketing expenses decreased 30%, or 29% on a currency-neutral basis in 2020 versus the prior year, primarily due to lower advertising and sponsorship spend in response to COVID-19.

Depreciation and Amortization

Depreciation and amortization expenses increased 11% on both an as reported and a currency-neutral basis in 2020 versus the prior year. Current year results include growth of approximately 6 percentage points from acquisitions. The remaining increase was primarily due to higher depreciation from capital investments.

Provision for Litigation

In 2020, we recorded $73 million related to various litigation settlements and legal costs. There were no litigation charges in the prior year. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Other Income (Expense)

Other income (expense) was unfavorable in 2020 versus the prior year primarily due to increased interest expense related to our recent debt issuances, as well as lower net gains in the current year versus the prior year related to unrealized fair market value adjustments on marketable and non-marketable equity securities and a decrease in our investment income.

The components of other income (expense) were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2020	2019	2018	2020	2019
	($ in millions)				
Investment Income	$ 24	$ 97	$ 122	(75)%	(21)%
Gains (losses) on equity investments, net	30	167	—	(82)%	**
Interest expense	(380)	(224)	(186)	70 %	20 %
Other income (expense), net	5	27	(14)	(81)%	**
Total other income (expense)	(321)	67	(78)	**	**

Note: Table may not sum due to rounding.

** Not meaningful

Income Taxes

The effective income tax rates for the years ended December 31, 2020 and 2019 were 17.4% and 16.6%, respectively. The effective income tax rate for 2020 was higher than the prior year, primarily due to discrete tax benefits in 2019, partially offset by a more

favorable geographic mix of earnings in 2020. The 2019 discrete tax benefits related to a favorable court ruling, a reduction to the Company's transition tax liability and additional foreign tax credits which can be carried back under U.S tax reform transition rules issued by the Department of the Treasury and the Internal Revenue Service.

The adjusted effective income tax rates for the years ended December 31, 2020 and 2019 were 17.2% and 17.0%, respectively. The adjusted effective income tax rate was higher than the prior year, primarily due to a discrete tax benefit related to a favorable court ruling in 2019.

See Note 20 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Liquidity and Capital Resources

We rely on existing liquidity, cash generated from operations and access to capital to fund our global operations, credit and settlement exposure, capital expenditures, investments in our business and current and potential obligations. The following table summarizes the cash, cash equivalents, investments and credit available to us at December 31:

	2020	2019
	(in billions)	
Cash, cash equivalents and investments [1]	$ 10.6	$ 7.7
Unused line of credit	6.0	6.0

[1] Investments include available-for-sale securities and held-to-maturity securities. This amount excludes restricted cash and restricted cash equivalents of $2.3 billion and $2.0 billion at December 31, 2020 and 2019, respectively.

We believe that our existing cash, cash equivalents and investment securities balances, our cash flow generating capabilities, and our access to capital resources are sufficient to satisfy our future operating cash needs, capital asset purchases, outstanding commitments and other liquidity requirements associated with our existing operations and potential obligations.

Our liquidity and access to capital could be negatively impacted by global credit market conditions. We guarantee the settlement of many of the transactions between our customers. Historically, payments under these guarantees have not been significant; however, historical trends may not be an indication of potential future losses. The risk of loss on these guarantees is specific to individual customers, but may also be driven by regional or global economic conditions, including, but not limited to the health of the financial institutions in a country or region. See Note 22 (Settlement and Other Risk Management) to the consolidated financial statements in Part II, Item 8 for a description of these guarantees.

Our liquidity and access to capital could also be negatively impacted by the outcome of any of the legal or regulatory proceedings to which we are a party. For additional discussion of these and other risks facing our business, see Part I, Item 1A - Risk Factors - Legal and Regulatory Risks and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Cash Flow

The table below shows a summary of the cash flows from operating, investing and financing activities:

	For the Years Ended December 31,		
	2020	2019	2018
	(in millions)		
Net cash provided by operating activities	$ 7,224	$ 8,183	$ 6,223
Net cash used in investing activities	(1,879)	(1,640)	(506)
Net cash used in financing activities	(2,152)	(5,867)	(4,966)

Net cash provided by operating activities decreased $1.0 billion in 2020 versus the prior year, primarily due to lower net income adjusted for non-cash items, partially offset by a decrease in litigation payments.

Net cash used in investing activities increased $239 million in 2020 versus the prior year, primarily due to lower net proceeds from our investments in available-for-sale and held-to-maturity securities, partially offset by higher prior year acquisition payments.

Net cash used in financing activities decreased $3.7 billion in 2020 versus the prior year, primarily due to lower repurchases of our Class A common stock, higher net debt proceeds in the current period and the repayment of debt that matured in the prior year.

Debt and Credit Availability

In March 2020, we issued $1 billion principal amount of notes due March 2027, $1.5 billion principal amount of notes due March 2030 and $1.5 billion principal amount notes due March 2050. Our total debt outstanding was $12.7 billion at December 31, 2020, with the earliest maturity of $650 million of principal occurring in November 2021.

As of December 31, 2020, we have a commercial paper program (the "Commercial Paper Program"), under which we are authorized to issue up to $6 billion in outstanding notes, with maturities up to 397 days from the date of issuance. In conjunction with the Commercial Paper Program, we have a committed unsecured $6 billion revolving credit facility (the "Credit Facility") which, in 2020, was extended for an additional year and now expires in November 2025.

Borrowings under the Commercial Paper Program and the Credit Facility are to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. In addition, we may borrow and repay amounts under these facilities for business continuity purposes. We had no borrowings outstanding under the Commercial Paper Program or the Credit Facility at December 31, 2020.

See Note 15 (Debt) to the consolidated financial statements included in Part II, Item 8 for further discussion on our debt, the Commercial Paper Program and the Credit Facility.

Dividends and Share Repurchases

We have historically paid quarterly dividends on our outstanding Class A common stock and Class B common stock. Subject to legally available funds, we intend to continue to pay a quarterly cash dividend. 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.

The following table summarizes the annual, per share dividends paid in the years reflected:

	For the Years Ended December 31,		
	2020	2019	2018
	(in millions, except per share data)		
Cash dividend, per share	$ 1.60	$ 1.32	$ 1.00
Cash dividends paid	$ 1,605	$ 1,345	$ 1,044

On December 8, 2020, our Board of Directors declared a quarterly cash dividend of $0.44 per share paid on February 9, 2021 to holders of record on January 8, 2021 of our Class A common stock and Class B common stock. The aggregate amount of this dividend was $439 million.

On February 8, 2021, our Board of Directors declared a quarterly cash dividend of $0.44 per share payable on May 7, 2021 to holders of record on April 9, 2021 of our Class A common stock and Class B common stock. The aggregate amount of this dividend is estimated to be $437 million.

Repurchased shares of our common stock are considered treasury stock. In December 2020, 2019 and 2018, our Board of Directors approved share repurchase programs authorizing us to repurchase up to $6.0 billion, $8.0 billion and $6.5 billion, respectively, of our Class A common stock. The program approved in 2020 will become effective after completion of the share repurchase program authorized in 2019. The timing and actual number of additional shares repurchased will depend on a variety of factors, including cash requirements to meet the operating needs of the business, legal requirements, as well as the share price and economic and market conditions. The following table summarizes our share repurchase activity of our Class A common stock through December 31, 2020, under the plans approved in 2019 and 2018:

	(in millions, except per share data)	
Remaining authorization at December 31, 2019	$	8,304
Dollar-value of shares repurchased in 2020	$	4,473
Remaining authorization at December 31, 2020	$	9,831
Shares repurchased in 2020		14.3
Average price paid per share in 2020	$	312.68

See Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Critical Accounting Estimates

The application of GAAP requires us to make estimates and assumptions about certain items and future events that directly affect our reported financial condition. Our significant accounting policies, including recent accounting pronouncements, are described in Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

Revenue Recognition - Rebates and Incentives

We enter into business agreements with certain customers that provide for rebates or support when customers meet certain volume thresholds as well as other support incentives, which are tied to customer performance. We consider various factors in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer. Rebates and incentives are recorded as a reduction to gross revenue based on these estimates primarily when volume- and transaction- based revenues are recognized over the contractual term. Differences between actual results and our estimates are adjusted in the period the customer reports actual performance. If our customers' actual performance is not consistent with our estimates of their performance, net revenue may be materially different.

Loss Contingencies

We are currently involved in various claims and legal proceedings. We regularly review the status of each significant matter and assess its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to pending claims and litigation and may revise our estimates. Due to the inherent uncertainties of the legal and regulatory process in the multiple jurisdictions in which we operate, our judgments may be materially different than the actual outcomes.

Income Taxes

In calculating our effective income tax rate, estimates are required regarding the timing and amount of taxable and deductible items which will adjust the pretax income earned in various tax jurisdictions. Through our interpretation of local tax regulations, adjustments to pretax income for income earned in various tax jurisdictions are reflected within various tax filings. Although we believe that our estimates and judgments discussed herein are reasonable, actual results may be materially different than the estimated amounts.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Significant judgment is required in determining the valuation allowance. In assessing the need for a valuation allowance, we consider all sources of taxable income including, projected future taxable income, reversing taxable temporary differences and ongoing tax planning strategies. If it is determined that we are able to realize deferred tax assets in excess of the net carrying value or to the extent we are unable to realize a deferred tax asset, we would adjust the valuation allowance in the period in which such a determination is made, with a corresponding increase or decrease to earnings.

We record tax liabilities for uncertain tax positions taken, or expected to be taken, which may not be sustained or may only be partially sustained, upon examination by the relevant taxing authorities. We consider all relevant facts and current authorities in the tax law in assessing whether any benefit resulting from an uncertain tax position is more likely than not to be sustained and, if so, how current law impacts the amount reflected within these financial statements. If upon examination, we realize a tax benefit which is not fully sustained or is more favorably sustained, this would decrease or increase earnings in the period. In certain situations, we will have offsetting tax credits or taxes in other jurisdictions.

Deferred taxes are established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. Ultimately, the working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

Business Combinations

We account for our business combinations using the acquisition method of accounting. The acquisition purchase price, including contingent consideration, is allocated to the underlying identified, tangible and intangible assets, liabilities assumed and any non-controlling interest in the acquiree, based on their respective estimated fair values on the acquisition date. Any excess of purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. The amounts and useful lives assigned to acquisition-related tangible and intangible assets impact the amount and timing of future amortization

expense. We use various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty and multi-period excess earnings for estimating the value of intangible assets. These valuation techniques included comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. Determining the fair value of assets acquired, liabilities assumed, any non-controlling interest in the acquiree and the expected useful lives, requires management's judgment. The significance of management's estimates and assumptions is relative to the size of the acquisition. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable.

Item 7A. Quantitative and qualitative disclosures about market risk

Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in factors such as interest rates and foreign currency exchange rates. Our exposure to market risk from changes in interest rates and foreign exchange rates is limited. Management monitors risk exposures on an ongoing basis and establishes and oversees the implementation of policies governing our funding, investments and use of derivative financial instruments to manage these risks.

Foreign currency and interest rate exposures are managed through our risk management activities, which are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8.

Foreign Exchange Risk

We enter into foreign exchange derivative contracts to manage currency exposure associated with anticipated receipts and disbursements occurring in a currency other than the functional currency of the entity. We may also enter into foreign currency derivative contracts to offset possible changes in value of assets and liabilities due to foreign exchange fluctuations. The objective of these activities is to reduce our exposure to transaction gains and losses resulting from fluctuations of foreign currencies against our functional and reporting currencies, principally the U.S. dollar and euro. The effect of a hypothetical 10% adverse change in the value of the functional currencies could result in a fair value loss of approximately $58 million and $144 million on our foreign exchange derivative contracts outstanding at December 31, 2020 and 2019, respectively, before considering the offsetting effect of the underlying hedged activity.

We are also subject to foreign exchange risk as part of our daily settlement activities. To manage this risk, we enter into short duration foreign exchange contracts based upon anticipated receipts and disbursements for the respective currency position. This risk is typically limited to a few days between when a payment transaction takes place and the subsequent settlement with our customers. The effect of a hypothetical 10% adverse change in the value of the functional currencies could result in a fair value loss of approximately $23 million on our short duration foreign exchange derivative contracts outstanding at December 31, 2020. The Company did not have any outstanding short duration foreign exchange derivative contracts related to this activity at December 31, 2019.

Interest Rate Risk

Our available-for-sale debt investments include fixed and variable rate securities that are sensitive to interest rate fluctuations. Our policy is to invest in high quality securities, while providing adequate liquidity and maintaining diversification to avoid significant exposure. A hypothetical 100 basis point adverse change in interest rates would not have a material impact to the fair value of our investments at December 31, 2020 and 2019.

Item 8. Financial statements and supplementary data

Mastercard Incorporated
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Management's report on internal control over financial reporting

The management of Mastercard Incorporated ("Mastercard") is responsible for establishing and maintaining adequate internal control over financial reporting. 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 reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. As required by Section 404 of the Sarbanes-Oxley Act of 2002, management has assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2020. In making its assessment, management has utilized the criteria set forth in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that, based on its assessment, Mastercard's internal control over financial reporting was effective as of December 31, 2020. The effectiveness of Mastercard's internal control over financial reporting as of December 31, 2020 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on the next page.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Mastercard Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Mastercard Incorporated and its subsidiaries (the "Company") as of December 31, 2020 and 2019 and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2020, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

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 the accompanying Management's Report on internal control over financial reporting. 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 matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Rebates and Incentives

As described in Notes 1 and 3 to the consolidated financial statements, the Company provides certain customers with rebates or incentives which totaled $8.3 billion for the year ended December 31, 2020. The Company has business agreements with certain customers that provide for rebates or other support when customers meet certain volume hurdles as well as other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Rebates and incentives are calculated based upon estimated customer performance and the terms of the related business agreements. As disclosed by management, various factors are considered in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer.

The principal considerations for our determination that performing procedures relating to rebates and incentives is a critical audit matter are (i) the significant judgment by management when developing estimates related to rebates and incentives based on customer performance; and (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's estimates related to customer performance, including the reasonableness of the various applicable factors considered by management in the estimate.

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 rebates and incentives, including controls over evaluating estimated customer performance. These procedures also included, among others, evaluating the reasonableness of estimated customer performance for a sample of customer agreements, including (i) evaluating rebate and incentive contracts to identify whether all incentives are identified and recorded accurately; (ii) testing management's process for developing estimated customer performance, including evaluating the reasonableness of the various applicable factors considered by management; and (iii) evaluating estimated customer performance as compared to actual results in the period the customer reports actual performance.

/s/ PricewaterhouseCoopers LLP

New York, New York
February 12, 2021

We have served as the Company's auditor since 1989.

Consolidated Statement of Operations

	For the Years Ended December 31,		
	2020	2019	2018
	(in millions, except per share data)		
Net Revenue	**$ 15,301**	**$ 16,883**	**$ 14,950**
Operating Expenses			
General and administrative	5,910	5,763	5,174
Advertising and marketing	657	934	907
Depreciation and amortization	580	522	459
Provision for litigation	73	—	1,128
Total operating expenses	7,220	7,219	7,668
Operating income	8,081	9,664	7,282
Other Income (Expense)			
Investment income	24	97	122
Gains (losses) on equity investments, net	30	167	—
Interest expense	(380)	(224)	(186)
Other income (expense), net	5	27	(14)
Total other income (expense)	(321)	67	(78)
Income before income taxes	7,760	9,731	7,204
Income tax expense	1,349	1,613	1,345
Net Income	**$ 6,411**	**$ 8,118**	**$ 5,859**
Basic Earnings per Share	**$ 6.40**	**$ 7.98**	**$ 5.63**
Basic weighted-average shares outstanding	1,002	1,017	1,041
Diluted Earnings per Share	**$ 6.37**	**$ 7.94**	**$ 5.60**
Diluted weighted-average shares outstanding	1,006	1,022	1,047

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Comprehensive Income

	For the Years Ended December 31,		
	2020	2019	2018
	(in millions)		
Net Income	$ 6,411	$ 8,118	$ 5,859
Other comprehensive income (loss):			
Foreign currency translation adjustments	345	10	(319)
Income tax effect	(59)	13	40
Foreign currency translation adjustments, net of income tax effect	286	23	(279)
Translation adjustments on net investment hedge	(177)	36	96
Income tax effect	40	(8)	(21)
Translation adjustments on net investment hedge, net of income tax effect	(137)	28	75
Cash flow hedges	(189)	14	—
Income tax effect	42	(3)	—
Reclassification adjustment for cash flow hedges	4	—	—
Income tax effect	(1)	—	—
Cash flow hedges, net of income tax effect	(144)	11	—
Defined benefit pension and other postretirement plans	(12)	(21)	(16)
Income tax effect	2	3	3
Reclassification adjustment for defined benefit pension and other postretirement plans	(1)	(1)	(2)
Income tax effect	—	—	—
Defined benefit pension and other postretirement plans, net of income tax effect	(11)	(19)	(15)
Investment securities available-for-sale	(1)	3	(3)
Income tax effect	—	(1)	1
Investment securities available-for-sale, net of income tax effect	(1)	2	(2)
Other comprehensive income (loss), net of income tax effect	(7)	45	(221)
Comprehensive Income	**$6,404**	**$8,163**	**$5,638**

The accompanying notes are an integral part of these consolidated financial statements.

PART II

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Consolidated Balance Sheet

	December 31,	
	2020	2019
	(in millions, except per share data)	
Assets		
Current assets:		
Cash and cash equivalents	$ 10,113	$ 6,988
Restricted cash for litigation settlement	586	584
Investments	483	688
Accounts receivable	2,646	2,514
Settlement due from customers	1,706	2,995
Restricted security deposits held for customers	1,696	1,370
Prepaid expenses and other current assets	1,883	1,763
Total current assets	**19,113**	**16,902**
Property, equipment and right-of-use assets, net	1,902	1,828
Deferred income taxes	491	543
Goodwill	4,960	4,021
Other intangible assets, net	1,753	1,417
Other assets	5,365	4,525
Total Assets	**$ 33,584**	**$ 29,236**
Liabilities, Redeemable Non-controlling Interests and Equity		
Current liabilities:		
Accounts payable	$ 527	$ 489
Settlement due to customers	1,475	2,714
Restricted security deposits held for customers	1,696	1,370
Accrued litigation	842	914
Accrued expenses	5,430	5,489
Current portion of long-term debt	649	—
Other current liabilities	1,228	928
Total current liabilities	**11,847**	**11,904**
Long-term debt	12,023	8,527
Deferred income taxes	86	85
Other liabilities	3,111	2,729
Total Liabilities	**27,067**	**23,245**
Commitments and Contingencies		
Redeemable Non-controlling Interests	**29**	**74**
Stockholders' Equity		
Class A common stock, $0.0001 par value; authorized 3,000 shares, 1,396 and 1,391 shares issued and 987 and 996 shares outstanding, respectively	—	—
Class B common stock, $0.0001 par value; authorized 1,200 shares, 8 and 11 shares issued and outstanding, respectively	—	—
Additional paid-in-capital	4,982	4,787
Class A treasury stock, at cost, 409 and 395 shares, respectively	(36,658)	(32,205)
Retained earnings	38,747	33,984
Accumulated other comprehensive income (loss)	(680)	(673)
Mastercard Incorporated Stockholders' Equity	**6,391**	**5,893**
Non-controlling interests	97	24
Total Equity	**6,488**	**5,917**
Total Liabilities, Redeemable Non-controlling Interests and Equity	**$ 33,584**	**$ 29,236**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Changes in Equity

	Stockholders' Equity								
	Common Stock								
	Class A	Class B	Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders' Equity	Non-Controlling Interests	Total Equity
	(in millions, except per share data)								
Balance at December 31, 2017	**$ —**	**$ —**	**$4,365**	**$(20,764)**	**$22,364**	**$ (497)**	**$ 5,468**	**$ 29**	**$5,497**
Adoption of revenue standard	—	—	—	—	366	—	366	—	366
Adoption of intra-entity asset transfers standard	—	—	—	—	(183)	—	(183)	—	(183)
Net income	—	—	—	—	5,859	—	5,859	—	5,859
Activity related to non-controlling interests	—	—	—	—	—	—	—	(6)	(6)
Redeemable non-controlling interest adjustments	—	—	—	—	(3)	—	(3)	—	(3)
Other comprehensive income (loss)	—	—	—	—	—	(221)	(221)	—	(221)
Dividends	—	—	—	—	(1,120)	—	(1,120)	—	(1,120)
Purchases of treasury stock	—	—	—	(4,991)	—	—	(4,991)	—	(4,991)
Share-based payments	—	—	215	5	—	—	220	—	220
Balance at December 31, 2018	**—**	**—**	**4,580**	**(25,750)**	**27,283**	**(718)**	**5,395**	**23**	**5,418**
Net income	—	—	—	—	8,118	—	8,118	—	8,118
Activity related to non-controlling interests	—	—	—	—	—	—	—	1	1
Redeemable non-controlling interest adjustments	—	—	—	—	(9)	—	(9)	—	(9)
Other comprehensive income (loss)	—	—	—	—	—	45	45	—	45
Dividends	—	—	—	—	(1,408)	—	(1,408)	—	(1,408)
Purchases of treasury stock	—	—	—	(6,463)	—	—	(6,463)	—	(6,463)
Share-based payments	—	—	207	8	—	—	215	—	215
Balance at December 31, 2019	**—**	**—**	**4,787**	**(32,205)**	**33,984**	**(673)**	**5,893**	**24**	**5,917**

Consolidated Statement of Changes in Equity (Continued)

	Stockholders' Equity								
	Common Stock								
	Class A	Class B	Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders' Equity	Non-Controlling Interests	Total Equity
	(in millions, except per share data)								
Balance at December 31, 2019	**—**	**—**	**4,787**	**(32,205)**	**33,984**	**(673)**	**5,893**	**24**	**5,917**
Net income	—	—	—	—	6,411	—	6,411	—	6,411
Activity related to non-controlling interests	—	—	—	—	—	—	—	73	73
Redeemable non-controlling interest adjustments	—	—	—	—	(7)	—	(7)	—	(7)
Other comprehensive income (loss)	—	—	—	—	—	(7)	(7)	—	(7)
Dividends	—	—	—	—	(1,641)	—	(1,641)	—	(1,641)
Purchases of treasury stock	—	—	—	(4,459)	—	—	(4,459)	—	(4,459)
Share-based payments	—	—	195	6	—	—	201	—	201
Balance at December 31, 2020	**$ —**	**$ —**	**$4,982**	**$(36,658)**	**$38,747**	**$ (680)**	**$ 6,391**	**$ 97**	**$6,488**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Cash Flows

	For the Years Ended December 31,		
	2020	2019	2018
	(in millions)		
Operating Activities			
Net income	$ 6,411	$ 8,118	$ 5,859
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of customer and merchant incentives	1,072	1,141	1,235
Depreciation and amortization	580	522	459
(Gains) losses on equity investments, net	(30)	(167)	—
Share-based compensation	254	250	196
Deferred income taxes	73	(7)	(244)
Other	14	24	31
Changes in operating assets and liabilities:			
Accounts receivable	(86)	(246)	(317)
Income taxes receivable	(2)	(202)	(120)
Settlement due from customers	1,288	(444)	(1,078)
Prepaid expenses	(1,552)	(1,661)	(1,769)
Accrued litigation and legal settlements	(73)	(662)	869
Restricted security deposits held for customers	326	290	(6)
Accounts payable	26	(42)	101
Settlement due to customers	(1,242)	477	849
Accrued expenses	(114)	657	439
Long-term taxes payable	(37)	2	(20)
Net change in other assets and liabilities	316	133	(261)
Net cash provided by operating activities	7,224	8,183	6,223
Investing Activities			
Purchases of investment securities available-for-sale	(220)	(643)	(1,300)
Purchases of investments held-to-maturity	(198)	(215)	(509)
Proceeds from sales of investment securities available-for-sale	361	1,098	604
Proceeds from maturities of investment securities available-for-sale	140	376	379
Proceeds from maturities of investments held-to-maturity	121	383	929
Purchases of property and equipment	(339)	(422)	(330)
Capitalized software	(369)	(306)	(174)
Purchases of equity investments	(214)	(467)	(91)
Acquisition of businesses, net of cash acquired	(989)	(1,440)	—
Settlement of interest rate derivative contracts	(175)	—	—
Other investing activities	3	(4)	(14)
Net cash used in investing activities	(1,879)	(1,640)	(506)
Financing Activities			
Purchases of treasury stock	(4,473)	(6,497)	(4,933)
Dividends paid	(1,605)	(1,345)	(1,044)
Proceeds from debt, net	3,959	2,724	991
Payment of debt	—	(500)	—
Acquisition of redeemable non-controlling interests	(49)	—	—
Contingent consideration paid	—	(199)	—
Tax withholdings related to share-based payments	(150)	(161)	(80)
Cash proceeds from exercise of stock options	97	126	104
Other financing activities	69	(15)	(4)
Net cash used in financing activities	(2,152)	(5,867)	(4,966)
Effect of exchange rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	257	(44)	(6)
Net increase in cash, cash equivalents, restricted cash and restricted cash equivalents	3,450	632	745
Cash, cash equivalents, restricted cash and restricted cash equivalents -			

Notes to consolidated financial statements

Note 1. Summary of Significant Accounting Policies

Organization

Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International" and together with Mastercard Incorporated, "Mastercard" or the "Company"), is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. The Company makes payments easier and more efficient by providing a wide range of payment solutions and services through its family of well-known brands, including Mastercard®, Maestro® and Cirrus®. The Company operates a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through its unique and proprietary global payments network, which is referred to as the core network, the Company switches (authorizes, clears and settles) payment transactions and delivers related products and services. Mastercard has additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). The Company also provides integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs, processing and open banking. The Company's payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on the Company's core network involves four participants in addition to the Company: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). The Company does not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of the Company's products. In most cases, account holder relationships belong to, and are managed by, the Company's financial institution customers.

Significant Accounting Policies

Consolidation and basis of presentation - The consolidated financial statements include the accounts of Mastercard and its majority-owned and controlled entities, including any variable interest entities ("VIEs") for which the Company is the primary beneficiary. Investments in VIEs for which the Company is not considered the primary beneficiary are not consolidated and are accounted for as equity method or measurement alternative method investments and recorded in other assets on the consolidated balance sheet. At December 31, 2020 and 2019, there were no significant VIEs which required consolidation and the investments were not considered material to the consolidated financial statements. The Company consolidates acquisitions as of the date in which the Company has obtained a controlling financial interest. Intercompany transactions and balances have been eliminated in consolidation. The Company follows accounting principles generally accepted in the United States of America ("GAAP").

Non-controlling interests represent the equity interest not owned by the Company and are recorded for consolidated entities in which the Company owns less than 100% of the interests. Changes in a parent's ownership interest while the parent retains its controlling interest are accounted for as equity transactions, and upon loss of control, retained ownership interests are remeasured at fair value, with any gain or loss recognized in earnings. For 2020, 2019 and 2018, net losses from non-controlling interests were not material and, as a result, amounts are included on the consolidated statement of operations within other income (expense).

Use of estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Future events and their effects cannot be predicted with certainty, including the potential impacts and duration of the COVID-19 pandemic, as well as other factors; accordingly, accounting estimates require the exercise of judgment. These financial statements were prepared using information reasonably available as of December 31, 2020 and through the date of this Report. The accounting estimates used in the preparation of the Company's consolidated financial statements may change as new events occur, as more experience is acquired, as additional information is obtained and as the Company's operating environment changes. Actual results may differ from these estimates.

Revenue recognition - Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. Revenue is primarily generated from assessing customers based on the dollar volume of activity, or gross dollar volume, on the products that carry the Company's brands, from fees to issuers, acquirers and other stakeholders for providing switching services, as well as from value-added products and services that are typically integrated and sold with the Company's payment offerings.

Volume-based revenue (domestic assessments and cross-border volume fees) is recorded as revenue in the period it is earned, which is primarily based on the related volume generated on the cards. Certain volume-based revenue is based upon information reported by customers. Transaction-based revenue (transaction processing) is primarily based on the number and type of transactions and is recognized as revenue in the same period in which the related transactions occur. Other payment-related products and services are recognized as revenue in the period in which the related services are performed or transactions occur. For services provided to customers where delivery involves the use of a third-party, the Company recognizes revenue on a gross basis if it acts as the principal, controlling the service to the customer and on a net basis if it acts as the agent, arranging for the service to be provided.

Mastercard has business agreements with certain customers that provide for rebates or other support when the customers meet certain volume hurdles as well as other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Rebates and incentives are calculated based upon estimated customer performance and the terms of the related business agreements. In addition, Mastercard may make payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

Contract assets include unbilled consideration typically resulting from executed data analytic and consulting services performed for customers in connection with Mastercard's payment network service arrangements. Collection for these services typically occurs over the contractual term. Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet.

The Company defers the recognition of revenue when consideration has been received prior to the satisfaction of performance obligations. As these performance obligations are satisfied, revenue is subsequently recognized. Deferred revenue is primarily derived from data analytic and consulting services. Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet.

Business combinations - The Company accounts for business combinations under the acquisition method of accounting. The Company measures the tangible and intangible identifiable assets acquired, liabilities assumed, any non-controlling interest in the acquiree and contingent consideration at fair value as of the acquisition date. Acquisition-related costs are expensed as incurred and are included in general and administrative expenses on the consolidated statement of operations. Any excess purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. Measurement period adjustments, if any, to the preliminary estimated fair value of the intangibles assets as of the acquisition date are recorded in goodwill.

Goodwill and other intangible assets - Indefinite-lived intangible assets consist of goodwill, which represents the synergies expected to arise after the acquisition date and the assembled workforce, and customer relationships. Finite-lived intangible assets consist of capitalized software costs, customer relationships and other intangible assets. Intangible assets with finite useful lives are amortized over their estimated useful lives, on a straight-line basis, which range from one to twenty years. Capitalized software includes internal and external costs incurred directly related to the design, development and testing phases of each capitalized software project.

Impairment of assets - Goodwill and indefinite-lived intangible assets are not amortized but tested annually for impairment at the reporting unit level in the fourth quarter, or sooner when circumstances indicate an impairment may exist. The impairment evaluation for goodwill utilizes a qualitative assessment to determine whether it is more likely than not that goodwill is impaired. The qualitative factors may include, but are not limited to, macroeconomic conditions, industry and market conditions, operating environment, financial performance and other relevant events. If it is determined that it is more likely than not that goodwill is impaired, then the Company is required to perform a quantitative goodwill impairment test. If the fair value of a reporting unit exceeds the carrying value, goodwill is not

impaired. If the fair value of the reporting unit is less than its carrying value, then goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. If the qualitative assessment indicates that it is more likely than not that indefinite-lived intangible assets are impaired, then a quantitative assessment is required.

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are tested for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable. If the carrying value of the asset cannot be recovered from estimated future cash flows, undiscounted and without interest, the fair value of the asset is calculated using the present value of estimated net future cash flows. If the carrying amount of the asset exceeds its fair value, an impairment is recorded.

Impairment charges, if any, are recorded in general and administrative expenses on the consolidated statement of operations.

Litigation - The Company is a party to certain legal and regulatory proceedings with respect to a variety of matters. The Company evaluates the likelihood of an unfavorable outcome of all legal or regulatory proceedings to which it is a party and accrues a loss contingency when the loss is probable and reasonably estimable. Loss contingencies are recorded in provision for litigation on the consolidated statement of operations. These judgments are subjective based on the status of the legal or regulatory proceedings, the merits of its defenses and consultation with in-house and external legal counsel. Legal costs are expensed as incurred and recorded in general and administrative expenses on the consolidated statement of operations.

Settlement and other risk management - Mastercard's rules guarantee the settlement of many of the transactions between its customers. Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

The Company also enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable.

The Company accounts for each of its guarantees by recording the guarantee at its fair value at the inception or modification date through earnings.

Income taxes - The Company follows an asset and liability based approach in accounting for income taxes as required under GAAP. Deferred income tax assets and liabilities are recorded to reflect the tax consequences on future years of temporary differences between the financial statement carrying amounts and income tax bases of assets and liabilities. Deferred income taxes are displayed separately as noncurrent assets and liabilities on the consolidated balance sheet. Valuation allowances are provided against assets which are not more likely than not to be realized. The Company recognizes all material tax positions, including uncertain tax positions in which it is more likely than not that the position will be sustained based on its technical merits and if challenged by the relevant taxing authorities. At each balance sheet date, unresolved uncertain tax positions are reassessed to determine whether subsequent developments require a change in the amount of recognized tax benefit. The allowance for uncertain tax positions is recorded in other current and noncurrent liabilities on the consolidated balance sheet. The Company records interest expense related to income tax matters as interest expense on the consolidated statement of operations. The Company includes penalties related to income tax matters in the income tax provision.

Cash and cash equivalents - Cash and cash equivalents include certain investments with daily liquidity and with an original maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Restricted cash - The Company classifies cash and cash equivalents as restricted when it is unavailable for withdrawal or use in its general operations. The Company has the following types of restricted cash and restricted cash equivalents which are included in the reconciliation of beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows:

- *Restricted cash for litigation settlement* - The Company has restricted cash for litigation within a qualified settlement fund related to the settlement agreement for the U.S. merchant class litigation. The funds continue to be restricted for payments until the litigation matter is resolved.
- *Restricted security deposits held for customers* - The Company requires collateral from certain customers for settlement of their transactions. The majority of collateral for settlement is in the form of standby letters of credit and bank guarantees which are not recorded on the consolidated balance sheet. Additionally, the Company holds cash deposits and certificates of deposit from certain customers as collateral for settlement of their transactions, which are recorded as assets on the consolidated balance sheet. These assets are fully offset by corresponding liabilities included on the

consolidated balance sheet. These security deposits are typically held for the duration of the agreement with the customers.

- *Other restricted cash balances* - The Company has other restricted cash balances which include contractually restricted deposits, as well as cash balances that are restricted based on the Company's intention with regard to usage. These funds are classified on the consolidated balance sheet within prepaid expenses and other current assets and other assets.

Fair value - The Company measures certain financial assets and liabilities at fair value on a recurring basis by estimating the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. The Company classifies these recurring fair value measurements into a three-level hierarchy ("Valuation Hierarchy").

The Valuation Hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. A financial instrument's categorization within the Valuation Hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of the Valuation Hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets

- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets and inputs that are observable for the asset or liability
- Level 3 - inputs to the valuation methodology are unobservable and cannot be directly corroborated by observable market data

Certain assets are measured at fair value on a nonrecurring basis. The Company's non-financial assets measured at fair value on a nonrecurring basis include property, equipment and right-of-use assets, goodwill and other intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment.

The valuation methods for goodwill and other intangible assets acquired in business combinations involve assumptions concerning comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. The Company uses various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty, and multi-period excess earnings for estimating the fair value of its intangible assets. As the assumptions employed to measure these assets are based on management's judgment using internal and external data, these fair value determinations are classified in Level 3 of the Valuation Hierarchy.

Contingent consideration - Certain business combinations involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones. These liabilities are classified within Level 3 of the Valuation Hierarchy as the inputs used to measure fair value are unobservable and require management's judgment. The fair value of the contingent consideration at the acquisition date and subsequent periods is determined utilizing an income approach based on a Monte Carlo technique and is recorded in other current liabilities and other liabilities on the consolidated balance sheet. Changes to projected performance milestones of the acquired businesses could result in a higher or lower contingent consideration liability. The changes in fair value as a result of updated assumptions are recorded in general and administrative expenses on the consolidated statement of operations.

Investment securities - The Company classifies investments as available-for-sale or held-to-maturity at the date of acquisition.

- Available-for-sale debt securities:
  - Investments in debt securities that are available to meet the Company's current operational needs are classified as current assets and the securities that are not available for current operational needs are classified as non-current assets on the consolidated balance sheet.

    The debt securities are carried at fair value, with unrealized gains and losses, net of tax, recorded as a separate component of accumulated other comprehensive income (loss) on the consolidated statement of comprehensive income. Net realized gains and losses on debt securities are recognized in investment income on the consolidated statement of operations. The specific identification method is used to determine realized gains and losses.

    The Company evaluates its debt securities for impairment on an ongoing basis. When there has been a decline in fair value of a debt security below the amortized cost basis, the Company recognizes an impairment if: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery of the amortized cost basis; or (3) it does not expect to recover the entire amortized cost basis of the security. The credit loss component of the impairment is recognized as an allowance and recorded in other income (expense), net on the consolidated statement of operations while the non-credit related loss remains in accumulated other comprehensive income (loss) until realized from a sale or subsequent impairment.

- Held-to-maturity securities:

- Time deposits - The Company classifies time deposits with original maturities greater than three months as held-to-maturity. Held-to-maturity securities that mature within one year are classified as current assets within investments on the consolidated balance sheet while held-to-maturity securities with maturities of greater than one year are classified as non-current assets. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity.

Equity investments - The Company holds equity securities of publicly traded and privately held companies.

- Marketable equity securities - Marketable equity securities are strategic investments in publicly traded companies and are measured at fair value using quoted prices in their respective active markets with changes recorded through gain (losses) on equity investments, net on the consolidated statement of operations. Securities that are not for use in current operations are classified in other assets on the consolidated balance sheet.

- Nonmarketable equity investments - The Company's nonmarketable equity investments, which are reported in other assets on the consolidated balance sheet, include investments in privately held companies without readily determinable market values. The Company uses discounted cash flows and market assumptions to estimate the fair value of its nonmarketable equity investments when certain events or circumstances indicate that impairment may exist. The Company's nonmarketable equity investments are accounted for under the equity method or measurement alternative method.

  - Equity method - The Company accounts for investments in common stock or in-substance common stock under the equity method of accounting when it has the ability to exercise significant influence over the investee, generally when it holds between 20% and 50% ownership in the entity. The excess of the cost over the underlying net equity of investments accounted for under the equity method is allocated to identifiable tangible and intangible assets and liabilities based on fair values at the date of acquisition. The amortization of the excess of the cost over the underlying net equity of investments and Mastercard's share of net earnings or losses of entities accounted for under the equity method of accounting is included in other income (expense), net on the consolidated statement of operations. In addition, investments in flow-through entities such as limited partnerships and limited liability companies are also accounted for under the equity method when the Company has the ability to exercise significant influence over the investee, generally when the investment ownership percentage is equal to or greater than 5% of the outstanding ownership interest. The Company's share of net earnings or losses for these investments are included in gains (losses) on equity investments, net on the consolidated statement of operations.

  - Measurement alternative method - The Company accounts for investments in common stock or in-substance common stock under the measurement alternative method of accounting when it does not exercise significant influence, generally when it holds less than 20% ownership in the entity or when the interest in a limited partnership or limited liability company is less than 5% and the Company has no significant influence over the operation of the investee. Investments in companies that Mastercard does not control, but that are not in the form of common stock or in-substance common stock, are also accounted for under the measurement alternative method of accounting. Measurement alternative investments are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Fair value adjustments, as well as impairments, are included in gain (losses) on equity investments, net on the consolidated statement of operations.

Derivative and hedging instruments - The Company's derivative financial instruments are recorded as either assets or liabilities on the balance sheet and measured at fair value. The Company's foreign exchange and interest rate derivative contracts are included in Level 2 of the Valuation Hierarchy as the fair value of the contracts are based on inputs, which are observable based on broker quotes for the same or similar instruments. The Company does not enter into derivative contracts for trading or speculative purposes. For derivative contracts that are not designated as hedging instruments, realized and unrealized gains and losses from the change in fair value of the contracts are recognized in current earnings.

The Company's derivatives that are designated as hedging instruments are required to meet established accounting criteria. In addition, an effectiveness assessment is required to demonstrate

that the derivative is expected to be highly effective at offsetting changes in fair value or cash flows of the underlying exposure both at inception of the hedging relationship and on an ongoing basis. The method of assessing hedge effectiveness and measuring hedge results is formally documented at hedge inception and assessed at least quarterly throughout the designated hedge period. For cash flow hedges, the fair value adjustments are recorded, net of tax, in other comprehensive income (loss) on the consolidated statement of comprehensive income. Any gains and losses deferred in accumulated other comprehensive income (loss) are subsequently reclassified to the corresponding line item on the consolidated statement of operations when the underlying hedged transactions impact earnings. For hedging instruments that are no longer deemed highly effective, hedge accounting is discontinued prospectively, and any gains and losses remaining in accumulated other comprehensive income (loss) are reclassified to earnings when the underlying forecasted transaction occurs. If it is probable that the forecasted transaction will no longer occur, the associated gains or losses in accumulated other comprehensive income (loss) are reclassified to the corresponding line item on the consolidated statement of operations in current earnings.

The Company has numerous investments in its foreign subsidiaries. The net assets of these subsidiaries are exposed to volatility in foreign currency exchange rates. The Company may use foreign currency denominated debt and/or derivative instruments to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. The effective portion of the foreign currency gains and losses related to the hedging instruments are reported in accumulated other comprehensive income (loss) on the consolidated balance sheet as a cumulative translation adjustment component of equity. Amounts excluded from

effectiveness testing of net investment hedges are recognized in earnings over the life of the hedging instrument. The Company evaluates the effectiveness of the net investment hedge each quarter.

Settlement due from/due to customers - The Company operates systems for clearing and settling payment transactions among customers. Net settlements are generally cleared daily among customers through settlement cash accounts by wire transfer or other bank clearing means. However, some transactions may not settle until subsequent business days, resulting in amounts due from and due to customers.

Property, equipment and right-of-use assets - Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets. Depreciation of leasehold improvements and amortization of finance leases is included in depreciation and amortization expense on the consolidated statement of operations. Operating lease amortization expense is included in general and administrative expenses on the consolidated statement of operations.

The useful lives of the Company's assets are as follows:

Asset Category	Estimated Useful Life
Buildings	30 years
Building equipment	10 - 15 years
Furniture and fixtures and equipment	3 - 5 years
Leasehold improvements	Shorter of life of improvement or lease term
Right-of-use assets	Shorter of life of the asset or lease term

The Company determines if a contract is, or contains, a lease at contract inception. The Company's right-of-use ("ROU") assets are primarily related to operating leases for office space, automobiles and other equipment. Leases are included in property, equipment and right-of-use assets, other current liabilities and other liabilities on the consolidated balance sheet.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. In addition, ROU assets include initial direct costs incurred by the lessee as well as any lease payments made at or before the commencement date, and exclude lease incentives. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The incremental borrowing rate is determined by using the rate of interest that the Company would pay to borrow on a collateralized basis an amount equal to the lease payments for a similar term and in a similar economic environment. Lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Leases with a term of one year or less are excluded from ROU assets and liabilities.

The Company excludes variable lease payments in measuring ROU assets and lease liabilities, other than those that depend on an index, a rate or are in-substance fixed payments. Lease and nonlease components are generally accounted for separately. When available, consideration is allocated to the separate lease and nonlease components in a lease contract on a relative standalone price basis using observable standalone prices.

Pension and other postretirement plans - The Company recognizes the funded status of its single-employer defined benefit pension plans and postretirement plans as assets or liabilities on its consolidated balance sheet and recognizes changes in the funded status in the year in which the changes occur through accumulated other comprehensive income (loss). The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation at December 31, the measurement date. Overfunded plans, if any, are aggregated and recorded in

other assets, while underfunded plans are aggregated and recorded as accrued expenses and other liabilities on the consolidated balance sheet.

Net periodic pension and postretirement benefit cost/(income), excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations. These costs include interest cost, expected return on plan assets, amortization of prior service costs or credits and gains or losses previously recognized as a component of accumulated other comprehensive income (loss). The service cost component is recognized in general and administrative expenses on the consolidated statement of operations.

Defined contribution plans - The Company's contributions to defined contribution plans are recorded as employees render service to the Company. The charge is recorded in general and administrative expenses on the consolidated statement of operations.

Advertising and marketing - Expenses incurred to promote Mastercard's brand, products and services are recognized in advertising and marketing on the consolidated statement of operations. The timing of recognition is dependent on the type of advertising or marketing expense.

Foreign currency remeasurement and translation - Monetary assets and liabilities are remeasured to functional currencies using current exchange rates in effect at the balance sheet date. Non-monetary assets and liabilities are recorded at historical exchange rates. Revenue and expense accounts are remeasured at the weighted-average exchange rate for the period. Resulting exchange gains and losses related to remeasurement are included in general and administrative expenses on the consolidated statement of operations.

Where a non-U.S. currency is the functional currency, translation from that functional currency to U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using a weighted-average exchange rate for the period. Resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss).

Treasury stock - The Company records the repurchase of shares of its common stock at cost on the trade date of the transaction. These shares are considered treasury stock, which is a reduction to stockholders' equity. Treasury stock is included in authorized and issued shares but excluded from outstanding shares.

Share-based payments - The Company measures share-based compensation expense at the grant date, based on the estimated fair value of the award and uses the straight-line method of attribution, net of estimated forfeitures, for expensing awards over the requisite employee service period. The Company estimates the fair value of its non-qualified stock option awards ("Options") using a Black-Scholes valuation model. The fair value of restricted stock units ("RSUs") is determined and fixed on the grant date based on the Company's stock price, adjusted for the exclusion of dividend equivalents. The Monte Carlo simulation valuation model is used to determine the grant date fair value of performance stock units ("PSUs") granted. All share-based compensation expenses are recorded in general and administrative expenses on the consolidated statement of operations.

Redeemable non-controlling interests - The Company's business combinations may include provisions allowing non-controlling equity owners the ability to require the Company to purchase additional interests in the subsidiary at their discretion. The interests are initially recorded at fair value and in subsequent reporting periods are accreted or adjusted to the estimated redemption value. The adjustments to the redemption value are recorded to retained earnings or additional paid-in capital on the consolidated balance sheet. The redeemable non-controlling interests are considered temporary and reported outside of permanent equity on the consolidated balance sheet at the greater of the carrying amount adjusted for the non-controlling interest's share of net income (loss) or its redemption value.

Earnings per share - The Company calculates basic earnings per share ("EPS") by dividing net income by the weighted-average number of common shares outstanding during the year. Diluted EPS is calculated by dividing net income by the weighted-average number of common shares outstanding during the year, adjusted for the potentially dilutive effect of stock options and unvested stock units using the treasury stock method. The Company may be required to calculate EPS using the two-class method as a result of its redeemable non-controlling interests. If redemption value exceeds the fair value of the redeemable non-controlling interests, the excess would be a reduction to net income for the EPS calculation.

Accounting pronouncements not yet adopted

Simplifying the accounting for income taxes - In December 2019, the FASB issued accounting guidance to simplify the accounting for income taxes. This guidance includes the removal of certain exceptions to the general income tax accounting principles and provides clarity and simplification to other areas of

income tax accounting by amending the existing guidance. The guidance is effective for periods beginning after December 15, 2020. The Company will adopt this guidance effective January 1, 2021 and does not expect the impacts to be material.

Reference Rate Reform - In March 2020, the FASB issued accounting guidance to provide temporary optional expedients and exceptions to the current contract modifications and hedge accounting guidance in light of the expected market transition from LIBOR to alternative rates. The new guidance provides optional expedients and exceptions to transactions affected by reference rate reform if certain criteria are met. The transactions primarily include (1) contract modifications, (2) hedging relationships, and (3) sale or transfer of debt securities classified as held-to-maturity. The amendments were effective immediately upon issuance of the update. Companies may elect to adopt the amendments prospectively to transactions existing as of or entered from the date of adoption through December 31, 2022. The Company does not expect the impacts to be material.

Note 2. Acquisitions

In 2020 and 2019, the Company acquired several businesses for total consideration of $1.1 billion and $1.5 billion, respectively, representing both cash and contingent consideration. There were no acquisitions in 2018. These acquisitions align with the Company's strategy to grow, diversify and build the Company's business. Refer to Note 1 (Summary of Significant Accounting Policies) for the valuation techniques Mastercard utilizes to fair value the respective components of business combinations and contingent consideration. The residual value allocated to goodwill is primarily attributable to the synergies expected to arise after the acquisition date and a majority of the goodwill is not expected to be deductible for local tax purposes.

In 2020, the Company finalized the purchase accounting for businesses acquired during 2019 and $185 million of the businesses acquired in 2020. The Company is evaluating and finalizing the purchase accounting for the remainder of the businesses acquired during 2020. The preliminary estimated and final fair values of the purchase price allocations in aggregate, as of the acquisition dates, are noted below for the years ended December 31.

	2020	2019
	(in millions)	
Assets:		
Cash and cash equivalents	$ 6	$ 54
Other current assets	14	143
Other intangible assets	237	395
Goodwill	844	1,076
Other assets	11	48
Total assets	**1,112**	**1,716**
Liabilities:		
Other current liabilities	15	121
Deferred income taxes	23	52
Other liabilities	8	32
Total liabilities	**46**	**205**
Net assets acquired	**$ 1,066**	**$ 1,511**

The following table summarizes the identified intangible assets acquired during the years ended December 31:

	2020	2019	2020	2019
	Acquisition Date Fair Value		Weighted-Average Useful Life	
	(in millions)		(in years)	
Developed technologies	$ 122	$ 199	6.3	7.7
Customer relationships	114	178	12.0	12.6
Other	1	18	1.0	5.0
Other intangible assets	**$ 237**	**$ 395**	**9.0**	**9.7**

Pro forma information related to the acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

Among the businesses acquired in 2020, the largest acquisition relates to Finicity Corporation ("Finicity"), an open-banking provider, headquartered in Salt Lake City, Utah. On November 18, 2020,

Mastercard acquired 100% equity interest in Finicity for cash consideration of $809 million. In addition, the Finicity sellers have the potential to earn contingent consideration of up to $160 million if certain revenue targets are met in 2021. As of the acquisition date, the fair value of the contingent consideration was $71 million. The businesses acquired in 2019 were not individually significant to Mastercard.

Pending Acquisition

In August 2019, Mastercard entered into a definitive agreement to acquire the majority of the Corporate Services business of Nets Denmark A/S, for €2.85 billion (approximately $3.5 billion as of December 31, 2020) after adjusting for cash and certain other

liabilities at closing. The pending acquisition primarily comprises the clearing and instant payment services, and e-billing solutions of Nets Denmark A/S's Corporate Services business. The Company has secured conditional approval from the European Commission and, subject to other closing conditions, anticipates completing the acquisition in the first quarter of 2021, or shortly thereafter.

Note 3. Revenue

Mastercard's core network involves four participants in addition to the Company: account holders (a person or entity who holds a card or uses another device enabled for payment), issuers (the account holders' financial institutions), merchants and acquirers (the merchants' financial institutions). Revenue from contracts with customers is recognized when services are performed in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those services. Revenue recognized from domestic assessments, cross-border volume fees and transaction processing are derived from Mastercard's payment network services. Revenue is primarily generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by assessing customers based primarily on the dollar volume of activity, or gross dollar volume, on the products that carry the Company's brands. Revenue is generally derived from information accumulated by Mastercard's systems or reported by customers. In addition, the Company generates other revenues from value-added products and services that are typically integrated and sold with the Company's payment offerings and are recognized as revenue in the period in which the related transactions occur or services are performed.

The price structure for Mastercard's products and services is dependent on the nature of volumes, types of transactions and type of products and services offered to customers. Net revenue can be impacted by the following:

- domestic or cross-border transactions
- geographic region or country in which the transaction occurs
- volumes/transactions subject to tiered rates
- processed or not processed by the Company
- amount of usage of the Company's other products or services
- amount of rebates and incentives provided to customers

The Company classifies its net revenue into the following five categories:

Domestic assessments are fees charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are the same. Revenue from domestic assessments is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Cross-border volume fees are charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are different. Revenue from cross-border volume is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Transaction processing revenue is recognized for both domestic and cross-border transactions in the period in which the related transactions occur. Transaction processing includes the following:

- *Switched transaction* revenue is generated from the following products and services:
  - Authorization is the process by which a transaction is routed to the issuer for approval. In certain circumstances, such as when the issuer's systems are unavailable or cannot be contacted, Mastercard or others approve such transactions on behalf of the issuer in accordance with either the issuer's instructions or applicable rules (also known as "stand-in").

- Clearing is the determination and exchange of financial transaction information between issuers and acquirers after a transaction has been successfully conducted at the point of interaction. Transactions are cleared among customers through Mastercard's central and regional processing systems.
- Settlement is facilitating the exchange of funds between parties.

- *Connectivity fees* are charged to issuers, acquirers and other financial institutions for network access, equipment and the transmission of authorization and settlement messages. These fees are based on the size of the data being transmitted and the number of connections to the Company's network.
- *Other processing fees* include issuer and acquirer processing solutions; payment gateways for e-commerce merchants; mobile gateways for mobile-initiated transactions; and safety and security.

Other revenues consist of value-added products and services that are typically sold with the Company's payment service offerings and are recognized in the period in which the related services are performed or transactions occur. Other revenues include the following:

- Data analytics and consulting fees.
- Cyber and intelligence fees are for products and services offered to prevent, detect and respond to fraud and to ensure the safety of transactions made primarily on Mastercard products.
- Loyalty and rewards solutions fees are charged to issuers for benefits provided directly to consumers with Mastercard-branded cards, such as access to a global airline lounge network, global and local concierge services, individual insurance coverages, emergency card replacement, emergency cash advance services and a 24-hour cardholder service center. Loyalty and reward solution fees also include rewards campaigns and management services.
- Program management services provided to prepaid card issuers consist of foreign exchange margin, commissions, load fees and ATM withdrawal fees paid by cardholders on the sale and encashment of prepaid cards.
- Batch and real-time account-based payment services relating to ACH transactions and other ACH related services.
- Other payment-related products and services and platforms, including account and transaction enhancement services, open banking solutions, rules compliance and publications.

Rebates and incentives (contra-revenue) are provided to customers that meet certain volume targets and can be in the form of a rebate or other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. In addition, Mastercard may make incentive payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

The Company's disaggregated net revenue by source and geographic region were as follows for the years ended December 31:

	2020	2019	2018
	(in millions)		
Revenue by source:			
Domestic assessments	$ 6,656	$ 6,781	$ 6,138
Cross-border volume fees	3,512	5,606	4,954
Transaction processing	8,731	8,469	7,391
Other revenues	4,717	4,124	3,348
Gross revenue	**23,616**	**24,980**	**21,831**
Rebates and incentives (contra-revenue)	(8,315)	(8,097)	(6,881)
Net revenue	**$ 15,301**	**$ 16,883**	**$ 14,950**
Net revenue by geographic region:			
North American Markets	$ 5,424	$ 5,843	$ 5,312
International Markets	9,701	10,869	9,514
Other [1]	176	171	124
Net revenue	**$ 15,301**	**$ 16,883**	**$ 14,950**

[1] Includes revenues managed by corporate functions.

Receivables from contracts with customers of $2.5 billion and $2.3 billion as of December 31, 2020 and 2019, respectively, are recorded within accounts receivable on the consolidated balance sheet. The Company's customers are generally billed weekly, however, the frequency is dependent upon the

nature of the performance obligation and the underlying contractual terms. The Company does not typically offer extended payment terms to customers.

Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet at December 31, 2020 in the amounts of $59 million and $245 million, respectively. The comparable amounts included in prepaid expenses and other current assets and other assets at December 31, 2019 were $48 million and $152 million, respectively.

Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet at December 31, 2020 in the amounts of $355 million and $143 million, respectively. The comparable amounts included in other current liabilities and

other liabilities at December 31, 2019 were $238 million and $106 million, respectively. In 2020, 2019 and 2018 revenue recognized from the satisfaction of such performance obligations was $1.1 billion, $994 million and $904 million, respectively.

The Company's remaining performance periods for its contracts with customers for its payment network services are typically long-term in nature (generally up to 10 years). As a payment network service provider, the Company provides its customers with continuous access to its global payments network and stands ready to provide transaction processing and related services over the contractual term. Consideration is variable as the Company generates volume- and transaction-based revenues from assessing its customers' current period activity. The Company has elected the optional exemption to not disclose the remaining performance obligations related to its payment network services. The Company also earns revenues primarily from other value-added services comprised of both batch and real-time account-based payment services, consulting fees, gateway services, processing, loyalty programs and other payment-related products and services. At December 31, 2020, the estimated aggregate consideration allocated to unsatisfied performance obligations for these other value-added services is $1.3 billion, which is expected to be recognized through 2023. The estimated remaining performance obligations related to these revenues are subject to change and are affected by several factors, including modifications and terminations and are not expected to be material to any future annual period.

Note 4. Earnings Per Share

The components of basic and diluted EPS for common shares for each of the years ended December 31 were as follows:

	2020	2019	2018
	(in millions, except per share data)		
Numerator			
Net income	$ 6,411	$ 8,118	$ 5,859
Denominator			
Basic weighted-average shares outstanding	1,002	1,017	1,041
Dilutive stock options and stock units	4	5	6
Diluted weighted-average shares outstanding [1]	1,006	1,022	1,047
Earnings per Share			
Basic	$ 6.40	$ 7.98	$ 5.63
Diluted	$ 6.37	$ 7.94	$ 5.60

Note: Table may not sum due to rounding.

[1] For the years presented, the calculation of diluted EPS excluded a minimal amount of anti-dilutive share-based payment awards.

Note 5. Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents

The following table provides a reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents reported on the consolidated balance sheet that total to the amounts shown on the consolidated statement of cash flows for the years ended December 31:

	2020	2019
	(in millions)	
Cash and cash equivalents	$ 10,113	$ 6,988
Restricted cash and restricted cash equivalents		
Restricted cash for litigation settlement	586	584
Restricted security deposits held for customers	1,696	1,370
Prepaid expenses and other current assets	24	27
Cash, cash equivalents, restricted cash and restricted cash equivalents	**$ 12,419**	**$ 8,969**

Note 6. Supplemental Cash Flows

The following table includes supplemental cash flow disclosures for each of the years ended December 31:

	2020	2019	2018
	(in millions)		
Cash paid for income taxes, net of refunds	$ 1,349	$ 1,644	$ 1,790
Cash paid for interest	311	199	153
Cash paid for legal settlements	149	668	260
Non-cash investing and financing activities			
Dividends declared but not yet paid	439	403	340
Accrued property, equipment and right-of-use assets	154	468	10
Fair value of assets acquired, net of cash acquired	1,106	1,662	—
Fair value of liabilities assumed related to acquisitions	46	205	—

Note 7. Investments

The Company's investments on the consolidated balance sheet include both available-for-sale and held-to-maturity securities (see Investments section below). The Company classifies its investments in equity securities of publicly traded and privately held companies within other assets on the consolidated balance sheet (see Equity Investments section below).

Investments

Investments on the consolidated balance sheet consisted of the following at December 31:

	2020	2019
	(in millions)	
Available-for-sale securities	$ 321	$ 591
Held-to-maturity securities	162	97
Total investments	**$ 483**	**$ 688**

Available-for-Sale Securities

The major classes of the Company's available-for-sale investment securities and their respective amortized cost basis and fair values were as follows:

	December 31, 2020				December 31, 2019			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
	(in millions)							
Municipal securities	$ 10	$ —	$ —	$ 10	$ 15	$ —	$ —	$ 15
Government and agency securities	64	—	—	64	108	—	—	108
Corporate securities	246	1	—	247	381	1	—	382
Asset-backed securities	—	—	—	—	85	1	—	86
Total	**$ 320**	**$ 1**	**$ —**	**$ 321**	**$ 589**	**$ 2**	**$ —**	**$ 591**

The Company's available-for-sale investment securities held at December 31, 2020 and 2019, primarily carried a credit rating of A- or better with unrealized gains and losses recorded as a separate component of other comprehensive income (loss) on the consolidated statement of comprehensive income. The municipal securities are comprised of state tax-exempt bonds and are diversified across states and sectors. Government and agency securities include U.S. government bonds, U.S. government sponsored agency bonds and foreign government bonds. Corporate securities are comprised of commercial paper and corporate bonds. The asset-backed securities are investments in bonds which are collateralized primarily by automobile loan receivables.

The maturity distribution based on the contractual terms of the Company's investment securities at December 31, 2020 was as follows:

	Available-For-Sale	
	Amortized Cost	Fair Value
	(in millions)	
Due within 1 year	$ 115	$ 115
Due after 1 year through 5 years	205	206
Total	**$ 320**	**$ 321**

Investment income on the consolidated statement of operations primarily consists of interest income generated from cash, cash equivalents, time deposits, and realized gains and losses on the Company's debt securities. The realized gains and losses from the sale of available-for-sale securities for 2020, 2019 and 2018 were not significant.

Held-to-Maturity Securities

The Company classifies time deposits with maturities greater than three months but less than one year as held-to-maturity. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity. The cost of these securities approximates fair value.

Equity Investments

Included in other assets on the consolidated balance sheet are equity investments with readily determinable fair values ("Marketable securities") and equity investments without readily determinable fair values ("Nonmarketable securities"). Marketable securities are publicly traded companies and are measured using unadjusted quoted prices in their respective active markets. Nonmarketable securities that do not qualify for equity method accounting are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for the identical or similar investments of the same issuer ("measurement alternative").

The following table is a summary of the activity related to the Company's equity investments:

	Balance at December 31, 2019	Purchases (Sales), net	Changes in Fair Value[1]	Other[2]	Balance at December 31, 2020
	(in millions)				
Marketable securities	$ 479	$ 1	$ (5)	$ 1	$ 476
Nonmarketable securities	435	204	35	22	696
Total equity investments	**$ 914**	**$ 205**	**$ 30**	**$ 23**	**$ 1,172**

[1] Recorded in gains (losses) on equity investments, net on the consolidated statement of operations
[2] Includes translational impact of currency

At December 31, 2020, the total carrying value of Nonmarketable securities included $157 million of measurement alternative investments and $539 million of equity method investments. At December 31, 2019, the total carrying value of Nonmarketable securities included $317 million of measurement alternative investments and $118 million of equity method investments. Cumulative impairments and downward fair value adjustments on measurement alternative investments were $14 million and cumulative upward fair value adjustments were $86 million as of December 31, 2020.

Note 8. Fair Value Measurements

The Company classifies its fair value measurements of financial instruments into a three-level hierarchy within the Valuation Hierarchy. Financial instruments are categorized for fair value measurement

purposes as recurring or non-recurring in nature. There were no transfers made among the three levels in the Valuation Hierarchy for 2020 and 2019.

Financial Instruments - Recurring Measurements

The distribution of the Company's financial instruments measured at fair value on a recurring basis within the Valuation Hierarchy were as follows:

	December 31, 2020				December 31, 2019			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in millions)							
Assets								
Investment securities available for sale [1]:								
Municipal securities	$ —	$ 10	$ —	$ 10	$ —	$ 15	$ —	$ 15
Government and agency securities	26	38	—	64	66	42	—	108
Corporate securities	—	247	—	247	—	382	—	382
Asset-backed securities	—	—	—	—	—	86	—	86
Derivative instruments [2]:								
Foreign exchange contracts	—	19	—	19	—	12	—	12
Interest rate contracts	—	—	—	—	—	14	—	14
Marketable securities [3]:								
Equity securities	476	—	—	476	479	—	—	479
Deferred compensation plan [4]:								
Deferred compensation assets	78	—	—	78	67	—	—	67
Liabilities								
Derivative instruments [2]:								
Foreign exchange derivative liabilities	$ —	$ (28)	$ —	$ (28)	$ —	$ (32)	$ —	$ (32)
Deferred compensation plan [5]:								
Deferred compensation liabilities	(81)	—	—	(81)	(67)	—	—	(67)

1 The Company's U.S. government securities are classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices for identical assets in active markets. The fair value of the Company's available-for-sale municipal securities, government and agency securities, corporate securities and asset-backed securities are based on observable inputs such as quoted prices, benchmark yields and issuer spreads for similar assets in active markets and are therefore included in Level 2 of the Valuation Hierarchy.

2 The Company's foreign exchange and interest rate derivative asset and liability contracts have been classified within Level 2 of the Valuation Hierarchy as the fair value is based on observable inputs such as broker quotes

relating to foreign currency exchange rates for similar derivative instruments. See Note 23 (Derivative and Hedging Instruments) for further details.

[3] The Company's Marketable securities are publicly held and classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices in their respective active markets.

[4] The Company has a nonqualified deferred compensation plan where assets are invested primarily in mutual funds held in a rabbi trust, which is restricted for payments to participants of the plan. The Company has elected to use the fair value option for these mutual funds, which are measured using quoted prices of identical instruments in active markets and are included in prepaid expenses and other current assets on the consolidated balance sheet.

[5] The deferred compensation liabilities are measured at fair value based on the quoted prices of identical instruments to the investment vehicles selected by the participants. These are included in other liabilities on the consolidated balance sheet.

Financial Instruments - Non-Recurring Measurements

Nonmarketable Securities

The Company's Nonmarketable securities are recorded at fair value on a non-recurring basis in periods after initial recognition under the equity method or measurement alternative method. Nonmarketable securities are classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices, the inherent lack of liquidity and unobservable inputs used to measure fair value that require management's judgment. The Company uses discounted cash flows and market assumptions to estimate the fair value of its Nonmarketable securities when certain events or circumstances indicate that impairment may exist. See Note 7 (Investments) for further details.

Debt

The Company estimates the fair value of its long-term debt based on market quotes. These debt instruments are not traded in active markets and are classified as Level 2 of the Valuation Hierarchy. At December 31, 2020, the carrying value and fair value of total long-term debt (including the current portion) was $12.7 billion and $14.8 billion, respectively. At December 31, 2019, the carrying value and fair value of long-term debt (including the current portion) was $8.5 billion and $9.2 billion, respectively. See Note 15 (Debt) for further details.

Other Financial Instruments

Certain financial instruments are carried on the consolidated balance sheet at cost or amortized cost basis, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, restricted cash, time deposits, accounts receivable, settlement due from customers, restricted security deposits held for customers, accounts payable, settlement due to customers and other accrued liabilities.

Note 9. Prepaid Expenses and Other Assets

Prepaid expenses and other current assets consisted of the following at December 31:

	2020	2019
	(in millions)	
Customer and merchant incentives	$ 1,086	$ 872
Prepaid income taxes	78	105
Other	719	786
Total prepaid expenses and other current assets	**$ 1,883**	**$ 1,763**

Other assets consisted of the following at December 31:

	2020	2019
	(in millions)	
Customer and merchant incentives	$ 3,220	$ 2,838
Equity investments	1,172	914
Income taxes receivable	553	460
Other	420	313
Total other assets	**$ 5,365**	**$ 4,525**

Customer and merchant incentives represent payments made to customers and merchants under business agreements. Costs directly related to entering into such an agreement are generally deferred and amortized over the life of the agreement.

See Note 7 (Investments) for further information on the Company’s equity investments.

Note 10. Property, Equipment and Right-of-Use Assets

Property, equipment and right-of-use assets consisted of the following at December 31:

	2020	2019
	(in millions)	
Building, building equipment and land	$ 522	$ 505
Equipment	1,321	1,218
Furniture and fixtures	99	92
Leasehold improvements	380	303
Operating lease right-of-use assets	970	810
Property, equipment and right-of-use assets	**3,292**	**2,928**
Less: Accumulated depreciation and amortization	(1,390)	(1,100)
Property, equipment and right-of-use assets, net	**$ 1,902**	**$ 1,828**

Depreciation and amortization expense for the above property, equipment and right-of-use assets was $400 million, $336 million and $209 million for 2020, 2019 and 2018, respectively.

Operating lease ROU assets and operating lease liabilities are recorded on the consolidated balance sheet as follows at December 31:

	2020	2019
	(in millions)	
Balance sheet location		
Property, equipment and right-of-use assets, net	$ 748	$ 711
Other current liabilities	125	106
Other liabilities	726	656

Operating lease amortization expense for 2020 and 2019 was $123 million and $99 million, respectively. As of December 31, 2020 and 2019, the weighted-average remaining lease term of operating leases was 9.1 years and 9.5 years and the weighted-average discount rate for operating leases was 2.7% and 2.9%, respectively.

The following table summarizes the maturity of the Company's operating lease liabilities at December 31, 2020 based on lease term:

	Operating Leases
	(in millions)
2021	$ 137
2022	130
2023	108
2024	95
2025	72
Thereafter	383
Total operating lease payments	**925**
Less: Interest	(74)
Present value of operating lease liabilities	**$ 851**

Prior to adoption of the lease accounting standard in 2019, consolidated rental expense for the Company's leased office space was $94 million for 2018. Consolidated lease expense for automobiles, computer equipment and office equipment was $20 million for 2018, respectively.

Note 11. Goodwill

The changes in the carrying amount of goodwill for the years ended December 31 were as follows:

	2020	2019
	(in millions)	
Beginning balance	$ 4,021	$ 2,904
Additions	844	1,076
Foreign currency translation	95	41
Ending balance	**$ 4,960**	**$ 4,021**

The Company performed its annual qualitative assessment of goodwill during the fourth quarter of 2020 and determined a quantitative assessment was not necessary. The Company concluded that goodwill was not impaired and had no accumulated impairment losses at December 31, 2020.

Note 12. Other Intangible Assets

The following table sets forth net intangible assets, other than goodwill, at December 31:

	2020			2019		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Finite-lived intangible assets						
Capitalized software	$ 2,276	$ (1,126)	$ 1,150	$ 1,884	$ (988)	$ 896
Customer relationships	743	(322)	421	621	(264)	357
Other	44	(41)	3	44	(44)	—
Total	**3,063**	**(1,489)**	**1,574**	**2,549**	**(1,296)**	**1,253**
Indefinite-lived intangible assets						
Customer relationships	179	—	179	164	—	164
Total	**$ 3,242**	**$ (1,489)**	**$ 1,753**	**$ 2,713**	**$ (1,296)**	**$ 1,417**

The increase in the gross carrying amount of amortized intangible assets in 2020 was primarily related to software additions and businesses acquired in 2020. See Note 2 (Acquisitions) for further details. Certain intangible assets are denominated in foreign currencies. As such, the change in intangible assets includes a component attributable to foreign currency translation. Based on the qualitative assessment performed in 2020, it was determined that the Company's indefinite-lived intangible assets were not impaired.

Amortization on the assets above amounted to $303 million, $285 million and $250 million in 2020, 2019 and 2018, respectively. The following table sets forth the estimated future amortization expense on finite-lived intangible assets on the consolidated balance sheet at December 31, 2020 for the years ending December 31:

	(in millions)
2021	$ 332
2022	260
2023	211
2024	194
2025 and thereafter	577
	$ 1,574

Note 13. Accrued Expenses and Accrued Litigation

Accrued expenses consisted of the following at December 31:

	2020	2019
	(in millions)	
Customer and merchant incentives	$ 3,998	$ 3,892
Personnel costs	727	713
Income and other taxes	208	332
Other	497	552
Total accrued expenses	**$ 5,430**	**$ 5,489**

Customer and merchant incentives represent amounts to be paid to customers under business agreements. As of December 31, 2020 and 2019, the Company's provision for litigation was $842 million and $914 million, respectively. These amounts are not included in the accrued expenses table above and are separately reported as accrued litigation on the consolidated balance sheet. See Note 21 (Legal and Regulatory Proceedings) for additional information regarding the Company's accrued litigation.

Note 14. Pension, Postretirement and Savings Plans

The Company and certain of its subsidiaries maintain various pension and other postretirement plans that cover substantially all employees worldwide.

Defined Contribution Plans

The Company sponsors defined contribution retirement plans. The primary plan is the Mastercard Savings Plan, a 401(k) plan for substantially all of the Company's U.S. employees, which is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended. In addition, the Company has several defined contribution plans outside of the U.S. The Company's total expense for its defined contribution plans was $150 million, $127 million and $98 million in 2020, 2019 and 2018, respectively.

Defined Benefit and Other Postretirement Plans

The Company sponsors pension and postretirement plans for certain non-U.S. employees (the "non-U.S. Plans") that cover various benefits specific to their country of employment. Additionally, Vocalink has a defined benefit pension plan (the "Vocalink Plan") which was permanently closed to new entrants and future accruals as of July 21, 2013, however, plan participants' obligations are adjusted for future salary changes. The Company has agreed to make contributions of £15 million (approximately $20 million as of December 31, 2020) annually until September 2022. The term "Pension Plans" includes the non-U.S. Plans and the Vocalink Plan.

The Company maintains a postretirement plan providing health coverage and life insurance benefits for substantially all of its U.S. employees hired before July 1, 2007 (the "Postretirement Plan").

The Company uses a December 31 measurement date for the Pension Plans and its Postretirement Plan (collectively the "Plans"). The Company recognizes the funded status of its Plans, measured as the difference between the fair value of the plan assets and the projected benefit obligation, in the consolidated balance sheet. The following table sets forth the Plans' funded status, key assumptions and amounts recognized in the Company's consolidated balance sheet at December 31:

	Pension Plans		Postretirement Plan	
	2020	2019	2020	2019
	($ in millions)			
Change in benefit obligation				
Benefit obligation at beginning of year	**$ 531**	**$ 438**	**$ 64**	**$ 57**
Service cost	13	11	1	1
Interest cost	9	13	2	2
Actuarial (gain) loss	43	73	7	9
Benefits paid	(18)	(15)	(4)	(5)
Transfers in	3	2	—	—
Foreign currency translation	23	9	—	—
Benefit obligation at end of year	**604**	**531**	**70**	**64**
Change in plan assets				
Fair value of plan assets at beginning of year	**518**	**410**	**—**	**—**
Actual (loss) gain on plan assets	56	79	—	—
Employer contributions	34	32	4	5
Benefits paid	(18)	(15)	(4)	(5)
Transfers in	5	2	—	—
Foreign currency translation	22	10	—	—
Fair value of plan assets at end of year	**617**	**518**	**—**	**—**
Funded status at end of year	**$ 13**	**$ (13)**	**$ (70)**	**$ (64)**
Amounts recognized on the consolidated balance sheet consist of:				
Noncurrent assets	$ 28	$ —	$ —	$ —
Other liabilities, short-term	—	—	(4)	(3)
Other liabilities, long-term	(15)	(13)	(66)	(61)
	$ 13	**$ (13)**	**$ (70)**	**$ (64)**
Accumulated other comprehensive income consists of:				
Net actuarial (gain) loss	$ 12	$ 7	$ 9	$ 2
Prior service credit	1	1	(4)	(5)
Balance at end of year	**$ 13**	**$ 8**	**$ 5**	**$ (3)**
Weighted-average assumptions used to determine end of year benefit obligations				
Discount rate				
Non-U.S. Plans	0.70 %	0.70 %	*	*
Vocalink Plan	1.55 %	2.00 %	*	*
Postretirement Plan	*	*	2.50 %	3.25 %
Rate of compensation increase				
Non-U.S. Plans	1.50 %	1.50 %	*	*
Vocalink Plan	2.75 %	2.50 %	*	*
Postretirement Plan	*	*	3.00 %	3.00 %

* Not applicable

At December 31, 2020, the Company's aggregated Pension Plan assets exceed the benefit obligations. For plans where the benefit obligations exceeded plan assets, the projected benefit obligation was $112 million, the accumulated benefit obligation was $111 million and plan assets were $97 million. At December 31, 2019, all of the Pension Plans had benefit obligations in excess of plan assets. Information on the Pension Plans were as follows as of December 31:

	2020	2019
	(in millions)	
Projected benefit obligation	$ 604	$ 531
Accumulated benefit obligation	601	524
Fair value of plan assets	617	518

For the years ended December 31, 2020 and 2019, the Company's projected benefit obligation related to its Pension Plans increased $73 million and $93 million, respectively, primarily attributable to actuarial losses related to lower discount rate assumptions.

Components of net periodic benefit cost recorded in earnings were as follows for the Plans for each of the years ended December 31:

	Pension Plans			Postretirement Plan		
	2020	2019	2018	2020	2019	2018
	(in millions)					
Service cost	$ 13	$ 11	$ 9	$ 1	$ 1	$ 1
Interest cost	9	13	12	2	2	2
Expected return on plan assets	(18)	(18)	(20)	—	—	—
Amortization of actuarial loss	—	1	—	—	—	—
Amortization of prior service credit	—	—	—	(1)	(1)	(2)
Net periodic benefit cost	**$ 4**	**$ 7**	**$ 1**	**$ 2**	**$ 2**	**$ 1**

The service cost component is recognized in general and administrative expenses on the consolidated statement of operations. Net periodic benefit cost, excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations.

Other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

	Pension Plans			Postretirement Plan		
	2020	2019	2018	2020	2019	2018
	(in millions)					
Current year actuarial loss (gain)	$ 5	$ 12	$ 17	$ 7	$ 9	$ (2)
Current year prior service credit	—	—	1	—	—	—
Amortization of prior service credit	—	—	—	1	1	2
Total other comprehensive loss (income)	**$ 5**	**$ 12**	**$ 18**	**$ 8**	**$ 10**	**$ —**
Total net periodic benefit cost and other comprehensive loss (income)	**$ 9**	**$ 19**	**$ 19**	**$ 10**	**$ 12**	**$ 1**

Assumptions

Weighted-average assumptions used to determine net periodic benefit cost were as follows for the years ended December 31:

	Pension Plans			Postretirement Plan		
	2020	2019	2018	2020	2019	2018
Discount rate						
Non-U.S. Plans	0.70 %	1.80 %	1.80 %	*	*	*
Vocalink Plan	1.55 %	2.00 %	2.80 %	*	*	*
Postretirement Plan	*	*	*	3.25 %	4.25 %	3.50 %
Expected return on plan assets						
Non-U.S. Plans	1.60 %	2.10 %	3.00 %	*	*	*
Vocalink Plan	3.20 %	3.75 %	4.75 %	*	*	*
Rate of compensation increase						
Non-U.S. Plans	1.50 %	1.50 %	2.60 %	*	*	*
Vocalink Plan	2.75 %	2.50 %	3.85 %	*	*	*
Postretirement Plan	*	*	*	3.00 %	3.00 %	3.00 %

* Not applicable

The Company's discount rate assumptions are based on yield curves derived from high quality corporate bonds, which are matched to the expected cash flows of each respective plan. The expected return on plan assets assumptions are derived using the current and expected asset allocations of the Pension Plans' assets and considering historical as well as expected returns on various classes of plan assets. The rates of compensation increases are determined by the Company, based upon its long-term plans for such increases.

The following additional assumptions were used at December 31 in accounting for the Postretirement Plan:

	2020	2019
Healthcare cost trend rate assumed for next year	7.00 %	6.00 %
Ultimate trend rate	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	8	2

Assets

Plan assets are managed taking into account the timing and amount of future benefit payments. The Vocalink Plan assets are managed with the following target asset allocations: fixed income 35%, U.K. government securities 23%, equity 22%, cash and cash equivalents 12% and real estate 8%. For the non-U.S. Plans, the assets are concentrated primarily in insurance contracts.

The Valuation Hierarchy of the Pension Plans' assets is determined using a consistent application of the categorization measurements for the Company's financial instruments. See Note 1 (Summary of Significant Accounting Policies) for additional information.

The following tables set forth by level, within the Valuation Hierarchy, the Pension Plans' assets at fair value:

	December 31, 2020				December 31, 2019			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)							
Cash and cash equivalents [1]	$ 59	$ —	$ —	$ 59	$ 16	$ —	$ —	$ 16
Mutual funds [2]	270	117	—	387	153	193	—	346
Insurance contracts [3]	—	96	—	96	—	75	—	75
Total	$ 329	$ 213	$ —	$ 542	$ 169	$ 268	$ —	$ 437
Investments at Net Asset Value ("NAV") [4]				75				81
Total Plan Assets				**$617**				**$518**

1 Cash and cash equivalents are valued at quoted market prices, which represent the net asset value of the shares held by the Plans.

2 Certain mutual funds are valued at quoted market prices, which represent the value of the shares held by the Plans, and are therefore included in Level 1. Certain other mutual funds are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2.

3 Insurance contracts are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors.

4 Investments at NAV include mutual funds (comprised primarily of credit investments) and other investments (comprised primarily of real estate investments) and are valued using the net asset value provided by the administrator as a practical expedient, and therefore these investments are not included in the valuation hierarchy. These investments have quarterly redemption frequencies with redemption notice periods ranging from 60 to 90 days.

The following table summarizes expected benefit payments (as of December 31, 2020) through 2030 for the Pension Plans and the Postretirement Plan, including those payments expected to be paid from the Company's general assets. Actual benefit payments may differ from expected benefit payments.

	Pension Plans	Postretirement Plan
	(in millions)	
2021	$ 19	$ 4
2022	12	4
2023	14	4
2024	15	4
2025	15	4
2026 - 2030	77	20

Note 15. Debt

Long-term debt consisted of the following at December 31:

			2020	2019	Effective Interest Rate
			(in millions)		
2020 USD Notes	3.300 %	Senior Notes due March 2027	$ 1,000	$ —	3.420 %
	3.350 %	Senior Notes due March 2030	1,500	—	3.430 %
	3.850 %	Senior Notes due March 2050	1,500	—	3.896 %
2019 USD Notes	2.950 %	Senior Notes due June 2029	1,000	1,000	3.030 %
	3.650 %	Senior Notes due June 2049	1,000	1,000	3.689 %
	2.000 %	Senior Notes due March 2025	750	750	2.147 %
2018 USD Notes	3.500 %	Senior Notes due February 2028	500	500	3.598 %
	3.950 %	Senior Notes due February 2048	500	500	3.990 %
2016 USD Notes	2.000 %	Senior Notes due November 2021	650	650	2.236 %
	2.950 %	Senior Notes due November 2026	750	750	3.044 %
	3.800 %	Senior Notes due November 2046	600	600	3.893 %
2015 EUR Notes [1]	1.100 %	Senior Notes due December 2022	859	785	1.265 %
	2.100 %	Senior Notes due December 2027	982	896	2.189 %
	2.500 %	Senior Notes due December 2030	184	169	2.562 %
2014 USD Notes	3.375 %	Senior Notes due April 2024	1,000	1,000	3.484 %
			12,775	**8,600**	
Less: Unamortized discount and debt issuance costs			(103)	(73)	
Total debt outstanding			**12,672**	**8,527**	
Less: Current portion[2]			(649)	—	
Long-term debt			**$ 12,023**	**$ 8,527**	

[1] Relates to euro-denominated debt issuance of €1.650 billion in December 2015
[2] Relates to current portion of the 2016 USD Notes, due in November 2021, classified as current portion of long-term debt on the consolidated balance sheet

In March 2020, the Company issued $1 billion principal amount of notes due March 2027, $1.5 billion principal amount of notes due March 2030 and $1.5 billion principal amount notes due March 2050 (collectively the "2020 USD Notes"). The net proceeds from the issuance of the 2020 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $3.959 billion.

In May 2019, the Company issued $1 billion principal amount of notes due June 2029 and $1 billion principal amount of notes due June 2049 and in December 2019, the Company issued $750 million

principal amount of notes due March 2025 (collectively the "2019 USD Notes"). The net proceeds from the issuance of the 2019 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $2.724 billion.

The net proceeds, after deducting the original issue discount, underwriting discount and offering expenses, from the issuance of the 2018 USD Notes were $991 million.

The outstanding debt, described above, is not subject to any financial covenants and it may be redeemed in whole, or in part, at the Company's option at any time for a specified make-whole amount. These notes are senior unsecured obligations and would rank equally with any future unsecured and unsubordinated indebtedness. The proceeds of the notes are to be used for general corporate purposes.

Scheduled annual maturities of the principal portion of long-term debt outstanding at December 31, 2020 are summarized below.

	(in millions)
2021	$ 650
2022	859
2023	—
2024	1,000
2025	750
Thereafter	9,516
Total	$ 12,775

On November 14, 2019, the Company increased its commercial paper program (the "Commercial Paper Program") from $4.5 billion to $6 billion under which the Company is authorized to issue unsecured commercial paper notes with maturities of up to 397 days from the date of issuance. The Commercial Paper Program is available in U.S. dollars.

In conjunction with the Commercial Paper Program, the Company entered into a committed five-year unsecured $6 billion revolving credit facility (the "Credit Facility") on November 14, 2019. The Credit Facility, which previously expired on November 14, 2024, was extended on November 14, 2020 for an additional year and now expires on November 13, 2025. The extension did not result in material changes to the terms and conditions of the Credit Facility. Borrowings under the Credit Facility are available in U.S. dollars and/or euros. The facility fee under the Credit Facility is determined according to the Company's credit rating and is payable on the average daily commitment, regardless of usage, per annum. In addition to the facility fee, interest rates on borrowings under the Credit Facility would be based on prevailing market interest rates plus applicable margins that fluctuate based on the Company's credit rating. The Credit Facility contains customary representations, warranties, affirmative and negative covenants, events of default and indemnification provisions. The Company was in compliance in all material respects with the covenants of the Credit Facility at December 31, 2020 and 2019.

Borrowings under the Commercial Paper Program and the Credit Facility are used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by the Company's customers. The Company may borrow and repay amounts under the Commercial Paper Program and Credit Facility from time to time. The Company had no borrowings under the Credit Facility and the Commercial Paper Program at December 31, 2020 and 2019.

Note 16. Stockholders' Equity

Classes of Capital Stock

Mastercard's amended and restated certificate of incorporation authorizes the following classes of capital stock:

Class	Par Value Per Share	Authorized Shares (in millions)	Dividend and Voting Rights
A	$0.0001	3,000	One vote per share Dividend rights
B	$0.0001	1,200	Non-voting Dividend rights
Preferred	$0.0001	300	No shares issued or outstanding at December 31, 2020 and 2019. Dividend and voting rights are to be determined by the Board of Directors of the Company upon issuance.

Dividends

The Company declared a quarterly cash dividend on its Class A and Class B Common Stock during each of the four quarters of 2020, 2019 and 2018.

The Company declared total per share dividends on its Class A and Class B Common Stock during the years ended December 31 as summarized below:

	2020	2019	2018
	(in millions, except per share data)		
Dividends declared per share	$ 1.64	$ 1.39	$ 1.08
Total dividends declared	$ 1,641	$ 1,408	$ 1,120

Ownership and Governance Structure

Equity ownership and voting power of the Company's shares were allocated as follows as of December 31:

	2020		2019	
	Equity Ownership	General Voting Power	Equity Ownership	General Voting Power
Public Investors (Class A stockholders)	88.2 %	88.9 %	87.8 %	88.8 %
Principal or Affiliate Customers (Class B stockholders)	0.8 %	— %	1.1 %	— %
Mastercard Foundation (Class A stockholders)	11.0 %	11.1 %	11.1 %	11.2 %

Class B Common Stock Conversions

Shares of Class B common stock are convertible on a one-for-one basis into shares of Class A common stock. Entities eligible to hold Mastercard's Class B common stock are defined in the Company's amended and restated certificate of incorporation (generally the Company's principal or affiliate customers), and they are restricted from retaining ownership of shares of Class A common stock. Class B stockholders are required to subsequently sell or otherwise transfer any shares of Class A common stock received pursuant to such a conversion.

Mastercard Foundation

In connection and simultaneously with its 2006 initial public offering (the "IPO"), the Company issued and donated 135 million newly authorized shares of Class A common stock to Mastercard Foundation. Mastercard Foundation is a private charitable foundation incorporated in Canada that is controlled by directors who are independent of the Company and its principal customers. Under the terms of the donation, Mastercard Foundation became able to resell the donated shares in May 2010 to the extent necessary to meet charitable disbursement requirements pursuant to Canadian tax law. Under such current law, Mastercard Foundation must annually disburse at least 3.5% of its assets not used in its charitable activities and administration in the previous eight quarters ("Disbursement Quota"). However, Mastercard Foundation obtained permission from the Canada Revenue Agency to, until December 31, 2021, meet its cumulative Disbursement Quota obligations over a period of time that, on average, demonstrates compliance with the requirement for such established time period. Mastercard Foundation will be permitted to sell all of its remaining shares beginning May 1, 2027, subject to certain conditions.

Stock Repurchase Programs

The Company's Board of Directors have approved share repurchase programs authorizing the Company to repurchase shares of its Class A Common Stock. These programs become effective after the completion of the previously authorized share repurchase program.

The following table summarizes the Company's share repurchase authorizations of its Class A common stock through December 31, 2020, as well as historical purchases:

Board authorization dates	**December 2020**	**December 2019**	**December 2018**	**December 2017**	**December 2016**	
Date program became effective	**Not yet effective**	**January 2020**	**January 2019**	**March 2018**	**April 2017**	**Total**
	(in millions, except average price data)					
Board authorization	$ 6,000	$ 8,000	$ 6,500	$ 4,000	$ 4,000	$28,500
Dollar-value of shares repurchased in 2018	$ —	$ —	$ —	$ 3,699	$ 1,234	$ 4,933
Remaining authorization at December 31, 2018	$ —	$ —	$ 6,500	$ 301	$ —	$ 6,801
Dollar-value of shares repurchased in 2019	$ —	$ —	$ 6,196	$ 301	$ —	$ 6,497
Remaining authorization at December 31, 2019	$ —	$ 8,000	$ 304	$ —	$ —	$ 8,304
Dollar-value of shares repurchased in 2020	$ —	$ 4,169	$ 304	$ —	$ —	$ 4,473
Remaining authorization at December 31, 2020	$ 6,000	$ 3,831	$ —	$ —	$ —	$ 9,831
Shares repurchased in 2018	—	—	—	19.0	7.2	26.2
Average price paid per share in 2018	$ —	$ —	$ —	$194.77	$171.11	$188.26
Shares repurchased in 2019	—	—	24.8	1.6	—	26.4
Average price paid per share in 2019	$ —	$ —	$249.58	$188.38	$ —	$245.89
Shares repurchased in 2020	—	13.3	1.0	—	—	14.3
Average price paid per share in 2020	$ —	$313.26	$304.89	$ —	$ —	$312.68
Cumulative shares repurchased through December 31, 2020	—	13.3	25.8	20.6	28.2	87.9
Cumulative average price paid per share	$ —	$313.26	$251.72	$194.27	$141.99	$212.41

The following table presents the changes in the Company's outstanding Class A and Class B common stock for the years ended December 31:

	Outstanding Shares	
	Class A	**Class B**
	(in millions)	
Balance at December 31, 2017	1,039.7	14.1
Purchases of treasury stock	(26.2)	—
Share-based payments	2.8	—
Conversion of Class B to Class A common stock	2.3	(2.3)
Balance at December 31, 2018	**1,018.6**	**11.8**
Purchases of treasury stock	(26.4)	—
Share-based payments	3.2	—
Conversion of Class B to Class A common stock	0.6	(0.6)
Balance at December 31, 2019	**996.0**	**11.2**
Purchases of treasury stock	(14.3)	—
Share-based payments	2.3	—
Conversion of Class B to Class A common stock	2.9	(2.9)
Balance at December 31, 2020	**986.9**	**8.3**

Note 17. Accumulated Other Comprehensive Income (Loss)

The changes in the balances of each component of accumulated other comprehensive income (loss), net of tax, for the years ended December 31, 2020 and 2019 were as follows:

	December 31, 2019	Increase / (Decrease)	Reclassifications	December 31, 2020
	(in millions)			
Foreign currency translation adjustments[1]	$ (638)	$ 286	$ —	$ (352)
Translation adjustments on net investment hedge[2]	(38)	(137)	—	(175)
Cash flow hedges				
Interest rate contracts[3]	11	(147)	3	(133)
Defined benefit pension and other postretirement plans[4]	(9)	(10)	(1)	(20)
Investment securities available-for-sale	1	(1)	—	—
Accumulated Other Comprehensive Income (Loss)	$ (673)	$ (9)	$ 2	$ (680)

	December 31, 2018	Increase / (Decrease)	Reclassifications	December 31, 2019
	(in millions)			
Foreign currency translation adjustments[1]	$ (661)	$ 23	$ —	$ (638)
Translation adjustments on net investment hedge[2]	(66)	28	—	(38)
Cash flow hedges				
Interest rate contracts[3]	—	11	—	11
Defined benefit pension and other postretirement plans[4]	10	(17)	(2)	(9)
Investment securities available-for-sale	(1)	2	—	1
Accumulated Other Comprehensive Income (Loss)	$ (718)	$ 47	$ (2)	$ (673)

1. During 2020, the decrease in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the Euro and British pound partially offset by the depreciation of the Brazilian real. During 2019, the decrease in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the British pound partially offset by the depreciation of the euro.

2. The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. Changes in the value of the debt are recorded in accumulated other comprehensive income (loss). During 2020, the increase in the accumulated other comprehensive loss related to the net investment hedge was driven by the appreciation of the euro. During 2019, the decrease in the accumulated other comprehensive loss related to the net investment hedge was driven by the depreciation of the euro. See Note 23 (Derivative and Hedging Instruments) for additional information.

3. In 2019, the Company entered into treasury rate locks which are accounted for as cash flow hedges. In the first quarter of 2020, in connection with the issuance of the 2020 USD Notes, these contracts were settled for a loss of $175 million, or $136 million net of tax, recorded in accumulated other comprehensive income (loss). The cumulative loss will be reclassified as an adjustment to interest expense over the respective terms of the 2020 USD Notes. See Note 23 (Derivative and Hedging Instruments) for additional information.

4. During 2020, the increase in the accumulated other comprehensive loss related to the Company's Plans was driven primarily by an actuarial loss within the Postretirement Plan. During 2019, the decrease in the accumulated

other comprehensive gain related to the Company's Plans was primarily driven by actuarial losses within the Vocalink and non-U.S. Plans. See Note 14 (Pension, Postretirement and Savings Plans) for additional information.

Note 18. Share-Based Payments

In May 2006, the Company implemented the Mastercard Incorporated 2006 Long Term Incentive Plan, which was amended and restated as of June 5, 2012 (the "LTIP"). The LTIP is a stockholder-approved plan that permits the grant of various types of equity awards to employees. The Company has granted Options, RSUs and PSUs under the LTIP. The Company uses the straight-line method of attribution for expensing all equity awards. Compensation expense is recorded net of estimated forfeitures, with estimates adjusted as appropriate.

There are approximately 116 million shares of Class A common stock authorized for equity awards under the LTIP. Although the LTIP permits the issuance of shares of Class B common stock, no such shares have been authorized for issuance. Shares issued as a result of Option exercises and the conversions of RSUs and PSUs were funded primarily with the issuance of new shares of Class A common stock.

Stock Options

Options expire ten years from the date of grant and vest ratably over four years. For Options granted, a participant's unvested awards are forfeited upon termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, however, the participant retains all of their awards without providing additional service to the Company. Retirement eligibility is dependent upon age and years of service. Compensation expense is recognized over the vesting period as stated in the LTIP.

The fair value of each Option is estimated on the date of grant using a Black-Scholes option pricing model. The following table presents the weighted-average assumptions used in the valuation and the resulting weighted-average fair value per option granted for the years ended December 31:

	2020	2019	2018
Risk-free rate of return	1.0 %	2.6 %	2.7 %
Expected term (in years)	6.00	6.00	6.00
Expected volatility	19.3 %	19.6 %	19.7 %
Expected dividend yield	0.6 %	0.6 %	0.6 %
Weighted-average fair value per Option granted	$ 80.92	$ 53.09	$ 40.90

The risk-free rate of return was based on the U.S. Treasury yield curve in effect on the date of grant. The expected term and the expected volatility were based on historical Mastercard information. The expected dividend yields were based on the Company's expected annual dividend rate on the date of grant.

The following table summarizes the Company's option activity for the year ended December 31, 2020:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in millions)		(in years)	(in millions)
Outstanding at January 1, 2020	6.6	$ 117		
Granted	0.4	$ 263		
Exercised	(1.3)	$ 75		
Forfeited/expired	—	$ 229		
Outstanding at December 31, 2020	**5.7**	**$ 137**	**6.0**	**$ 1,259**
Exercisable at December 31, 2020	**3.8**	**$ 106**	**5.1**	**$ 962**
Options vested and expected to vest at December 31, 2020	**5.7**	**$ 137**	**6.0**	**$ 1,257**

As of December 31, 2020, there was $37 million of total unrecognized compensation cost related to non-vested Options. The cost is expected to be recognized over a weighted-average period of 2.1 years.

Restricted Stock Units

For RSUs granted on or after March 1, 2020, the awards generally vest ratably over four years. For RSUs granted before March 1, 2020, the awards generally vest after three years. A participant's unvested awards are forfeited upon termination of employment. In the event of termination due to job elimination (as defined by the Company), however, a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, the participant retains all of their awards without providing additional service to the Company. Compensation expense is recognized over the shorter of the vesting periods stated in the LTIP or the date the individual becomes eligible to retire but not less than seven months.

The following table summarizes the Company's RSU activity for the year ended December 31, 2020:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2020	2.9	$ 166	
Granted	0.9	$ 288	
Converted	(1.2)	$ 116	
Forfeited	(0.1)	$ 218	
Outstanding at December 31, 2020	**2.5**	**$ 231**	**$ 898**
RSUs expected to vest at December 31, 2020	**2.4**	**$ 230**	**$ 861**

The fair value of each RSU is the closing stock price on the New York Stock Exchange of the Company's Class A common stock on the date of grant, adjusted for the exclusion of dividend equivalents. Upon vesting, a portion of the RSU award may be withheld to satisfy the minimum statutory withholding taxes. The remaining RSUs will be settled in shares of the Company's Class A common stock after the vesting period. As of December 31, 2020, there was $233 million of total unrecognized compensation cost related to non-vested RSUs. The cost is expected to be recognized over a weighted-average period of 2.4 years.

Performance Stock Units

PSUs vest after three years, however, awards granted on or after March 1, 2019 are subject to a mandatory one-year post-vest hold. A participant's unvested awards are forfeited upon termination of employment. In the event of termination due to job elimination (as defined by the Company), however, a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than seven months after receiving the award, the participant retains all of their awards without providing additional service to the Company.

The following table summarizes the Company's PSU activity for the year ended December 31, 2020:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2020	0.5	$ 167	
Granted	0.2	$ 291	
Converted	(0.3)	$ 126	
Outstanding at December 31, 2020	**0.4**	**$ 259**	**$ 148**
PSUs expected to vest at December 31, 2020	**0.4**	**$ 259**	**$ 148**

Since 2013, PSUs containing performance and market conditions have been issued. Performance measures used to determine the actual number of shares that vest after three years include net revenue growth, EPS growth and relative total shareholder return ("TSR"). Relative TSR is considered a market condition, while net revenue and EPS growth are considered performance conditions. The Monte Carlo simulation valuation model is used to determine the grant-date fair value.

Compensation expense for PSUs is recognized over the requisite service period, or the date the individual becomes eligible to retire but not less than seven months, if it is probable that the performance target will be achieved and subsequently adjusted if the probability assessment changes. During the year ended December 31, 2020, performance targets related to PSU awards granted in 2018, and scheduled to vest in 2021 ("2018 PSU Awards"), were adjusted to exclude certain pandemic-related financial impacts deemed outside of the Company's control. The adjustment required the Company to apply modification accounting to the 2018 PSU Awards. The modification had an immaterial impact on compensation expense expected to be recognized over the remaining service period. As of December 31, 2020, there was $38 million of total unrecognized compensation cost related to non-vested PSUs. The cost is expected to be recognized over a weighted-average period of 1.4 years.

Additional Information

The following table includes additional share-based payment information for each of the years ended December 31:

	2020	2019	2018
	(in millions, except weighted-average fair value)		
Share-based compensation expense: Options, RSUs and PSUs	$ 254	$ 250	$ 196
Income tax benefit recognized for equity awards	53	53	41
Income tax benefit realized related to Options exercised	68	69	53
Options:			
Total intrinsic value of Options exercised	317	317	242
RSUs:			
Weighted-average grant-date fair value of awards granted	288	226	171
Total intrinsic value of RSUs converted into shares of Class A common stock	330	394	194
PSUs:			
Weighted-average grant-date fair value of awards granted	291	231	226
Total intrinsic value of PSUs converted into shares of Class A common stock	92	85	40

Note 19. Commitments

At December 31, 2020, the Company had the following future minimum payments due under noncancelable agreements, primarily related to sponsorships to promote the Mastercard brand and licensing arrangements and a commitment to purchase the remaining shares of a majority-owned joint venture. The Company has accrued $22 million of these future payments as of December 31, 2020.

	(in millions)
2021	$ 573
2022	255
2023	117
2024	78
2025	1
Thereafter	—
Total	**$ 1,024**

Note 20. Income Taxes

Components of Income and Income tax expense

The domestic and foreign components of income before income taxes for the years ended December 31 are as follows:

	2020	2019	2018
	(in millions)		
United States	$ 3,304	$ 4,213	$ 3,510
Foreign	4,456	5,518	3,694
Income before income taxes	**$ 7,760**	**$ 9,731**	**$ 7,204**

The total income tax provision for the years ended December 31 is comprised of the following components:

	2020	2019	2018
	(in millions)		
Current			
Federal	$ 439	$ 642	$ 649
State and local	56	81	69
Foreign	781	897	871
	1,276	**1,620**	**1,589**
Deferred			
Federal	106	40	(228)
State and local	9	—	(11)
Foreign	(42)	(47)	(5)
	73	**(7)**	**(244)**
Income tax expense	**$ 1,349**	**$ 1,613**	**$ 1,345**

Effective Income Tax Rate

A reconciliation of the effective income tax rate to the U.S. federal statutory income tax rate for the years ended December 31, is as follows:

	2020		2019		2018	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 7,760		$ 9,731		$ 7,204	
Federal statutory tax	1,630	21.0 %	2,044	21.0 %	1,513	21.0 %
State tax effect, net of federal benefit	57	0.7 %	65	0.7 %	46	0.6 %
Foreign tax effect	(193)	(2.5)%	(208)	(2.1)%	(92)	(1.3)%
European Commission fine	—	— %	—	— %	194	2.7 %
Foreign tax credits[1]	—	— %	(32)	(0.3)%	(110)	(1.5)%
Windfall benefit	(119)	(1.5)%	(129)	(1.3)%	(72)	(1.0)%
Other, net	(26)	(0.3)%	(127)	(1.4)%	(134)	(1.8)%
Income tax expense	**$ 1,349**	**17.4 %**	**$ 1,613**	**16.6 %**	**$ 1,345**	**18.7 %**

[1] Included within the impact of the foreign tax credits is $27 million for 2019 and $90 million for 2018 of tax benefits relating to the carryback of certain foreign tax credits.

The effective income tax rates for the years ended December 31, 2020, 2019 and 2018 were 17.4%, 16.6% and 18.7%, respectively. The effective income tax rate for 2020 was higher than the effective income tax rate for 2019, primarily due to discrete tax benefits in 2019, partially offset by a more favorable geographic mix of earnings in 2020. The 2019 discrete tax benefits related to a favorable court ruling, a reduction to the Company's transition tax liability and additional foreign tax credits which can be carried back under U.S. tax reform transition rules issued by the Department of the Treasury and the Internal Revenue Service.

The effective income tax rate for 2019 was lower than the effective income tax rate for 2018 primarily due to the nondeductible nature of the fine issued by the European Commission in 2018 and a discrete tax benefit related to a favorable court ruling in 2019. These 2019 benefits were partially offset by discrete tax benefits in 2018 primarily related to foreign tax credits generated in 2018 as a result of

U.S. tax reform, which can be carried back and utilized in 2017 under transition rules issued by the Department of the Treasury and the Internal Revenue Service.

Singapore Income Tax Rate

In connection with the expansion of the Company's operations in the Asia Pacific, Middle East and Africa region, the Company's subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL") received an incentive grant from the Singapore Ministry of Finance in 2010. The incentive had provided MAPPL with, among other benefits, a reduced income tax rate for the 10-year period commencing January 1, 2010 on taxable income in excess of a base amount. The Company continued to explore business opportunities in this region, resulting in an expansion of the incentives being granted by the Ministry of Finance, including a further reduction to the income tax rate on taxable income in excess of a revised fixed base amount commencing July 1, 2011 and continuing through December 31, 2025. Without the incentive grant, MAPPL would have been subject to the statutory income tax rate on its earnings. For 2020, 2019 and 2018, the impact of the incentive grant received from the Ministry of Finance resulted in a reduction of MAPPL's income tax liability of $260 million, or $0.26 per diluted share, $300 million, or $0.29 per diluted share, and $212 million, or $0.20 per diluted share, respectively.

Indefinite Reinvestment

As of December 31, 2020 the Company had deferred tax liabilities of $61 million primarily related to the tax effect of the estimated foreign exchange impact on unremitted earnings. The Company expects that foreign withholding taxes associated with future repatriation of these earnings will not be material. Earnings of approximately $0.6 billion remain permanently reinvested and the Company estimates that immaterial U.S. federal and state and local income tax expense would result, primarily from foreign exchange, if these earnings were to be repatriated.

Deferred Taxes

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The components of deferred tax assets and liabilities at December 31 are as follows:

	2020	2019
	(in millions)	
Deferred Tax Assets		
Accrued liabilities	$ 324	$ 354
Compensation and benefits	218	214
State taxes and other credits	47	41
Net operating and capital losses	147	119
Unrealized gain/loss - 2015 EUR Notes	58	20
U.S. foreign tax credits	276	145
Intangible assets	182	157
Other items	142	74
Less: Valuation allowance	(353)	(205)
Total Deferred Tax Assets	**1,041**	**919**
Deferred Tax Liabilities		
Prepaid expenses and other accruals	78	83
Goodwill and intangible assets	216	187
Property, plant and equipment	183	128
Previously taxed earnings and profits	61	—
Other items	98	63
Total Deferred Tax Liabilities	**636**	**461**
Net Deferred Tax Assets	**$ 405**	**$ 458**

The valuation allowance balance at December 31, 2020 and 2019 primarily relates to the Company's ability to recognize future tax benefits associated with the carry forward of U.S. foreign tax credits generated in the current and prior periods and certain foreign net operating losses. The recognition of the foreign tax credits is dependent upon the realization of future foreign source income in the appropriate foreign tax credit basket in accordance with U.S. federal income tax law. The recognition of the foreign losses is

dependent upon the future taxable income in such jurisdictions and the ability under tax law in these jurisdictions to utilize net operating losses following a change in control.

A reconciliation of the beginning and ending balance for the Company's unrecognized tax benefits for the years ended December 31, is as follows:

	2020	2019	2018
	(in millions)		
Beginning balance	$ 203	$ 164	$ 183
Additions:			
Current year tax positions	19	22	23
Prior year tax positions	192	37	5
Reductions:			
Prior year tax positions	(10)	(11)	(17)
Settlements with tax authorities	(12)	(2)	(18)
Expired statute of limitations	(4)	(7)	(12)
Ending balance	**$ 388**	**$ 203**	**$ 164**

As of December 31, 2020, the amount of unrecognized tax benefit was $388 million. This amount, if recognized, would reduce the effective income tax rate. The Company's unrecognized tax benefits increased primarily due to a prior year tax issue resulting from a refund claim filed in 2020.

The Company is subject to tax in the U.S., Belgium, Singapore, the United Kingdom and various other foreign jurisdictions, as well as state and local jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted after considering facts and circumstances, including progress of tax audits, developments in case law and closing of statutes of limitation. Within the next twelve months, the Company believes that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. While such a change may be significant, it is not possible to provide a range of the potential change until the examinations progress further or the related statutes of limitation expire. The Company has effectively settled its U.S. federal income tax obligations through 2011. With limited exception, the Company is no longer subject to state and local or foreign examinations by tax authorities for years before 2010.

At December 31, 2020 and 2019, the Company had a net income tax-related interest payable of $24 million and $13 million, respectively, in its consolidated balance sheet. Tax-related interest income/(expense) in 2020, 2019 and 2018 was not material. In addition, as of December 31, 2020 and 2019, the amounts the Company has recognized for penalties payable in its consolidated balance sheet were not material.

Note 21. Legal and Regulatory Proceedings

Mastercard is a party to legal and regulatory proceedings with respect to a variety of matters in the ordinary course of business. Some of these proceedings are based on complex claims involving substantial uncertainties and unascertainable damages. Accordingly, except as discussed below, it is not possible to determine the probability of loss or estimate damages, and therefore, Mastercard has not established reserves for any of these proceedings. When the Company determines that a loss is both probable and reasonably estimable, Mastercard records a liability and discloses the amount of the liability if it is material. When a material loss contingency is only reasonably possible, Mastercard does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Unless otherwise stated below with respect to these matters, Mastercard cannot provide an estimate of the possible loss or range of loss based on one or more of the following reasons: (1) actual or potential plaintiffs have not claimed an amount of monetary damages or the amounts are unsupportable or exaggerated, (2) the matters are in early

stages, (3) there is uncertainty as to the outcome of pending appeals or motions, (4) there are significant factual issues to be resolved, (5) the existence in many such proceedings of multiple defendants or potential defendants whose share of any potential financial responsibility has yet to be determined and/or (6) there are novel legal issues presented. Furthermore, except as identified with respect to the matters below, Mastercard does not believe that the outcome of any individual existing legal or regulatory proceeding to which it is a party will have a material adverse effect on its results of operations, financial condition or overall business. However, an adverse judgment or other outcome or settlement with respect to any proceedings discussed below could result in fines or payments by Mastercard and/or could require Mastercard to change its business practices. In addition, an adverse outcome in a regulatory proceeding could lead to the filing of civil damage claims and possibly result in significant damage awards. Any of these events could have a material adverse effect on Mastercard's results of operations, financial condition and overall business.

Interchange Litigation and Regulatory Proceedings

Mastercard's interchange fees and other practices are subject to regulatory, legal review and/or challenges in a number of jurisdictions, including the proceedings described below. When taken as a whole, the resulting decisions, regulations and legislation with respect to interchange fees and acceptance practices may have a material adverse effect on the Company's prospects for future growth and its overall results of operations, financial position and cash flows.

United States. In June 2005, the first of a series of complaints were filed on behalf of merchants (the majority of the complaints were styled as class actions, although a few complaints were filed on behalf of individual merchant plaintiffs) against Mastercard International, Visa U.S.A., Inc., Visa International Service Association and a number of financial institutions. Taken together, the claims in the complaints were generally brought under both Sections 1 and 2 of the Sherman Act, which prohibit monopolization and attempts or conspiracies to monopolize a particular industry, and some of these complaints contain unfair competition law claims under state law. The complaints allege, among other things, that Mastercard, Visa, and certain financial institutions conspired to set the price of interchange fees, enacted point of sale acceptance rules (including the no surcharge rule) in violation of antitrust laws and engaged in unlawful tying and bundling of certain products and services, resulting in merchants paying excessive costs for the acceptance of Mastercard and Visa credit and debit cards. The cases were consolidated for pre-trial proceedings in the U.S. District Court for the Eastern District of New York in MDL No. 1720. The plaintiffs filed a consolidated class action complaint that seeks treble damages.

In July 2006, the group of purported merchant class plaintiffs filed a supplemental complaint alleging that Mastercard's initial public offering of its Class A Common Stock in May 2006 (the "IPO") and certain purported agreements entered into between Mastercard and financial institutions in connection with the IPO: (1) violate U.S. antitrust laws and (2) constituted a fraudulent conveyance because the financial institutions allegedly attempted to release, without adequate consideration, Mastercard's right to assess them for Mastercard's litigation liabilities. The class plaintiffs sought treble damages and injunctive relief including, but not limited to, an order reversing and unwinding the IPO.

In February 2011, Mastercard and Mastercard International entered into each of: (1) an omnibus judgment sharing and settlement sharing agreement with Visa Inc., Visa U.S.A. Inc. and Visa International Service Association and a number of financial institutions; and (2) a Mastercard settlement and judgment sharing agreement with a number of financial institutions. The agreements provide for the apportionment of certain costs and liabilities which Mastercard, the Visa parties and the financial institutions may incur, jointly and/or severally, in the event of an adverse judgment or settlement of one or all of the cases in the merchant litigations. Among a number of scenarios addressed by the agreements, in the event of a global settlement involving the Visa parties, the financial institutions and Mastercard, Mastercard would pay 12% of the monetary portion of the settlement. In the event of a settlement involving only Mastercard and the financial institutions with respect to their issuance of Mastercard cards, Mastercard would pay 36% of the monetary portion of such settlement.

In October 2012, the parties entered into a definitive settlement agreement with respect to the merchant class litigation (including with respect to the claims related to the IPO) and the defendants separately entered into a settlement agreement with the individual merchant plaintiffs. The settlements included cash payments that were apportioned among the defendants pursuant to the omnibus judgment sharing and settlement sharing agreement described above. Mastercard also agreed to provide class members with a short-term reduction in default credit interchange rates and to modify certain of its business practices, including its "no surcharge" rule. The court granted final approval of the settlement in December 2013, and objectors to the settlement appealed that decision to the U.S. Court of Appeals for the Second Circuit. In June 2016, the court of appeals vacated the class action certification, reversed the settlement approval and sent the case back to the district court for further proceedings. The court of appeals' ruling was based primarily on whether the merchants were adequately represented by counsel in the settlement. As a result of the appellate court ruling, the

district court divided the merchants' claims into two separate classes - monetary damages claims (the "Damages Class") and claims seeking changes to business practices (the "Rules Relief Class"). The court appointed separate counsel for each class.

In September 2018, the parties to the Damages Class litigation entered into a class settlement agreement to resolve the Damages Class claims. Mastercard increased its reserve by $237 million during 2018 to reflect both its expected financial obligation under the Damages Class settlement agreement and the filed and anticipated opt-out merchant cases. The time period during which Damages Class members were permitted to opt out of the class settlement agreement ended in July 2019 with merchants representing slightly more than 25% of the Damages Class interchange volume choosing to opt out of the settlement. The district court granted final approval of the settlement in December 2019. The district court's settlement approval order has been appealed. Mastercard has commenced settlement negotiations with a number of the opt-out merchants and has reached settlements and/or agreements in principle to settle a number of these claims. The Damages Class settlement agreement does not relate to the Rules Relief Class claims. Separate settlement negotiations with the Rules Relief Class are ongoing. In December 2020, the Rules Relief Class filed a motion for class certification. Briefing on summary judgment motions in the Rules Relief Class and opt-out merchant cases was completed in December 2020.

As of December 31, 2020 and 2019, Mastercard had accrued a liability of $783 million and $914 million, respectively, as a reserve for both the Damages Class litigation and the opt-out merchant cases. As of December 31, 2020 and 2019, Mastercard had $586 million and $584 million, respectively, in a qualified cash settlement fund related to the Damages Class litigation and classified as restricted cash on its consolidated balance sheet. The reserve as of December 31, 2020 for both the Damages Class litigation and the opt-out merchants represents Mastercard's best estimate of its probable liabilities in these matters. The portion of the accrued liability relating to both the opt-out merchants and the Damages Class litigation settlement does not represent an estimate of a loss, if any, if the matters were litigated to a final outcome. Mastercard cannot estimate the potential liability if that were to occur.

Canada. In December 2010, a proposed class action complaint was commenced against Mastercard in Quebec on behalf of Canadian merchants. The suit essentially repeated the allegations and arguments of a previously filed application by the Canadian Competition Bureau to the Canadian Competition Tribunal (dismissed in Mastercard's favor) concerning certain Mastercard rules related to point-of-sale acceptance, including the "honor all cards" and "no surcharge" rules. The Quebec suit sought compensatory and punitive damages in unspecified amounts, as well as injunctive relief. In the first half of 2011, additional purported class action lawsuits were commenced in British Columbia and Ontario against Mastercard, Visa and a number of large Canadian financial institutions. The British Columbia suit sought compensatory damages in unspecified amounts, and the Ontario suit sought compensatory damages of $5 billion on the basis of alleged conspiracy and various alleged breaches of the Canadian Competition Act. Additional purported class action complaints were commenced in Saskatchewan and Alberta with claims that largely mirror those in the other suits. In June 2017, Mastercard entered into a class settlement agreement to resolve all of the Canadian class action litigation. The settlement, which requires Mastercard to make a cash payment and modify its "no surcharge" rule, has received court approval in each Canadian province. Objectors to the settlement have sought to appeal the approval orders. All appellate courts have rejected the objectors' appeals. In one of the appeals, the objectors have until April 2021 to request an appeal to the Supreme Court of Canada. For the remainder of the appeals, the Supreme Court has previously denied such requests.

Europe. In July 2015, the European Commission ("EC") issued a Statement of Objections related to Mastercard's interregional interchange fees and central acquiring rule within the European Economic Area (the "EEA"). The Statement of Objections, which followed an investigation opened in 2013, included preliminary conclusions concerning the alleged anticompetitive effects of these practices. In December 2018, Mastercard announced the anticipated resolution of the EC's investigation. With respect to interregional interchange fees, Mastercard made a settlement proposal whereby it would make changes to its interregional interchange fees. The EC issued a decision accepting the settlement in April 2019, with changes to interregional interchange fees going into effect in the fourth quarter of 2019. In addition, with respect to Mastercard's historic central acquiring rule, the EC issued a negative decision in January 2019. The EC's negative decision covers a period of time of less than two years before the rule's modification. The rule was modified in late 2015 to comply with the requirements of the EEA Interchange Fee Regulation. The decision does not require any modification of Mastercard's current business practices but included a fine of €571 million, which was paid in April 2019. Mastercard incurred a charge of $654 million in 2018 in relation to this matter.

Since May 2012, a number of United Kingdom ("U.K.") merchants filed claims or threatened litigation against Mastercard seeking damages for merchants allegedly paying excessive costs for the acceptance of Mastercard credit and debit cards arising out of alleged anti-competitive conduct with respect to, among other things, Mastercard's cross-border interchange fees and its U.K. and Ireland domestic interchange fees (the "U.K. Merchant claimants"). In addition, Mastercard, has faced similar filed or threatened litigation by merchants with respect to interchange rates in other countries in Europe (the "Pan-European Merchant claimants"). In aggregate, the alleged damages claims from the U.K. and Pan-European Merchant claimants were in the amount of approximately £3 billion (approximately $4.5 billion as of December 31, 2020). Mastercard has resolved over £2 billion (approximately $3 billion as of December 31, 2020) of these damages claims through settlement or judgment.

In January 2017, Mastercard received a liability judgment in its favor on all significant matters in a separate action brought by ten of the U.K. Merchant claimants. Three of the U.K. Merchant claimants appealed the judgment, and these appeals were combined with Mastercard's appeal of a 2016

judgment in favor of one U.K. merchant. In July 2018, the U.K. appellate court heard the appeals of the four merchants and ruled against both Mastercard and Visa on two of the three legal issues being considered. The parties appealed the rulings to the U.K. Supreme Court. In June 2020, the U.K. Supreme Court ruled against Mastercard and Visa with respect to one of the liability issues being considered by the Court related to U.K domestic interchange fees. Additionally, the U.K Supreme Court set out the legal standard that should be applied by lower trial courts with respect to determining whether interchange was exemptible under applicable law, and provided guidance to lower courts with regard to the legal standard that should be applied in assessing merchants' damages claims. The U.K. Supreme Court sent one of the four merchant cases back to the trial court for a determination of liability and damages issues and sent the remaining three merchant cases back to the trial court for a determination of damages issues only. A hearing in one of these merchant cases on liability and damages issues is expected to be scheduled for the fourth quarter of 2021, while a trial on damages for the other three merchant claims is not expected to occur until 2023.

Since June 2015, Mastercard has recorded litigation provisions for settlements, judgments and legal fees relating to these claims, including charges of $237 million in 2018. Mastercard continues to litigate with the remaining U.K. and Pan-European Merchant claimants and it has submitted statements of defense disputing liability and damages claims. The majority of these merchant claims

generally had been stayed pending the decision of the U.K. Supreme Court, and a number of those matters are now progressing with motion practice and discovery. Mastercard incurred charges of $22 million in 2020 to reflect both the estimated attorneys' fees incurred by the four merchant claimants in the U.K. Supreme Court appeal, as well as settlements with a number of Pan-European merchants.

In September 2016, a proposed collective action was filed in the United Kingdom on behalf of U.K. consumers seeking damages for intra-EEA and domestic U.K. interchange fees that were allegedly passed on to consumers by merchants between 1992 and 2008. The complaint, which seeks to leverage the European Commission's 2007 decision on intra-EEA interchange fees, claims damages in an amount that exceeds £14 billion (approximately $19 billion as of December 31, 2020). In July 2017, the trial court denied the plaintiffs' application for the case to proceed as a collective action. In April 2019, the U.K. appellate court granted the plaintiffs' appeal of the trial court's decision and sent the case back to the trial court for a re-hearing on the plaintiffs' collective action application. In December 2020, the U.K. Supreme Court rejected Mastercard's appeal of this ruling. The case has been sent back to the trial court for a re-hearing on the plaintiffs' collective action application in light of the Supreme Court decision. The hearing is scheduled to occur in late March 2021.

ATM Non-Discrimination Rule Surcharge Complaints

In October 2011, a trade association of independent Automated Teller Machine ("ATM") operators and 13 independent ATM operators filed a complaint styled as a class action lawsuit in the U.S. District Court for the District of Columbia against both Mastercard and Visa (the "ATM Operators Complaint"). Plaintiffs seek to represent a class of non-bank operators of ATM terminals that operate in the United States with the discretion to determine the price of the ATM access fee for the terminals they operate. Plaintiffs allege that Mastercard and Visa have violated Section 1 of the Sherman Act by imposing rules that require ATM operators to charge non-discriminatory ATM surcharges for transactions processed over Mastercard's and Visa's respective networks that are not greater than the surcharge for transactions over other networks accepted at the same ATM. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

Subsequently, multiple related complaints were filed in the U.S. District Court for the District of Columbia alleging both federal antitrust and multiple state unfair competition, consumer protection and common law claims against Mastercard and Visa on behalf of putative classes of users of ATM services (the "ATM Consumer Complaints"). The claims in these actions largely mirror the allegations made in the ATM Operators Complaint, although these complaints seek damages on behalf of consumers of ATM services who pay allegedly inflated ATM fees at both bank and non-bank ATM operators as a result of the defendants' ATM rules. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

In January 2012, the plaintiffs in the ATM Operators Complaint and the ATM Consumer Complaints filed amended class action complaints that largely mirror their prior complaints. In February 2013, the district court granted Mastercard's motion to dismiss the complaints for failure to state a claim. On appeal, the Court of Appeals reversed the district court's order in August 2015 and sent the case back for further proceedings. In September 2019, the plaintiffs filed their motions for class certification in which the plaintiffs, in aggregate, allege over $1 billion in damages against all of the defendants. Mastercard intends to vigorously defend against both the plaintiffs' liability and damages claims and has opposed class certification. Briefing on class certification is complete.

U.S. Liability Shift Litigation

In March 2016, a proposed U.S. merchant class action complaint was filed in federal court in California alleging that Mastercard, Visa, American Express and Discover (the "Network Defendants"), EMVCo and a number of issuing banks (the "Bank Defendants") engaged in a conspiracy to shift fraud liability for card present transactions from issuing banks to merchants not yet in compliance with the standards for

EMV chip cards in the United States (the "EMV Liability Shift"), in violation of the Sherman Act and California law. Plaintiffs allege damages equal to the value of all chargebacks for which class members became liable as a result of the EMV Liability Shift on October 1, 2015. The plaintiffs seek treble damages, attorney's fees and costs and an injunction against future violations of governing law, and the defendants have filed a motion to dismiss. In September 2016, the district court denied the Network Defendants' motion to dismiss the complaint, but granted such a motion for EMVCo and the Bank Defendants. In May 2017, the district court transferred the case to New York so that discovery could be coordinated with the U.S. merchant class interchange litigation described above. In August 2020, the district court issued an order granting the plaintiffs' request for class certification. In January 2021, the Network Defendants' request for permission to appeal the district court's certification decision to the appellate court was denied. The case is proceeding with substantive expert discovery.

Telephone Consumer Protection Class Action

Mastercard is a defendant in a Telephone Consumer Protection Act ("TCPA") class action pending in Florida. The plaintiffs are individuals and businesses who allege that approximately 381,000 unsolicited faxes were sent to them advertising a Mastercard co-brand card issued by First Arkansas Bank ("FAB"). The TCPA provides for uncapped statutory damages of $500 per fax. Mastercard has asserted various defenses to the claims, and has notified FAB of an indemnity claim that it has (which FAB has disputed). In June 2018, the district court granted Mastercard's motion to stay the proceedings until the Federal Communications Commission makes a decision on the application of the TCPA to online fax services. In December 2019, the FCC issued a declaratory ruling clarifying that the TCPA does not apply to faxes sent to online fax services that are received via e-mail. As a result of the ruling, the stay of the litigation was lifted in January 2020. In January 2021, the magistrate judge serving on the district court issued a decision recommending that the district court judge deny plaintiffs' class certification motion. The plaintiffs have the opportunity to file objections to this decision with the district court judge.

U.S. Federal Trade Commission Investigation

In June 2020, the U.S. Federal Trade Commission's Bureau of Competition ("FTC") informed Mastercard that it has initiated a formal investigation into compliance with the Durbin Amendment to the Dodd-Frank Wall Street Reform and Consumer Protection Act. In particular, the investigation focuses on Mastercard's compliance with the debit routing provisions of the Durbin Amendment. The FTC has issued a subpoena and Mastercard is cooperating with it in the investigation.

U.K. Prepaid Cards Matter

Mastercard is subject to an ongoing confidential legal matter related to prepaid cards in the U.K. This matter focuses exclusively on historic behavior, and has no prospective impact on Mastercard's on-going business. In connection with this matter, in the fourth quarter of 2020, Mastercard recorded a litigation charge of $45 million.

Note 22. Settlement and Other Risk Management

Mastercard's rules guarantee the settlement of many of the transactions between its customers ("settlement risk"). Settlement exposure is the settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

Gross settlement exposure is estimated using the average daily payment volume during the three months prior to period end multiplied by the estimated number of days of exposure. The Company has global risk management policies and procedures, which include risk standards, to provide a framework for managing the Company's settlement risk and exposure. In the event of a failed customer, Mastercard may pursue one or more remedies available under the Company's rules to recover potential losses. Historically, the Company has experienced a low level of losses from customer failures.

As part of its policies, Mastercard requires certain customers that are not in compliance with the Company's risk standards to post collateral, such as cash, letters of credit, guarantees, or other risk mitigating arrangements. This requirement is based on a review of the individual risk circumstances for each customer. Mastercard monitors its credit risk portfolio on a regular basis and the adequacy of collateral on hand. Additionally, from time to time, the Company reviews its risk management methodology and standards. As such, the amounts of estimated settlement exposure are revised as necessary.

The Company's estimated settlement exposure was as follows at December 31:

	2020	2019
	(in millions)	
Gross settlement exposure	$ 52,360	$ 55,800
Collateral applied to settlement exposure	(6,021)	(4,772)
Net uncollateralized settlement exposure	**$ 46,339**	**$ 51,028**

Mastercard also provides guarantees to customers and certain other counterparties indemnifying them from losses stemming from failures of third parties to perform duties. This includes guarantees of Mastercard-branded travelers cheques issued, but not yet cashed of $370 million and $367 million at December 31, 2020 and 2019, respectively, of which $294 million and $290 million at December 31, 2020 and 2019, respectively, is mitigated by collateral arrangements. In addition, the Company enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. Certain indemnifications do not provide a stated maximum exposure. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements

is not determinable. Historically, payments made by the Company under these types of contractual arrangements have not been material.

Note 23. Derivative and Hedging Instruments

The Company monitors and manages its foreign currency and interest rate exposures as part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. A primary objective of the Company's risk management strategies is to reduce the financial impact that may arise from volatility in foreign currency exchange rates principally through the use of both foreign exchange derivative contracts (Derivatives) and foreign currency denominated debt (Net Investment Hedge). In addition, the Company may enter into interest rate derivative contracts to manage the effects of interest rate movements on the Company's aggregate liability portfolio, including potential future debt issuances (Cash Flow Hedges).

Foreign Exchange Risk

Derivatives

The Company enters into foreign exchange derivative contracts to manage currency exposure associated with anticipated receipts and disbursements which are valued based on currencies other than the functional currency of the entity. The Company may also enter into foreign exchange derivative contracts to offset possible changes in value due to foreign exchange fluctuations of assets and liabilities. In addition, the Company is subject to foreign exchange risk as part of its daily settlement activities. This risk is typically limited to a few days between when a payment transaction takes place and the subsequent settlement with customers. To manage this risk, the Company enters into short duration foreign exchange derivative contracts based upon anticipated receipts and disbursements for the respective currency position. The objective of these activities is to reduce the Company's exposure to gains and losses resulting from fluctuations of foreign currencies against its functional currencies.

The Company's derivative contracts are summarized below:

	December 31, 2020		December 31, 2019	
	Notional	Fair Value	Notional	Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 389	$ 17	$ 185	$ 3
Commitments to sell foreign currency	1,110	(26)	1,506	(25)
Options to sell foreign currency	—	—	21	2
Balance sheet location				
Prepaid expenses and other current assets [1]		$ 19		$ 12
Other current liabilities [1]		(28)		(32)

[1] The derivative contracts are subject to enforceable master netting arrangements, which contain various netting and setoff provisions.

The amount of gain (loss) recognized on the consolidated statement of operations for the contracts to purchase and sell foreign currency is summarized below:

	Year Ended December 31,		
	2020	2019	2018
	(in millions)		
Foreign exchange derivative contracts			
General and administrative	$ 40	$ (39)	$ 53

The fair value of the foreign exchange derivative contracts generally reflects the estimated amounts that the Company would receive (or pay), on a pre-tax basis, to terminate the contracts. The terms of the foreign exchange derivative contracts are generally less than 18 months. The Company had no deferred gains or losses related to foreign exchange contracts in accumulated other comprehensive income as of December 31, 2020 and 2019, as these contracts were not designated as hedging instruments for accounting.

The Company's derivative financial instruments are subject to both market and counterparty credit risk. Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as

foreign currency exchange rates, interest rates and other related variables. Counterparty credit risk is the risk of loss due to failure of the counterparty to perform its obligations in accordance with contractual terms. To mitigate counterparty credit risk, the Company enters into derivative contracts with a diversified group of selected financial institutions based upon their credit ratings and other factors. Generally, the Company does not obtain collateral related to derivatives because of the high credit ratings of the counterparties.

Net Investment Hedge

The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates, with changes in the value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). In 2015, the Company designated its €1.65 billion euro-denominated debt as a net investment hedge for a portion of its net investment in European operations. As of December 31, 2020, the Company had a net foreign currency transaction loss of $175 million after tax, in accumulated other comprehensive income (loss) associated with hedging activity.

Interest Rate Risk

Cash Flow Hedges

During the fourth quarter of 2019, the Company entered into treasury rate locks for a total notional amount of $1 billion, which were accounted for as cash flow hedges. These contracts were entered into to hedge a portion of the Company's interest rate exposure attributable to changes in the treasury rates related to the forecasted debt issuance during 2020. The maximum length of time over which the Company had hedged its exposure was 30 years. In connection with the issuance of the 2020 USD Notes, these contracts were settled and the Company paid $175 million. As of December 31, 2020, a cumulative loss of $133 million, after tax, was recorded in accumulated other comprehensive income (loss) associated with these contracts and will be reclassified as an adjustment to interest expense over the respective terms of the 2020 USD Notes. As of December 31, 2019, the Company recorded a pre-tax net unrealized gain of $14 million ($11 million, after tax) in accumulated other comprehensive income (loss) associated with these contracts.

In 2020, the Company reclassified $4 million, pre-tax, of the deferred loss on cash flow derivative contracts recorded in accumulated other comprehensive income (loss) to interest expense on the statement of operations. The Company estimates that $6 million, pre-tax, of the deferred loss will be reclassified into interest expense within the next 12 months.

Note 24. Segment Reporting

Mastercard has concluded it has one reportable operating segment, "Payment Solutions." Mastercard's Chief Executive Officer has been identified as the chief operating decision-maker. All of the Company's activities are interrelated, and each activity is dependent upon and supportive of the other. Accordingly, all significant operating decisions are based upon analysis of Mastercard at the consolidated level.

Revenue by geographic market is based on the location of the Company's customer that issued the card, as well as the location of the merchant acquirer where the card is being used. Revenue generated in the U.S. was approximately 33% of total revenue in 2020, 32% in 2019 and 33% in 2018. No individual country, other than the U.S., generated more than 10% of total revenue in those periods. Mastercard did not have any individual customer that generated greater than 10% of net revenue in 2020, 2019 or 2018.

The following table reflects the geographical location of the Company's property, equipment and right-of-use assets, net, as of December 31:

	2020	2019	2018
	(in millions)		
United States	$ 1,185	$ 1,147	$ 613
Other countries	717	681	308
Total	**$ 1,902**	**$ 1,828**	**$ 921**

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

Not applicable.

Item 9A. Controls and procedures

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our President and Chief Executive Officer and our Chief Financial Officer, to allow timely decisions regarding disclosure. The President and Chief Executive Officer and the Chief Financial Officer, with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2020 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of such date.

Internal Control over Financial Reporting

In addition, Mastercard Incorporated's management assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2020. Management's report on internal control over financial reporting is included in Part II, Item 8. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There was no change in Mastercard's internal control over financial reporting that occurred during the three months ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, Mastercard's internal control over financial reporting.

Item 9B. Other Information

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, we hereby incorporate by reference herein the disclosure contained in Exhibit 99.1 of this Report.

PART III

Item 10. Directors, executive officers and corporate governance

Item 11. Executive compensation

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

Item 13. Certain relationships and related transactions, and director independence

Item 14. Principal accountant fees and services

Item 10. Directors, executive officers and corporate governance

Information regarding our executive officers is included in section "Information about our executive officers" in Part I of this Report. Additional information required by this Item with respect to our directors and executive officers, code of ethics, procedures for recommending nominees, audit committee, audit committee financial experts and compliance with Section 16(a) of the Exchange Act will appear in our definitive proxy statement to be filed with the SEC and delivered to stockholders in connection with our 2021 annual meeting of stockholders (the "Proxy Statement").

The aforementioned information in the Proxy Statement is incorporated by reference into this Report.

Item 11. Executive compensation

The information required by this Item with respect to executive officer and director compensation will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

The information required by this Item with respect to security ownership of certain beneficial owners and management equity and compensation plans will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 13. Certain relationships and related transactions, and director independence

The information required by this Item with respect to transactions with related persons, the review, approval or ratification of such transactions and director independence will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 14. Principal accountant fees and services

The information required by this Item with respect to auditors' services and fees will appear in the Proxy Statement and is incorporated by reference into this Report.

PART IV

Item 15. Exhibits and financial statement schedules

Item 16. Form 10-K summary

Item 15. Exhibits and financial statement schedules

(a) The following documents are filed as part of this Report:

1 Consolidated Financial Statements

See Index to Consolidated Financial Statements in Part II, Item 8.

2 Consolidated Financial Statement Schedules

None.

3 The following exhibits are filed as part of this Report or, where indicated, were previously filed and are hereby incorporated by reference:

Refer to the Exhibit Index included herein.

Item 16. Form 10-K summary

None.

Exhibit index

Exhibit number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
3.2	Amended and Restated By-Laws of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed April 21, 2020 (File No. 001-32877)).
4.1	Indenture, dated as of March 31, 2014, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.2	Officer's Certificate of the Company, dated as of March 31, 2014 (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.3	Form of Global Note representing the Company's 2.000% Notes due 2019 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.4	Form of Global Note representing the Company's 3.375% Notes due 2024 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.5	Officer's Certificate of the Company, dated as of December 1, 2015 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.6	Form of Global Note representing the Company's 1.100% Notes due 2022 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.7	Form of Global Note representing the Company's 2.100% Notes due 2027 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.8	Form of Global Note representing the Company's 2.500% Notes due 2030 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.9	Officer's Certificate of the Company, dated as of November 21, 2016 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.10	Form of Global Note representing the Company's 2.000% Notes due 2021 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.11	Form of Global Note representing the Company's 2.950% Notes due 2026 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.12	Form of Global Note representing the Company's 3.800% Notes due 2046 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.13	Officer's Certificate of the Company, dated as of February 26, 2018 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.14	Form of Global Note representing the Company's 3.5% Notes due 2028 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by reference to Exhibit 4.1 of the of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.15	Form of Global Note representing the Company's 3.95% Notes due 2048 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by

+ Management contracts or compensatory plans or arrangements.
* Filed or furnished herewith.
** Exhibit omits certain information that has been filed separately with the U.S. Securities and Exchange Commission and has been granted confidential treatment.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and should not be relied upon for that purpose. In particular, any representations and warranties made by the Company in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

MASTERCARD INCORPORATED

(Registrant)

Date: February 12, 2021 By: /s/ MICHAEL MIEBACH

Michael Miebach
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Date: February 12, 2021	By:	/s/ MICHAEL MIEBACH **Michael Miebach** **President and Chief Executive Officer; Director** **(Principal Executive Officer)**
Date: February 12, 2021	By:	/s/ SACHIN MEHRA **Sachin Mehra** **Chief Financial Officer** **(Principal Financial Officer)**
Date: February 12, 2021	By:	/s/ SANDRA ARKELL **Sandra Arkell** **Corporate Controller** **(Principal Accounting Officer)**
Date: February 12, 2021	By:	/s/ AJAY BANGA **Ajay Banga** **Executive Chairman; Director**
Date: February 12, 2021	By:	/s/ RICHARD K. DAVIS **Richard K. Davis** **Director**
Date: February 12, 2021	By:	/s/ STEVEN J. FREIBERG **Steven J. Freiberg** **Director**
Date: February 12, 2021	By:	/s/ JULIUS GENACHOWSKI **Julius Genachowski** **Director**
Date: February 12, 2021	By:	/s/ CHOON PHONG GOH **Choon Phong Goh** **Director**
Date: February 12, 2021	By:	/s/ MERIT E. JANOW **Merit E. Janow** **Lead Independent Director**
Date: February 12, 2021	By:	/s/ OKI MATSUMOTO **Oki Matsumoto** **Director**
Date: February 12, 2021	By:	/s/ YOUNGME MOON **Youngme Moon** **Director**
Date: February 12, 2021	By:	/s/ RIMA QURESHI **Rima Qureshi** **Director**
Date: February 12, 2021	By:	/s/ JOSÉ OCTAVIO REYES LAGUNES **José Octavio Reyes Lagunes** **Director**

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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: 001-32877

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Mastercard Incorporated

(Exact name of registrant as specified in its charter)

Delaware	**13-4172551**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification Number)**

2000 Purchase Street
Purchase, NY **10577**
(Address of principal executive offices) **(Zip Code)**

(914) 249-2000
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol	Name of each exchange of which registered
Class A Common Stock, par value $0.0001 per share	MA	New York Stock Exchange
1.100% Notes due 2022	MA22	New York Stock Exchange
2.100% Notes due 2027	MA27	New York Stock Exchange
2.500% Notes due 2030	MA30	New York Stock Exchange

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

Class B common stock, par value $0.0001 per share

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 whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.	Yes ☒	No ☐
Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files)	Yes ☒	No ☐

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (do not check if a smaller reporting company)	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 ☒

The aggregate market value of the registrant's Class A common stock, par value $0.0001 per share, held by non-affiliates (using the New York Stock Exchange closing price as of June 28, 2019, the last business day of the registrant's most recently completed second fiscal quarter) was approximately $235.9 billion. There is currently no established public trading market for the registrant's Class B common stock, par value $0.0001 per share. As of February 11, 2020, there were 994,281,310 shares outstanding of the registrant's Class A common stock, par value $0.0001 per share and 10,827,654 shares outstanding of the registrant's Class B common stock, par value $0.0001 per share.

Portions of the registrant's definitive proxy statement for the 2020 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

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MASTERCARD INCORPORATED FISCAL YEAR 2019 FORM 10-K ANNUAL REPORT

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PART IV

Item 15.

111 **Item 16.** Form 10-K summary

In this Report on Form 10-K ("Report"), references to the "Company," "Mastercard," "we," "us" or "our" refer to the business conducted by Mastercard Incorporated and its consolidated subsidiaries, including our operating subsidiary, Mastercard International Incorporated, and to the Mastercard brand.

Forward-Looking Statements

This Report contains forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts may be forward-looking statements. When used in this Report, the words "believe", "expect", "could", "may", "would", "will", "trend" and similar words are intended to identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements that relate to the Company's future prospects, developments and business strategies.

Many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved. Any one of those factors could cause our actual results to differ materially from those expressed or implied in writing in any forward-looking statements made by Mastercard or on its behalf, including, but not limited to, the following factors:

- regulation directly related to the payments industry (including regulatory, legislative and litigation activity with respect to interchange rates and surcharging)
- the impact of preferential or protective government actions
- regulation of privacy, data, security and the digital economy
- regulation that directly or indirectly applies to us based on our participation in the global payments industry (including anti-money laundering, counter terrorist financing, economic sanctions and anti-corruption; account-based payment systems; and issuer practice regulation)
- the impact of changes in tax laws, as well as regulations and interpretations of such laws or challenges to our tax positions
- potential or incurred liability and limitations on business related to any litigation or litigation settlements
- the impact of competition in the global payments industry (including disintermediation and pricing pressure)
- the challenges relating to rapid technological developments and changes
- the challenges relating to operating a real-time account-based payment system and to working with new customers and end users
- the impact of information security incidents, account data breaches or service disruptions
- issues related to our relationships with our financial institution customers (including loss of substantial business from significant customers, competitor relationships with our customers and banking industry consolidation), merchants and governments
- exposure to loss or illiquidity due to our role as guarantor and other contractual obligations
- the impact of global economic, political, financial and societal events and conditions

- reputational impact, including impact related to brand perception and lack of visibility of our brands in products and services
- the inability to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture
- issues related to acquisition integration, strategic investments and entry into new businesses
- issues related to our Class A common stock and corporate governance structure

Please see "Risk Factors" in Part I, Item 1A for a complete discussion of these risk factors. We caution you that the important factors referenced above may not contain all of the factors that are important to you. Our forward-looking statements speak only as of the date of this Report or as of the date they are made, and we undertake no obligation to update our forward-looking statements.

PART I

Item 1. Business
Item 1A. Risk factors
Item 1B. Unresolved staff comments
Item 2. Properties
Item 3. Legal proceedings
Item 4. Mine safety disclosures
Information about our executive officers

Item 1. Business

Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We are a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through our unique and proprietary global payments network, which we refer to as our core network, we switch (authorize, clear and settle) payment transactions and deliver related products and services. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). We also provide integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs and processing. Our payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

We generate revenues from assessing our customers based on the gross dollar volume ("GDV") of activity on the products that carry our brands, from the fees we charge to our customers for providing transaction switching and from other payment-related products and services.

For a full discussion of our business, please see page 8.

Our Performance

The following are our key financial and operational highlights for 2019, including growth rates over the prior year:

GAAP		
Net revenue **$16.9B** up 13%	Net income **$8.1B** up 39%	Diluted EPS **$7.94** up 42%
NON-GAAP [1] (currency-neutral)		
Net revenue **$16.9B** up 16%	Adjusted net income **$7.9B** up 20%	Adjusted diluted EPS **$7.77** up 23%
	$6.5B	

$7.8B in capital returned to stockholders	**$1.3B** Repurchased shares Dividends paid	**$8.2B** cash flows from operations
icon_macard.jpg Gross dollar volume (growth on a local currency basis) $6.5T up 13%	icon_crossbordera02.jpg Cross-border volume growth on a local currency basis [2] up 16%	icon_switchedtransactionsa02.jpg Switched transactions [2] 87.3B up 19%

1 Non-GAAP results exclude the impact of gains and losses on equity investments, Special Items and/or foreign currency. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results Overview" in Part II, Item 7 for the reconciliation to the most direct comparable GAAP financial measures.

2 Growth rates normalized to eliminate the effects of differing switching and carryover days between periods. Carryover days are those where transactions and volumes from days where the company does not clear and settle are processed.

Our Strategy

We grow, diversify and build our business through a combination of organic and inorganic strategic initiatives. Our ability to grow our business is influenced by:

- personal consumption expenditure ("PCE") growth
- driving cash and check transactions toward electronic forms of payment
- increasing our share in the payments space

Growing our business also includes supplementing our core network by providing integrated value-added products and services and enhanced payment capabilities to capture new payment flows, such as business to business ("B2B"), person to person ("P2P"), business to consumer ("B2C") and government payments.

icon_grow.jpg **GROW**	icon_diversity.jpg **DIVERSIFY**	icon_build.jpg **BUILD**
CORE	**CUSTOMERS AND GEOGRAPHIES**	**NEW AREAS**
Credit	Financial Inclusion	Data Analytics
Debit	New Markets	Consulting
Commercial	Businesses	Marketing Services
Prepaid	Governments	Loyalty
Digital-Physical Convergence	Merchants	Cyber and Intelligence
Acceptance	Digital Players	Processing
	Local Schemes/Switches	New Payment Flows

ENABLED BY BRAND, DATA, TECHNOLOGY AND PEOPLE

Grow. We focus on growing our core business globally, including growing our consumer and commercial products and solutions, as well as increasing the number of payment transactions we switch. We also look to provide effective and efficient payments solutions that cater to the evolving ways people interact and transact in the growing digital economy. This includes expanding merchant access to electronic payments through new technologies in an effort to deliver a better consumer experience, while creating greater efficiencies and security.

Diversify. We diversify our business by:

- working with new customers, including governments, merchants, financial technology companies, digital players, mobile providers and other corporate businesses
- scaling our capabilities and business into new geographies, including growing acceptance in markets with limited electronic payments acceptance today
- broadening financial inclusion for the unbanked and underbanked

Build. We build our business by:

- creating and acquiring differentiated products to provide unique, innovative solutions that we bring to market to support new payment flows and related applications, such as real-time account-based payments and the Mastercard Track™ suite of products

- providing services across data analytics, consulting, marketing services, loyalty, cyber and intelligence, and processing

Strategic Partners. We work with a variety of stakeholders. We provide financial institutions with solutions to help them increase revenue by driving preference for our products. We help merchants, financial institutions and other organizations by delivering data-driven insights and other services that help them grow and create simple and secure customer experiences. We partner with technology companies such as digital players and mobile providers to deliver digital payment solutions powered by our technology, expertise and security protocols. We help national and local governments drive increased financial inclusion and efficiency, reduce costs, increase transparency to reduce crime and corruption and advance social programs. For consumers, we provide faster, safer and more convenient ways to pay and transfer funds.

Talent and Culture. Our success is driven by the skills, experience, integrity and mindset of the talent we hire. We attract and retain top talent from diverse backgrounds and industries by building a world-class culture based on decency, respect and inclusion in which people have opportunities to do purpose-driven work that impacts customers, communities and co-workers on a global scale. The diversity and skill sets of our people underpin everything we do.

Our Business

Our Operations and Network

Our core network links issuers and acquirers around the globe to facilitate the switching of transactions, permitting account holders to use a Mastercard product at millions of acceptance locations worldwide. Our core network facilitates an efficient and secure means for receiving payments, a convenient, quick and secure payment method for consumers to access their funds and a channel for businesses to receive insight through information that is derived from our network. We enable transactions for our customers through our core network in more than 150 currencies and in more than 210 countries and territories. Our range of payment capabilities extend beyond our core network into real-time account-based payments.

Typical Transaction. Our core network supports what is often referred to as a "four-party" payments network. The following diagram depicts a typical transaction on our core network, and our role in that transaction:

diagram_corenetwork.jpg

In a typical transaction, an account holder purchases goods or services from a merchant using one of our payment products. After the transaction is authorized by the issuer, the issuer pays the acquirer an amount equal to the value of the transaction, minus the interchange fee (described below), and then posts the transaction to the account holder's account. The acquirer pays the amount of the purchase, net of a discount (referred to as the "merchant discount" rate), to the merchant.

- ***Interchange Fees.*** Interchange fees reflect the value merchants receive from accepting our products and play a key role in balancing the costs and benefits that consumers and merchants derive. We do not earn revenues from interchange fees. Generally, interchange fees are collected from acquirers and paid to issuers to reimburse the issuers for a portion of the costs incurred. These costs are incurred by issuers in providing services that benefit all participants in the system, including acquirers and merchants, whose participation in the network enables increased sales to their existing and new customers, efficiencies in the delivery of existing and new products, guaranteed payments and improved experience for their customers. We (or, alternatively, financial institutions) establish "default interchange fees" that apply when there are no other established settlement terms in place between an issuer and an acquirer. We administer the collection and remittance of interchange fees through the settlement process.

- ***Additional Four-Party System Fees.*** The merchant discount rate is established by the acquirer to cover its costs of both participating in the four-party system and providing services to merchants. The rate takes into consideration the amount of the interchange fee which the acquirer generally pays to the issuer. Additionally, acquirers may charge merchants processing and related fees in addition to the merchant discount rate, and issuers may also charge account holders fees for the transaction, including, for example, fees for extending revolving credit.

Switched Transactions

- ***Authorization, Clearing and Settlement.*** Through our core network, we enable the routing of a transaction to the issuer for its approval, facilitate the exchange of financial transaction information between issuers and acquirers after a successfully conducted transaction, and help to settle the transaction by facilitating the exchange of funds between parties via settlement banks chosen by us and our customers.

- ***Cross-Border and Domestic.*** Our core network switches transactions throughout the world when the merchant country and country of issuance are different ("cross-border transactions"), providing account holders with the ability to use, and merchants to accept, our products and services across country borders. We also provide switched transaction services to customers where the merchant country and the country of issuance are the same ("domestic transactions"). We switch more than half of all transactions for Mastercard and Maestro-branded cards, including nearly all cross-border transactions. We switch the majority of Mastercard and Maestro-branded domestic transactions in the United States, United Kingdom, Canada, Brazil and a select number of other countries. Outside of these countries, most domestic transactions on our products are switched without our involvement.

Core Network Architecture. Our core network features a globally integrated structure that provides scale for our issuers, enabling them to expand into regional and global markets. It is based largely on a distributed (peer-to-peer) architecture with an intelligent edge that enables the network to adapt to the needs of each transaction. Our core network accomplishes this by performing intelligent routing and applying multiple value-added services (such as fraud scoring, tokenization services, etc.) to appropriate transactions in real time. Our core network's architecture enables us to connect all parties regardless of where or how the transaction is occurring. It has 24-hour a day availability and world-class response time.

Real-time Account-based Payment Infrastructure and Applications. Augmenting our core network, we offer real-time account-based payment capabilities, enabling payments between bank accounts in near real-time in countries in which it has been deployed.

Payments System Security. Our payment solutions and products are designed to ensure safety and security for the global payments system. The core network and additional platforms incorporate multiple layers of protection, both for continuity purposes and to provide best-in-class security protection. We engage in many efforts to mitigate information security challenges, including maintaining an information security program, a business continuity program and insurance coverage, as well as regularly testing our systems to address potential vulnerabilities.

As part of our multi-layered approach to protect the global payments system, we also work with issuers, acquirers, merchants, governments and payments industry associations to help develop and put in place standards (e.g., EMV) for safe and secure transactions.

Digital Payments. Our network supports and enables our digital payment platforms, products and solutions, reflecting the growing digital economy where consumers are increasingly seeking to use their payment accounts to pay when, where and how they want.

Customer Risk. We guarantee the settlement of many of the transactions from issuers to acquirers to ensure the integrity of our core network. We refer to the amount of this guarantee as our settlement exposure. We do not, however, guarantee payments to merchants by their acquirers, or the availability of unspent prepaid account holder account balances.

Our Products and Services

We provide a wide variety of integrated products and services that support payment products that customers can offer to their account holders. These offerings facilitate transactions on our core network among account holders, merchants, financial institutions, businesses, governments and other organizations in markets globally.

chart_coreproducts.jpg

Core Products

Consumer Credit. We offer a number of programs that enable issuers to provide consumers with credit that allow them to defer payment. These programs are designed to meet the needs of our customers around the world and address standard, premium and affluent consumer segments.

Consumer Debit. We support a range of payment products and solutions that allow our customers to provide consumers with convenient access to funds in deposit and other accounts. Our debit and deposit access programs can be used to make purchases and to obtain cash in bank branches, at ATMs and, in some cases, at the point of sale. Our branded debit programs consist of Mastercard (including standard, premium and affluent offerings), Maestro (the only PIN-based solution that operates globally) and Cirrus (our primary global cash access solution).

Prepaid. Prepaid accounts are a type of electronic payment that enables consumers to pay in advance whether or not they previously have had a bank account or a credit history. These accounts can be tailored to meet specific program, customer or consumer needs, such as paying bills, sending person-to-person payments or withdrawing cash from an ATM. Our focus ranges from digital accounts (such as fintech and gig economy platforms) to business programs such as employee payroll, health savings accounts and solutions for small business owners. Our prepaid programs also offer opportunities in the private and public sector to drive financial inclusion of previously unbanked individuals through social security payments, unemployment benefits and salary cards.

We also provide prepaid program management services, primarily outside of the United States, that provide processing and end-to-end services on behalf of issuers or distributor partners such as airlines, foreign exchange bureaus and travel agents.

Commercial. We offer commercial payment products and solutions that help large corporations, midsize companies, small businesses and government entities. Our solutions streamline procurement and payment processes, manage information and expenses (such as travel and entertainment) and reduce administrative costs. Our card offerings include travel, small business (debit and credit), purchasing and fleet cards. Our SmartData platform provides expense management and reporting capabilities. Our Mastercard In Control™ platform generates virtual account numbers which provide businesses with enhanced controls, more security and better data.

The following chart provides GDV and number of cards featuring our brands in 2019 for select programs and solutions:

	Year Ended December 31, 2019			As of December 31, 2019	
	GDV			Cards	
	(in billions)	Growth (Local)	% of Total GDV	(in millions)	Percentage Increase from December 31, 2018
Mastercard-branded Programs[1,2]					
Consumer Credit	$ 2,670	10 %	41 %	882	8 %
Consumer Debit and Prepaid	3,059	16 %	48 %	1,207	9 %
Commercial Credit and Debit	732	14 %	11 %	85	15 %

1 Excludes Maestro and Cirrus cards and volume generated by those cards.

2 Prepaid includes both consumer and commercial prepaid.

Additional Platforms. In addition to the switching capabilities of our core network, we offer additional platforms with payment capabilities that extend to new payment flows:

- We offer commercial payment products and solutions aimed at improving the way businesses pay and get paid by providing a single connection enabling access to multiple payment types, greater control and richer data to optimize B2B transactions for both buyers and suppliers.

- We offer real-time account-based payments for ACH transactions. This platform enables payments between bank accounts in real time and provides enhanced data and messaging capabilities.

- We offer a platform that makes it easier for consumers to view, manage and pay their bills either with cards or real-time and batch ACH payments from their bank accounts.

- We offer a platform that enables consumers, businesses, governments and merchants to send and receive money beyond borders with greater speed and ease.

Value-Added Products and Services

Cyber and Intelligence. We offer integrated products and services to prevent, detect and respond to fraud and cyber-attacks and to ensure the safety of transactions made using Mastercard products. We do this using a multi-layered safety and security strategy:

- The "Prevent" layer protects infrastructure, devices and data from attacks. We have continued to grow global usage of EMV chip and contactless security technology, helping to reduce fraud. Greater usage of this technology has increased the number of EMV cards issued and the transaction volume on EMV cards.

- The "Identify" layer allows us to help banks and merchants verify the authenticity of consumers during the payment process using various biometric technologies, including fingerprint, face and iris scanning technology to verify online purchases on mobile devices, as well as a card with biometric technology built in.

- The "Detect" layer spots fraudulent behavior and cyber-attacks and takes action to stop these activities once detected. Our offerings in this space include alerts when accounts are exposed to data breaches or security incidents, fraud scoring technology that scans billions of dollars of money flows each day while increasing approvals and reducing false declines, and network-level

monitoring on a global scale to help identify the occurrence of widespread fraud attacks when the customer (or their processor) may be unable to detect or defend against them.

- The "Experience" layer improves the security experience for our stakeholders in areas from the speed of transactions, enhancing approvals for online and card-on-file payments, to the ability to differentiate legitimate consumers from fraudulent ones. Our offerings in this space include solutions for consumer alerts and controls and a suite of digital token services. We also have acquired an e-commerce fraud and dispute management network that enables merchants to stop delivery when a fraudulent or disputed transaction is identified, and issuers to refund the cardholder to avoid the chargeback process.

We have also worked with our financial institution customers to provide products to consumers globally with increased confidence through the benefit of "zero liability", or no responsibility for counterfeit or lost card losses in the event of fraud.

Loyalty and Rewards. We have built a scalable rewards platform that enables financial institutions to provide consumers with a variety of benefits and services, such as personalized offers and rewards, access to a global airline lounge network, concierge services, insurance services, emergency card replacement, emergency cash advances and a 24-hour account holder service center. For merchants, we provide campaigns with targeted offers and rewards, management services for publishing offers, and accelerated points programs for co-brand and rewards program members. We also have acquired a loyalty platform that enables stronger relationships with retailers,

restaurants, airlines and consumer packaged goods companies by creating experiences that drive loyalty and impactful consumer engagement.

Processing. We extend our processing capabilities in the payments value chain in various regions and across the globe with an expanded suite of offerings, including:

- Issuer solutions designed to provide customers with a complete processing solution to help them create differentiated products and services and allow quick deployment of payments portfolios across banking channels.

- Payment gateways that offer a single interface to provide e-commerce merchants with the ability to process secure online and in-app payments and offer value-added solutions, including outsourced electronic payments, fraud prevention and alternative payment options.

- Mobile gateways that facilitate transaction routing and processing for mobile-initiated transactions.

Data Analytics and Consulting. We provide proprietary analysis, data-driven consulting and marketing services solutions to help clients optimize, streamline and grow their businesses, as well as deliver value to consumers.

Our capabilities incorporate payments expertise and analytical and executional skills to create end-to-end solutions which are increasingly delivered via platforms embedded in our customers' day-to-day operations. By observing patterns of payments behavior based on billions of transactions switched globally, we leverage anonymized and aggregated information and a consultative approach to help our customers make better business decisions. Our executional skills such as marketing, digital implementation and staff augmentation allow us to assist clients to implement actions based on these insights.

Increasingly, we have been helping financial institutions, retailers and governments innovate. Drawing on rapid prototyping methodologies from our global innovation and development arm, Mastercard Labs, we offer "Launchpad," a five day app prototyping workshop. Through our Applied Predictive Technology business, a software as a service platform, we can help our customers conduct disciplined business experiments for in-market tests.

Digital Enablement

Our innovation capabilities enable broader reach to scale digital payment services beyond cards to multiple channels, including mobile devices:

- Delivering better digital experiences everywhere. We are using our technologies and security protocols to develop solutions to make digital shopping and selling experiences, such as on smartphones and other connected devices, simpler, faster and safer for both consumers and merchants. We also offer products that make it easier for merchants to accept payments and expand their customer base and are developing products and practices to facilitate acceptance via mobile devices. The successful implementation of our loyalty and reward programs is an important part of enabling these digital purchasing experiences.

- Securing more transactions. We are leveraging tokenization, biometrics and machine learning technologies in our push to secure every transaction. These efforts include driving EMV-level security and benefits through all our payment channels.

- Digitizing personal and business payments. We provide solutions that enable our customers to offer consumers the ability to send and receive money quickly and securely domestically and around the world. These solutions allow our customers to address new payment flows from any

funding source, such as cash, card, bank account or mobile money account, to any destination globally, securely and in real time.

- Simplifying access to, and integration of, our digital assets. Our Mastercard Developer platform makes it easy for customers and partners to leverage our many digital assets and services. By providing a single access point with tools and capabilities to find what we believe are some of the best-in-class Application Program Interfaces ("APIs") across a broad range of Mastercard services, we enable easy integration of our services into new and existing solutions.

- Identifying and experimenting with future technologies, start-ups and trends. Through Mastercard Labs, our global innovation and development arm, we continue to bring customers and partners access to thought leadership, innovation methodologies, new technologies and relevant early-stage fintech players.

Brand

mc_logononame.jpg

Our family of well-known brands includes Mastercard, Maestro and Cirrus. We manage and promote our brands and brand identities (including our sonic brand identity) through advertising, promotions and sponsorships, as well as digital, mobile and social media initiatives, in order to increase people's preference for our brands and usage of our products. We sponsor a variety of sporting, entertainment and charity-related marketing properties to align with consumer segments important to us and our customers. Our advertising plays an important role in building brand visibility, usage and overall preference among account holders globally. Our "Priceless®" advertising campaign, which has run in 52 languages in 123 countries worldwide, promotes Mastercard usage benefits and acceptance, markets Mastercard payment products and solutions and provides Mastercard with a consistent, recognizable message that supports our brand around the globe.

Recent Developments

icon_consumer.jpg **Consumer**

Our products are designed to address needs of consumers with a focus on reducing complexity and delivering on experience. While technology has increasingly changed the way people get information, interact, shop and make purchases, consumers continue to expect a seamless experience where their payment is simple and secure. Our teams are creating innovative solutions that meet the needs of consumers and merchants in a digital environment by applying emerging technologies. In 2019, we:

- delivered "click to pay", our activation of the EMV Secure Remote Commerce industry standard that enables a faster, more secure checkout experience across web and mobile sites, mobile apps and connected devices. This checkout experience is designed to provide consumers the same convenience and security in a digital environment that they have when paying in a store, make it easier for merchants to implement secure digital payments and provide issuers with improved fraud detection and prevention capability.

- reinforced our support for contactless payments across all markets, including launching tap-and-go payments for transit systems in multiple cities globally (including New York City, Miami, Portland and Mexico City), which is creating the foundations for increased adoption of this technology to deliver a faster in-person payment experience.

icon_commercialb2b.jpg **Commercial and B2B**

Building on our corporate T&E, fleet, purchasing card and small business capabilities, we have been increasingly focused on developing solutions to address other ways that businesses move money. In 2019, we:

- announced Mastercard Track, our B2B payment ecosystem which represents a collection of products and services aimed at improving the way businesses pay and get paid. The Track suite of products aims to introduce Mastercard Track Business Payment Service™, an open-loop commercial service built to simplify and automate payments between suppliers and buyers.

- extended our support for commercial cards by adding new partners to our virtual card program, with a focus on helping to make virtual cards a preferred tool with straight-through (automated) acceptance and processing.

icon_newpaymentflows.jpg New payment flows

In order to help grow our business and offer more electronic payment options to consumers, businesses and governments, Mastercard has developed and enhanced solutions beyond the principal switching capabilities available on our core network. We believe this will allow us to capture more payment flows, including B2B, P2P, B2C and government disbursements. In 2019, we:

- signed new agreements to bring our real-time payments infrastructure to more markets, including our relationship with P27 Nordic Payments Platform that will help deliver one real-time and batch payments solution across the Nordic markets. This solution uses the same technology that powers the ability for consumers and businesses in the U.S. to send and receive immediate payments through the Clearing House platform. We were also selected to enhance the InstaPay real-time retail payment system in the Philippines, including operating the infrastructure for and providing anti-money laundering tools to the national clearing switch in the Philippines.

- positioned ourselves to add to our real-time payments solutions, including our pending acquisition of the majority of the Corporate Services business of Nets Denmark A/S. The pending acquisition primarily comprises the clearing and instant payment services, and e-billing solutions of the business.

- enhanced Mastercard Bill Pay Exchange™ with the acquisition of Transactis, a platform that makes it easier for consumers to view, manage and pay their bills either with cards or real-time and batch ACH payments from their bank accounts.

- acquired Transfast, enabling us to continue servicing the growing needs of consumers and businesses, as well as governments and merchants, to send and receive money beyond borders with greater speed and ease. When combined with our proprietary Mastercard Send™ assets, we have greatly extended our network reach.

- drove blockchain initiatives, with an initial focus on the cross-border B2B payments space and proof of provenance solutions for supply chains.

icon_services.jpg Services

We provide services including data analytics, consulting, loyalty, cyber and intelligence, and processing that meet evolving requirements and the expectations of our stakeholders. We recently:

- extended our investments in Artificial Intelligence ("AI") by:

  - launching Mastercard ThreatScan, an AI-powered solution that helps banks proactively identify potential vulnerabilities in their authorization systems. The service works alongside an issuer's existing fraud tools, imitating known criminal transaction behavior to identify potential weaknesses and prompt action before fraud potentially occurs.

  - scaling Decision Intelligence™, our fraud scoring technology, to score billions of transactions in real time every day while increasing approvals and reducing false declines.

- acquired Ethoca, an e-commerce fraud and dispute management network that enables the sharing of intelligence between merchants and issuers, sending near real-time information to merchants to stop delivery when a fraudulent or disputed transaction is identified, and refund the cardholder to avoid the chargeback process.

- acquired RiskRecon, a provider of AI and data analytics with cyber risk assessment capabilities that are designed to help financial institutions, merchants, corporations and governments secure their digital assets.

- acquired Session M, a loyalty platform that enables stronger relationships with retailers, restaurants, airlines and consumer packaged goods companies by creating experiences that drive loyalty and impactful consumer engagement.

- enhanced the services we are able to offer to customers based on account-to-account flows, including data insights we are providing U.K. and U.S. customers to help them with anti-money laundering compliance and identification and prevention of other financial crimes.

icon_inclusivegrowtha01.jpg **Other Initiatives**

- In 2019, we continued to implement our shift to a symbol brand by dropping our name from our logo, and debuted our sonic brand identity, comprised of a comprehensive sound architecture featuring a distinctive melody that will be employed in physical, digital and voice environments where consumers engage with Mastercard across the globe.

- In 2019, we contributed an additional $100 million towards initiatives that focus on inclusive growth for a total of $200 million contributed through December 31, 2019. These contributions are part of our previously announced $500 million commitment to support inclusive growth efforts, such as financial inclusion, economic development, the future of work and data science for social impact.

Revenue Sources

We generate revenue primarily from assessing our customers based on GDV on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services. Our net revenues are classified into five categories: domestic assessments, cross-border volume fees, transaction processing, other revenues and rebates and incentives (contra-revenue).

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Revenue" in Part II, Item 7 and Note 3, Revenue for more detail about our revenue, GDV, processed transactions and our other payment-related products and services.

Intellectual Property

We own a number of valuable trademarks that are essential to our business, including Mastercard, Maestro and Cirrus, through one or more affiliates. We also own numerous other trademarks covering various brands, programs and services offered by us to support our payment programs. Trademark and service mark registrations are generally valid indefinitely as long as they are used and/or properly maintained. Through license agreements with our customers, we authorize the use of our trademarks on a royalty-free basis in connection with our customers' issuing and merchant acquiring businesses. In addition, we own a number of patents and patent applications relating to payment solutions, transaction processing, smart cards, contactless, mobile, biometrics, AI, security systems, blockchain and other matters, many of which are important to our business operations. Patents are of varying duration depending on the jurisdiction and filing date.

Competition

We compete in the global payments industry against all forms of payment including:

- cash and checks
- card-based payments, including credit, charge, debit, ATM and prepaid products, as well as limited-use products such as private label
- contactless, mobile and e-commerce payments, as well as cryptocurrency
- other electronic payments, including ACH payments and wire transfers

We face a number of competitors both within and outside of the global payments industry:

- ***Cash, Check and Legacy ACH.*** Cash and checks continue to represent one of the most widely used forms of payment. However, an even larger share of payments on a U.S. dollar volume basis are made via legacy, or "slow," ACH platforms.
- ***General Purpose Payment Networks.*** We compete worldwide with payment networks such as Visa, American Express, JCB, China UnionPay and Discover, among others. Some competitors have

more market share than we do in certain jurisdictions. Some also have different business models that may provide an advantage in pricing, regulatory compliance burdens or otherwise. In addition, several governments are promoting, or considering promoting, local networks for domestic switching. See "Risk Factors" in Part I, Item 1A for a more detailed discussion of the risks related to payments system regulation and government actions that may prevent us from competing effectively.

- ***Debit and Local Networks.*** We compete with ATM and point-of-sale debit networks in various countries. In addition, in many countries outside of the United States, local debit brands serve as the main domestic brands, while our brands are used mostly to enable cross-border transactions (typically representing a small portion of overall transaction volume). Certain jurisdictions have also created domestic card schemes focused mostly on debit.

- ***Competition for Customer Business.*** We compete intensely with other payments companies for customer business. Globally, financial institutions typically issue both Mastercard and Visa-branded payment products, and we compete with Visa for business on the basis of individual portfolios or programs. In addition, a number of our customers issue American Express and/or Discover-branded payment cards in a manner consistent with a four-party system. We continue to face intense competitive pressure on the prices we charge our issuers and acquirers, and we seek to enter into business agreements with them through which we offer incentives and other support to issue and promote our payment products. We also compete for business from merchants, governments and mobile providers.

- ***Real-time Account-based Payment Systems.*** We face competition in the real-time account-based payment space from other companies that provide these payment solutions. In addition, real-time account-based payments face competition from other payment methods, such as cash and checks, cards, electronic, mobile and e-commerce payment platforms, cryptocurrencies and other payments networks.

- ***Alternative Payments Systems and New Entrants.*** As the global payments industry becomes more complex, we face increasing competition from alternative payment systems and emerging payment providers. Many of these providers, who in many circumstances can also be our partners or customers, have developed payments systems focused on online activity in e-commerce and mobile channels (in some cases, expanding to other channels), and may process payments using in-house account transfers, real-time account-based payment networks or global or local networks. Examples include digital wallet providers (such as Paytm, PayPal, Alipay and Amazon), mobile operator services, mobile phone-based money transfer and microfinancing services (such as mPesa), handset manufacturers and cryptocurrencies.

- ***Value-Added Products and Services.*** We face competition from companies that provide alternatives to our value-added products and services, including information services and consulting firms that provide consulting services and insights to financial institutions, as well as companies that compete against us as providers of loyalty and program management solutions. In addition, our integrated products and services offerings face competition and potential displacement from transaction processors throughout the world, which are seeking to enhance their networks that link issuers directly with point-of-sale devices for payment transaction authorization and processing services. Regulatory initiatives could also lead to increased competition in this space.

Our competitive advantages include our:

- globally recognized brands
- highly adaptable global acceptance network built over 50 years which can reach a variety of parties enabling payments
- global payments network with world-class operating performance
- expertise in real-time account-based payments
- adoption of innovative products and digital solutions
- safety and security solutions embedded in our networks
- analytics insights and consulting services dedicated solely to the payments industry
- ability to serve a broad array of participants in global payments due to our expanded on-soil presence in individual markets and a heightened focus on working with governments
- world class talent

Government Regulation

General. Government regulation impacts key aspects of our business. We are subject to regulations that affect the payments industry in the many countries in which our integrated products and services are used. See “Risk Factors” in Part I, Item 1A for more detail and examples.

Payments Oversight and Regulation. Central banks and other regulators in several jurisdictions around the world either have, or are seeking to establish, formal oversight over the payments industry, as well as authority to regulate certain aspects of the payment systems in their countries. In addition to oversight and regulation from established regulatory bodies, several jurisdictions have created or granted authority to create new regulatory bodies that either have or would have the authority to regulate payment systems, including the United Kingdom's PSR (Vocalink and Mastercard are both participants in the payments system and are therefore subject to the PSR's duties and powers), the National Bank of Belgium, India (which has also designated us as a payments system subject to regulation), and regulators in Brazil, Hong Kong, Mexico and Russia. Such authority has resulted in regulation of various aspects of our business. In the European Union, legislation requires us to separate our scheme activities (brand, products, franchise and licensing) from our switching activities and other processing in terms of how we go to market, make decisions and organize our structure. Mastercard also could be subject to new regulation, supervisions and examination requirements. For example, in the U.K., the Bank of England has expanded its oversight of systemically important payment systems to include service providers.

Interchange Fees. Interchange fees associated with four-party payments systems like ours are being reviewed or challenged in various jurisdictions around the world via legislation to regulate interchange fees, competition-related regulatory proceedings, central bank regulation and litigation. Examples include statutes in the United States that cap debit interchange for certain regulated activities, our settlement with the European Commission resolving its investigation into our interregional interchange fees and the European Union legislation capping consumer credit and debit interchange fees on payments issued and acquired within the European Economic Area (the "EEA"). For more detail, see "Risk Factors - Other Regulation" in Part I, Item 1A and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Preferential or Protective Government Actions. Some governments have taken action to provide resources, preferential treatment or other protection to selected domestic payments and processing providers, as well as to create their own national providers. For example, governments in some countries mandate switching of domestic payments either entirely in that country or by only domestic companies. In China, we are currently excluded from domestic switching and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval. We are in active discussions to explore different solutions.

Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption. We are subject to anti-money laundering ("AML") and counter financing of terrorism ("CFT") laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by the U.S. Office of Foreign Assets Control ("OFAC"). We have implemented a comprehensive AML/CFT program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payment network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including its list of Specially Designated Nationals and Blocked Persons (the "SDN List"). We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-sponsoring states, and we have no offices, subsidiaries or affiliated entities located in any of these countries or geographies and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk.

Financial Sector Oversight. We are or may be subject to regulations related to our role in the financial industry and our relationship with our financial institution customers. In addition, we are or may be subject to regulation by a number of agencies charged with oversight of, among other things, consumer protection, financial and banking matters. The regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products.

Issuer Practice Legislation and Regulation. Our customers are subject to numerous regulations and investigations applicable to banks and other financial institutions in their capacity as issuers and otherwise, impacting us as a consequence. Such regulations and investigations have been related to payment card add-on products, campus cards, bank overdraft practices, fees issuers charge to account holders and the transparency of terms and conditions. Additionally, regulations such as the revised Payment Services Directive (commonly referred to as "PSD2") in the EEA require financial institutions to provide third-party payment-processors access to consumer payment accounts, enabling them to route transactions away from Mastercard products and provide payment initiation and account information services directly to consumers who use our products. PSD2 also requires a new standard for authentication of transactions, which necessitates additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

Regulation of Internet and Digital Transactions. Various jurisdictions have enacted or have proposed regulation related to internet transactions. The legislation applies to payments system participants, including us and our U.S. customers, and is implemented through a federal regulation. We may also be impacted by evolving laws surrounding gambling, including fantasy sports. Certain jurisdictions are also considering regulatory initiatives in digital-related areas that could impact us, such as cyber-security and copyright and trademark infringement.

Privacy, Data and Information Security. Aspects of our operations or business are subject to increasingly complex privacy and data protection laws in the United States, the European Union and elsewhere around the world. For example, in the United States, we and our customers are respectively subject to Federal Trade Commission and federal banking agency information safeguarding requirements under the Gramm-Leach-Bliley Act that require the maintenance of a written, comprehensive information security program. In the European Union, we are subject to the General Data Protection Regulation (the "GDPR"), which requires a comprehensive privacy and data protection program to protect the personal and sensitive data of EEA residents. A number of regulators and policymakers around the globe are using the GDPR as a reference to adopt new or updated privacy and data protection laws, including in the U.S. (California), Argentina, Brazil, Chile, India, Indonesia and Kenya. Some jurisdictions, such as India, are currently considering adopting or have adopted "data localization" requirements, which mandate the collection, processing, and/or storage of data within their borders. Due to constant changes to the nature of data and the use of emerging technologies such as artificial intelligence, regulations in this area are constantly evolving with regulatory and legislative authorities in numerous parts of the world adopting proposals to protect information. In addition,

the interpretation and application of these privacy and data protection laws are often uncertain and in a state of flux, thus requiring constant monitoring for compliance.

Additional Regulatory Developments. Various regulatory agencies also continue to examine a wide variety of issues that could impact us, including evolving laws surrounding marijuana, prepaid payroll cards, virtual currencies, identity theft, account management guidelines, disclosure rules, security and marketing that would impact our customers directly.

Employees

As of December 31, 2019, we employed approximately 18,600 persons, of whom approximately 11,400 were employed outside of the United States.

Additional Information

Mastercard Incorporated was incorporated as a Delaware corporation in May 2001. We conduct our business principally through our principal operating subsidiary, Mastercard International Incorporated, a Delaware non-stock (or membership) corporation that was formed in November 1966. For more information about our capital structure, including our Class A common stock (our voting stock) and Class B common stock (our non-voting stock), see Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8.

Website and SEC Reports

Our internet address is www.mastercard.com. From time to time, we may use our corporate website as a channel of distribution of material company information. Financial and other material information is routinely posted and accessible on the investor relations section of our corporate website. You can also visit "Investor Alerts" in the investor relations section to enroll your email address to automatically receive email alerts and other information about Mastercard.

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available for review, without charge, on the investor relations section of our corporate website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission (the "SEC"). The information contained on our corporate website is not incorporated by reference into this Report. Our filings are also available electronically from the SEC at www.sec.gov.

Item 1A. Risk factors

RISK HIGHLIGHTS

Legal and Regulatory	Business and Operations
Payments Industry Regulation	Competition and Technology
Preferential or Protective Government Actions	Information Security and Service Disruptions
Privacy, Data and Security	Stakeholder Relationships
Other Regulation	Settlement and Third-Party Obligations

Legal and Regulatory

Payments Industry Regulation

Global regulatory and legislative activity directly related to the payments industry may have a material adverse impact on our overall business and results of operations.

Regulators increasingly seek to regulate certain aspects of payments systems such as ours, or establish or expand their authority to do so. Many jurisdictions have enacted such regulations, establishing, and potentially further expanding, obligations or restrictions with respect to the types of products and services that we may offer to financial institutions for consumers, the countries in which our integrated products and services may be used, the way we structure and operate our business and the types of consumers and merchants who can obtain or accept our products or services. New regulations and oversight could also relate to our clearing and settlement activities (including risk management policies and procedures, collateral requirements, participant default policies and procedures, the ability to complete timely switching of financial transactions, and capital and financial resource requirements). Several jurisdictions have also inquired about the network fees we charge to our customers (typically as part of broader market reviews of retail payments). In addition, several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry and, in some cases, are considering designating certain payments networks as "systemically important payment systems" or "critical infrastructure." These obligations, designations and restrictions may further expand and could conflict with each other as more jurisdictions impose oversight of payment systems. Moreover, as regulators around the world increasingly look to replicate similar regulation of payments and other industries, efforts in any one jurisdiction may influence approaches in other jurisdictions. Similarly, new initiatives within a jurisdiction involving one product may lead to regulation of similar or related products (for example, debit regulations could lead to regulation of credit products). As a result, the risks to our business created by any one new law or regulation are magnified by the potential it has to be replicated in other jurisdictions or involve other products within any particular jurisdiction.

Increased regulation and oversight of payment systems may result in costly compliance burdens or otherwise increase our costs. Such laws or compliance burdens could result in issuers and acquirers being less willing to participate in our payments system, reduce the benefits offered in connection with the use of our products (making our products less desirable to consumers), reduce the volume of domestic and cross-border transactions or other operational metrics, disintermediate us, impact our profitability and limit our ability to innovate or offer differentiated products and services, all of which could materially and adversely impact our financial performance. In addition, any regulation that is enacted related to the type and level of network fees we charge our customers could also materially and adversely impact our results of operations. Regulators could also require us to obtain prior approval for changes to its system rules, procedures or operations, or could require customization with regard to such changes, which could impact market participant risk and therefore risk to us. Such regulatory changes could lead to new or different criteria for participation in and access to our payments system by financial institutions or other customers. Moreover, failure to comply with the laws and regulations to which we are subject could result in fines, sanctions, civil damages or other penalties, which could materially and adversely affect our overall business and results of operations, as well as have an impact on our brand and reputation.

Increased regulatory, legislative and litigation activity with respect to interchange rates could have an adverse impact on our business.

Interchange rates are a significant component of the costs that merchants pay in connection with the acceptance of our products. Although we do not earn revenues from interchange, interchange rates can impact the volume of transactions we see on our payment products. If interchange rates are too high, merchants may stop accepting our products or route transactions away from our network. If

interchange rates are too low, issuers may stop promoting our integrated products and services, eliminate or reduce loyalty rewards programs or other account holder benefits (e.g., free checking or low interest rates on balances), or charge fees to account holders (e.g., annual fees or late payment fees).

Governments and merchant groups in a number of countries have implemented or are seeking interchange rate reductions through legislation, competition law, central bank regulation and litigation. See "Business - Government Regulation" in Part I, Item 1 and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details.

If issuers cannot collect or we are forced to reduce interchange rates, issuers may be less willing to participate in our four-party payments system, or may reduce the benefits offered in connection with the use of our products, reducing the attractiveness of our products to consumers. In particular, changes to interregional interchange fees as a result of the resolution of the European Commission's investigation could impact our cross-border transaction activity disproportionately versus competitors that are not subject to similar reductions. These and other impacts could lower transaction volumes, and/or make proprietary three-party networks or other forms of payment more attractive. Issuers could reduce the benefits associated with our products or choose to charge higher fees to consumers to attempt to recoup a portion of the costs incurred for their services. In addition, issuers could seek to decrease the expense of their payment programs by seeking a reduction in the fees that we charge to them, particularly if regulation has a disproportionate impact

on us as compared to our competitors in terms of the fees we can charge. This could make our products less desirable to consumers, reduce the volume of transactions and our profitability, and limit our ability to innovate or offer differentiated products.

We are devoting substantial resources to defending our right to establish interchange rates in regulatory proceedings, litigation and legislative activity. The potential outcome of any of these activities could have a more positive or negative impact on us relative to our competitors. If we are ultimately unsuccessful in defending our ability to establish interchange rates, any resulting legislation, regulation and/or litigation may have a material adverse impact on our overall business and results of operations. In addition, regulatory proceedings and litigation could result (and in some cases has resulted) in us being fined and/or having to pay civil damages, the amount of which could be material.

Limitations on our ability to restrict merchant surcharging could materially and adversely impact our results of operations.

We have historically implemented policies, referred to as no-surcharge rules, in certain jurisdictions, including the United States, that prohibit merchants from charging higher prices to consumers who pay using our products instead of other means. Authorities in several jurisdictions have acted to end or limit the application of these no-surcharge rules (or indicated interest in doing so). Additionally, we have modified our no-surcharge rules to permit U.S. merchants to surcharge credit cards, subject to certain limitations. It is possible that over time merchants in some or all merchant categories in these jurisdictions may choose to surcharge as permitted by the rule change. This could result in consumers viewing our products less favorably and/or using alternative means of payment instead of electronic products, which could result in a decrease in our overall transaction volumes, and which in turn could materially and adversely impact our results of operations.

Preferential or Protective Government Actions

Preferential and protective government actions related to domestic payment services could adversely affect our ability to maintain or increase our revenues.

Governments in some countries have acted, or in the future may act, to provide resources, preferential treatment or other protection to selected national payment and switching providers, or have created, or may in the future create, their own national provider. This action may displace us from, prevent us from entering into, or substantially restrict us from participating in, particular geographies, and may prevent us from competing effectively against those providers. For example:

- Governments in some countries are considering, or may consider, regulatory requirements that mandate switching of domestic payments either entirely in that country or by only domestic companies.

- Some jurisdictions are considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications.

- Geopolitical events and resulting OFAC sanctions, adverse trade policies or other types of government actions could lead jurisdictions affected by those sanctions to take actions in response that could adversely affect our business.

- Regional groups of countries are considering, or may consider, efforts to restrict our participation in the switching of regional transactions.

Such developments prevent us from utilizing our global switching capabilities for domestic or regional customers. Our efforts to effect change in, or work with, these countries may not succeed. This could adversely affect our ability to maintain or increase our revenues and extend our global brand.

Additionally, some jurisdictions have implemented, or may implement, foreign ownership restrictions, which could potentially have the effect of forcing or inducing the transfer of our technology and proprietary information as a condition of access to their markets. Such restrictions could adversely impact our ability to compete in these markets.

Privacy, Data and Security

Regulation of privacy, data, security and the digital economy could increase our costs, as well as negatively impact our growth.

We are subject to increasingly complex regulations related to privacy, data and information security in the jurisdictions in which we do business. These regulations could result in negative impacts to our business. As we continue to develop integrated and personalized products and services to meet the needs of a changing marketplace, as well as acquire new companies, we may expand our information profile through the collection of additional data from additional sources and across multiple channels. This expansion could amplify the impact of these regulations on our business. Regulation of privacy and data and information security often times require monitoring of and changes to our data practices in regard to the collection, use, disclosure, storage, transfer and/or security of personal and sensitive information. We are also subject to enhanced compliance and operational requirements in the European Union, and policymakers around the globe are using these requirements as a reference to adopt new or updated privacy laws that could result in similar or stricter requirements in other jurisdictions. Some jurisdictions are also considering requirements to collect, process and/or store data within

their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications. Other jurisdictions are considering adopting sector-specific regulations for the payments industry, including forced data sharing requirements or additional verification requirements that overlap or conflict with, or diverge from, general privacy rules. Failure to comply with these laws, regulations and requirements could result in fines, sanctions or other penalties, which could materially and adversely affect our results of operations and overall business, as well as have an impact on our reputation.

New requirements or interpretations of existing requirements in these areas, or the development of new regulatory schemes related to the digital economy in general, may also increase our costs and could impact the products and services we offer and other aspects of our business, such as fraud monitoring, the development of information-based products and solutions and technology operations. In addition, these requirements may increase the costs to our customers of issuing payment products, which may, in turn, decrease the number of our payment products that they issue. Moreover, due to account data compromise events and privacy abuses by other companies, as well as the disclosure of monitoring activities by certain governmental agencies in combination with the use of artificial intelligence and new technologies, there has been heightened legislative and regulatory scrutiny around the world that could lead to further regulation and requirements and/or future enforcement. Those developments have also raised public attention on companies' data practices and have changed consumer and societal expectations for enhanced privacy and data protection. Any of these developments could materially and adversely affect our overall business and results of operations.

In addition, fraudulent activity could encourage regulatory intervention, which could damage our reputation and reduce the use and acceptance of our integrated products and services or increase our compliance costs. Criminals are using increasingly sophisticated methods to capture consumer account information to engage in illegal activities such as counterfeiting or other fraud. As outsourcing and specialization become common in the payments industry, there are more third parties involved in processing transactions using our payment products. While we are taking measures to make card and digital payments more secure, increased fraud levels involving our integrated products and services, or misconduct or negligence by third parties switching or otherwise servicing our integrated products and services, could lead to regulatory intervention, such as enhanced security requirements, as well as damage to our reputation.

Other Regulation

Regulations that directly or indirectly apply to Mastercard as a result of our participation in the global payments industry may materially and adversely affect our overall business and results of operations.

We are subject to regulations that affect the payments industry in the many jurisdictions in which our integrated products and services are used. Many of our customers are also subject to regulations applicable to banks and other financial institutions that, at times, consequently affect us. Regulation of the payments industry, including regulations applicable to us and our customers, has increased significantly in the last several years. See "Business - Government Regulation" in Part I, Item 1 for a detailed description of such regulation and related legislation. Examples include:

- ***Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption*** - We are subject to AML and CFT laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by OFAC. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including the SDN List. Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-sponsoring states. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the

U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. A violation and subsequent judgment or settlement against us, or those with whom we may be associated, under these laws could subject us to substantial monetary penalties, damages, and/or have a significant reputational impact.

- ***Account-based Payment Systems*** - In the U.K., Her Majesty's Treasury has expanded the Bank of England's oversight of certain payment system providers that are systemically important to U.K.'s payment network. As a result of these changes, aspects of our Vocalink business are now subject to the U.K. payment system oversight regime and are directly overseen by the Bank of England.

- ***Issuer Practice Legislation and Regulation*** - Our financial institution customers are subject to numerous regulations, which impact us as a consequence. In addition, certain regulations (such as PSD2 in the EEA) may disintermediate issuers. PSD2 may enable third-party payment processors to route transactions away from Mastercard products by offering account information or payment initiation services directly to those who currently use our products. This may also allow these processors to commoditize the data that are included in the transactions. If our customers are disintermediated in their business, we could face diminished demand for our integrated products and services. Other regulations, such as PSD2's strong authentication requirement, could increase the number of transactions that consumers abandon if we are unable to secure a frictionless authentication experience under the new standards. An increase in the rate of abandoned transactions could adversely impact our volumes or other operational metrics.

Increased regulatory focus on us, such as in connection with the matters discussed above, may result in costly compliance burdens and/or may otherwise increase our costs. Similarly, increased regulatory focus on our customers may cause such customers to reduce the volume of transactions processed through our systems, or may otherwise impact the competitiveness of our products. Actions by regulators could influence other organizations around the world to enact or consider adopting similar measures, amplifying any potential compliance burden. Finally, failure to comply with the laws and regulations discussed above to which we are subject could result in fines, sanctions or other penalties. Each may individually or collectively materially and adversely affect our financial performance and/or our overall business and results of operations, as well as have an impact on our reputation.

We could be subject to adverse changes in tax laws, regulations and interpretations or challenges to our tax positions.

We are subject to tax laws and regulations of the U.S. federal, state and local governments as well as various non-U.S. jurisdictions. Potential changes in existing tax laws, including future regulatory guidance, may impact our effective income tax rate and tax payments. There can be no assurance that changes in tax laws or regulations, both within the U.S. and the other jurisdictions in which we operate, will not materially and adversely affect our effective income tax rate, tax payments, financial condition and results of operations. Similarly, changes in tax laws and regulations that impact our customers and counterparties or the economy generally may also impact our financial condition and results of operations.

In addition, tax laws and regulations are complex and subject to varying interpretations, and any significant failure to comply with applicable tax laws and regulations in all relevant jurisdictions could give rise to substantial penalties and liabilities. Any changes in enacted tax laws, rules or regulatory or judicial interpretations; any adverse outcome in connection with tax audits in any jurisdiction; or any change in the pronouncements relating to accounting for income taxes could materially and adversely impact our effective income tax rate, tax payments, financial condition and results of operations.

Litigation

Liabilities we may incur or limitations on our business related to any litigation or litigation settlements could materially and adversely affect our results of operations.

We are a defendant on a number of civil litigations and regulatory proceedings and investigations, including among others, those alleging violations of competition and antitrust law and those involving intellectual property claims. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details regarding the allegations contained in these complaints and the status of these proceedings. In the event we are found liable in any material litigations or proceedings, particularly in the event we may be found liable in a large class-action lawsuit or on the basis of an antitrust claim entitling the plaintiff to treble damages or under which we were jointly and severally liable, we could be subject to significant damages, which could have a material adverse impact on our overall business and results of operations.

Certain limitations have been placed on our business in recent years because of litigation and litigation settlements, such as changes to our no-surcharge rule in the United States. Any future limitations on our business resulting from litigation or litigation settlements could impact our relationships with our customers, including reducing the volume of business that we do with them, which may materially and adversely affect our overall business and results of operations.

Business and Operations

Competition and Technology

Substantial and intense competition worldwide in the global payments industry may materially and adversely affect our overall business and results of operations.

The global payments industry is highly competitive. Our payment programs compete against all forms of payment, including cash and checks; electronic, mobile and e-commerce payment platforms; cryptocurrencies; ACH payment services; and other payments networks, which can have several competitive impacts on our business:

- Some of our traditional competitors, as well as alternative payment service providers, may have substantially greater financial and other resources than we have, may offer a wider range of programs and services than we offer or may use more effective advertising and marketing strategies to achieve broader brand recognition or merchant acceptance than we have.

- Our ability to compete may also be affected by the outcomes of litigation, competition-related regulatory proceedings, central bank activity and legislative activity.

Certain of our competitors operate three-party payments systems with direct connections to both merchants and consumers and these competitors may derive competitive advantages from their business models. If we continue to attract more regulatory scrutiny than

these competitors because we operate a four-party system, or we are regulated because of the system we operate in a way in which our competitors are not, we could lose business to these competitors. See "Business - Competition" in Part I, Item 1.

If we are not able to differentiate ourselves from our competitors, drive value for our customers and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively against these threats. Our competitors may also more effectively introduce their own innovative programs and services that adversely impact our growth. We also compete against new entrants that have developed alternative payments systems, e-commerce payments systems and payments systems for mobile devices, as well as physical store locations. A number of these new entrants rely principally on the Internet to support their services and may enjoy lower costs than we do, which could put us at a competitive disadvantage. Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Disintermediation from stakeholders both within and outside of the payments value chain could harm our business.

As the payments industry continues to develop and change, we face disintermediation and related risks, including:

- Parties that process our transactions in certain countries may try to eliminate our position as an intermediary in the payment process. For example, merchants could switch (and in some cases are switching) transactions directly with issuers. Additionally, processors could process transactions directly between issuers and acquirers. Large scale consolidation within processors could result in these processors developing bilateral agreements or in some cases switching the entire transaction on their own network, thereby disintermediating us.

- Regulation in the EEA may disintermediate us by enabling third-party providers opportunities to route payment transactions away from our networks and towards other forms of payment.

- Although we partner with technology companies (such as digital players and mobile providers) that leverage our technology, platforms and networks to deliver their products, they could develop platforms or networks that disintermediate us from digital payments and impact our ability to compete in the digital economy. This risk is heightened when we have relationships with these entities where we share Mastercard data. While we share this data in a controlled manner subject to applicable anonymization and privacy and data standards, without proper oversight we could inadvertently share too much data which could give the partner a competitive advantage.

- Competitors, customers, technology companies, governments and other industry participants may develop products that compete with or replace value-added products and services we currently provide to support our switched transaction and payment offerings. These products could replace our own switching and payments offerings or could force us to change our pricing or practices for these offerings. In addition, governments that develop national payment platforms may promote their platforms in such a way that could put us at a competitive disadvantage in those markets.

- Participants in the payments industry may merge, create joint ventures or form other business combinations that may strengthen their existing business services or create new payment products and services that compete with our services.

Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Continued intense pricing pressure may materially and adversely affect our overall business and results of operations.

In order to increase transaction volumes, enter new markets and expand our Mastercard-branded cards and enabled products and services, we seek to enter into business agreements with customers through which we offer incentives, pricing discounts and other support that promote our products. In order to stay competitive, we may have to increase the amount of these incentives and pricing discounts. Over the past several years, we have experienced continued pricing pressure. The demand from our customers for better pricing arrangements and greater rebates and incentives moderates our growth. We may not be able to continue our expansion strategy to switch additional transaction volumes or to provide additional services to our customers at levels sufficient to compensate for such lower fees or increased costs in the future, which could materially and adversely affect our overall business and results of operations. In addition, increased pressure on prices increases the importance of cost containment and productivity initiatives in areas other than those relating to customer incentives.

In the future, we may not be able to enter into agreements with our customers if they require terms that we are unable or unwilling to offer, and we may be required to modify existing agreements in order to maintain relationships and to compete with others in the industry. Some of our competitors are larger and have greater financial resources than we do and accordingly may be able to charge lower prices to our customers. In addition, to the extent that we offer discounts or incentives under such agreements, we will need to further increase transaction volumes or the amount of services provided thereunder in order to benefit incrementally from such agreements and to increase revenue and profit, and we may not be successful in doing so, particularly in the current regulatory environment. Our customers also may implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability. These factors could have a material adverse impact on our overall business and results of operations.

Rapid and significant technological developments and changes could negatively impact our overall business and results of operations or limit our future growth.

The payments industry is subject to rapid and significant technological changes, which can impact our business in several ways:

- Technological changes, including continuing developments of technologies in the areas of smart cards and devices, contactless and mobile payments, e-commerce, cryptocurrency and block chain technology, machine learning and AI, could result in new technologies that may be superior to, or render obsolete, the technologies we currently use in our programs and services. Moreover, these changes could result in new and innovative payment methods and products that could place us at a competitive disadvantage and that could reduce the use of our products.

- We rely in part on third parties, including some of our competitors and potential competitors, for the development of and access to new technologies. The inability of these companies to keep pace with technological developments, or the acquisition of these companies by competitors, could negatively impact our offerings.

- Our ability to develop and adopt new services and technologies may be inhibited by industry-wide solutions and standards (such as those related to EMV, tokenization or other safety and security technologies), and by resistance from customers or merchants to such changes.

- Our ability to develop evolving systems and products may be inhibited by any difficulty we may experience in attracting and retaining technology experts.

- Our ability to adopt these technologies can also be inhibited by intellectual property rights of third parties. We have received, and we may in the future receive, notices or inquiries from patent holders (for example, other operating companies or non-practicing entities) suggesting that we may be infringing certain patents or that we need to license the use of their patents to avoid infringement. Such notices may, among other things, threaten litigation against us or our customers or demand significant license fees.

- Our ability to develop new technologies and reflect technological changes in our payments offerings will require resources, which may result in additional expenses.

- We work with technology companies (such as digital players and mobile providers) that use our technology to enhance payment safety and security and to deliver their payment-related products and services quickly and efficiently to consumers. Our inability to keep pace technologically could negatively impact the willingness of these customers to work with us, and could encourage them to use their own technology and compete against us.

We cannot predict the effect of technological changes on our business, and our future success will depend, in part, on our ability to anticipate, develop or adapt to technological changes and evolving industry standards. Failure to keep pace with these technological developments or otherwise bring to market products that reflect these technologies could lead to a decline in the use of our products, which could have a material adverse impact on our overall business and results of operations.

Operating a real-time account-based payment network presents risks that could materially affect our business.

Our acquisition of Vocalink in 2017 added real-time account-based payment technology to the suite of capabilities we offer. While expansion into this space presents business opportunities, there are also regulatory and operational risks associated with administering a real-time account-based payment network.

British regulators have designated this platform to be "critical national infrastructure" and regulators in other countries may in the future expand their regulatory oversight of real-time account-based payment systems in similar ways. In addition, any prolonged service outage on this network could result in quickly escalating impacts, including potential intervention by the Bank of England and significant reputational risk to Vocalink and us. For a discussion of the regulatory risks related to our real-time account-based payment platform, see our risk factor in "Risk Factors - Payments Industry Regulation" in this Part I, Item 1A. Furthermore, the complexity of this payment technology requires careful management to address security vulnerabilities that are different from those faced on our core network. Operational difficulties, such as the temporary unavailability of our services or products, or security breaches on our real-time account-based payment network could cause a loss of business for these products and services, result in potential liability for us and adversely affect our reputation.

Working with new customers and end users as we expand our integrated products and services can present operational challenges, be costly and result in reputational damage if the new products or services do not perform as intended.

The payments markets in which we compete are characterized by rapid technological change, new product introductions, evolving industry standards and changing customer and consumer needs. In order to remain competitive and meet the needs of the payments market, we are continually involved in diversifying our integrated products and services. These efforts carry the risks associated with any diversification initiative, including cost overruns, delays in delivery and performance problems. These projects also carry risks associated with working with different types of customers, for example organizations such as corporations that are not financial

institutions and non-governmental organizations ("NGOs"), and end users other than those we have traditionally worked with. These differences may present new operational challenges in the development and implementation of our new products or services.

Our failure to render these integrated products and services could make our other integrated products and services less desirable to customers, or put us at a competitive disadvantage. In addition, if there is a delay in the implementation of our products or services or if our products or services do not perform as anticipated, we could face additional regulatory scrutiny, fines, sanctions or other penalties, which could materially and adversely affect our overall business and results of operations, as well as negatively impact our brand and reputation.

Information Security and Service Disruptions

Information security incidents or account data compromise events could disrupt our business, damage our reputation, increase our costs and cause losses.

Information security risks for payments and technology companies such as ours have significantly increased in recent years in part because of the proliferation of new technologies, the use of the Internet and telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties. These threats may derive from fraud or malice on the part of our employees or third parties, or may result from human error or accidental technological failure. These threats include cyber-attacks such as computer viruses, malicious code, phishing attacks or information security breaches and could lead to the misappropriation of consumer account and other information and identity theft.

Our operations rely on the secure processing, transmission and storage of confidential, proprietary and other information and technology in our computer systems and networks, as well as the systems of our third-party providers. Our customers and other parties in the payments value chain, as well as account holders, rely on our digital technologies, computer systems, software and networks to conduct their operations. In addition, to access our integrated products and services, our customers and account holders increasingly use personal smartphones, tablet PCs and other mobile devices that may be beyond our control. We, like other financial technology organizations, routinely are subject to cyber-threats and our technologies, systems and networks, as well as the systems of our third-party providers, have been subject to attempted cyber-attacks. Because of our position in the payments value chain, we believe that we are likely to continue to be a target of such threats and attacks. Additionally, geopolitical events and resulting government activity could also lead to information security threats and attacks by affected jurisdictions and their sympathizers.

To date, we have not experienced any material impact relating to cyber-attacks or other information security breaches. However, future attacks or breaches could lead to security breaches of the networks, systems (including third-party provider systems) or devices that our customers use to access our integrated products and services, which in turn could result in the unauthorized disclosure, release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information (including account data information) or data security compromises. Such attacks or breaches could also cause service interruptions, malfunctions or other failures in the physical infrastructure or operations systems that support our businesses and customers (such as the lack of availability of our value-added services), as well as the operations of our customers or other third parties. In addition, they could lead to damage to our reputation with our customers and other parties and the market, additional costs to us (such as repairing systems, adding new personnel or protection technologies or compliance costs), regulatory penalties, financial losses to both us and our customers and partners and the loss of customers and business opportunities. If such attacks are not detected immediately, their effect could be compounded.

Despite various mitigation efforts that we undertake, there can be no assurance that we will be immune to these risks and not suffer material breaches and resulting losses in the future, or that our

insurance coverage would be sufficient to cover all losses. Our risk and exposure to these matters remain heightened because of, among other things, the evolving nature of these threats, our prominent size and scale and our role in the global payments and technology industries, our plans to continue to implement our digital and mobile channel strategies and develop additional remote connectivity solutions to serve our customers and account holders when and how they want to be served, our global presence, our extensive use of third-party vendors and future joint venture and merger and acquisition opportunities. As a result, information security and the continued development and enhancement of our controls, processes and practices designed to protect our systems, computers, software, data and networks from attack, damage or unauthorized access remain a priority for us. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Any of the risks described above could materially adversely affect our overall business and results of operations.

In addition to information security risks for our systems, we also routinely encounter account data compromise events involving merchants and third-party payment processors that process, store or transmit payment transaction data, which affect millions of Mastercard, Visa, Discover, American Express and other types of account holders. Further events of this type may subject us to reputational damage and/or lawsuits involving payment products carrying our brands. Damage to our reputation or that of our brands resulting from an account data breach of either our systems or the systems of our customers, merchants and other third parties could decrease the use and acceptance of our integrated products and services. Such events could also slow or reverse the trend toward

electronic payments. In addition to reputational concerns, the cumulative impact of multiple account data compromise events could increase the impact of the fraud resulting from such events by, among other things, making it more difficult to identify consumers. Moreover, while most of the lawsuits resulting from account data breaches do not involve direct claims against us and while we have releases from many issuers and acquirers, we could still face damage claims, which, if upheld, could materially and adversely affect our results of operations. Such events could have a material adverse impact on our transaction volumes, results of operations and prospects for future growth, or increase our costs by leading to additional regulatory burdens being imposed on us.

Service disruptions that cause us to be unable to process transactions or service our customers could materially affect our overall business and results of operations.

Our transaction switching systems and other offerings have experienced in limited instances and may continue to experience interruptions as a result of technology malfunctions, fire, weather events, power outages, telecommunications disruptions, terrorism, workplace violence, accidents or other catastrophic events. Our visibility in the global payments industry may also put us at greater risk of attack by terrorists, activists, or hackers who intend to disrupt our facilities and/or systems. Additionally, we rely on third-party service providers for the timely transmission of information across our global data network. Inadequate infrastructure in lesser-developed markets could also result in service disruptions, which could impact our ability to do business in those markets. If one of our service providers fails to provide the communications capacity or services we require, as a result of natural disaster, operational disruptions, terrorism, hacking or any other reason, the failure could interrupt our services. Although we maintain a business continuity program to analyze risk, assess potential impacts, and develop effective response strategies, we cannot ensure that our business would be immune to these risks, because of the intrinsic importance of our switching systems to our business, any interruption or degradation could adversely affect the perception of the reliability of products carrying our brands and materially adversely affect our overall business and our results of operations.

Stakeholder Relationships

Losing a significant portion of business from one or more of our largest financial institution customers could lead to significant revenue decreases in the longer term, which could have a material adverse impact on our business and our results of operations.

Most of our financial institution customer relationships are not exclusive and may be terminated by our customers. Our customers can reassess their commitments to us at any time in the future and/or develop their own competitive services. Accordingly, our business agreements with these customers may not reduce the risk inherent in our business that customers may terminate their relationships with us in favor of relationships with our competitors, or for other reasons, or might not meet their contractual obligations to us.

In addition, a significant portion of our revenue is concentrated among our five largest financial institution customers. Loss of business from any of our large customers could have a material adverse impact on our overall business and results of operations.

Exclusive/near exclusive relationships certain customers have with our competitors may have a material adverse impact on our business.

Certain customers have exclusive, or nearly-exclusive, relationships with our competitors to issue payment products, and these relationships may make it difficult or cost-prohibitive for us to do significant amounts of business with them to increase our revenues. In addition, these customers may be more successful and may grow faster than the customers that primarily issue our payment products, which could put us at a competitive disadvantage. Furthermore, we earn substantial revenue from customers with nearly-exclusive relationships with our competitors. Such relationships could

provide advantages to the customers to shift business from us to the competitors with which they are principally aligned. A significant loss of our existing revenue or transaction volumes from these customers could have a material adverse impact on our business.

Consolidation in the banking industry could materially and adversely affect our overall business and results of operations.

The banking industry has undergone substantial, accelerated consolidation in the past. Consolidations have included customers with a substantial Mastercard portfolio being acquired by institutions with a strong relationship with a competitor. If significant consolidation among customers were to continue, it could result in the substantial loss of business for us, which could have a material adverse impact on our business and prospects. In addition, one or more of our customers could seek to merge with, or acquire, one of our competitors, and any such transaction could also have a material adverse impact on our overall business. Consolidation could also produce a smaller number of large customers, which could increase their bargaining power and lead to lower prices and/or more favorable terms for our customers. These developments could materially and adversely affect our results of operations.

Our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and, in many jurisdictions, their ability to effectively manage or help manage our brands.

While we work directly with many stakeholders in the payments system, including merchants, governments and large digital companies and other technology companies, we are, and will continue to be, significantly dependent on our relationships with our issuers and acquirers and their respective relationships with account holders and merchants to support our programs and services. Furthermore, we depend on our issuing partners and acquirers to continue to innovate to maintain competitiveness in the market. We do not issue cards or other payment devices, extend credit to account holders or determine the interest rates or other fees charged to account holders. Each issuer determines these and most other competitive payment program features. In addition, we do not establish the discount rate that merchants are charged for acceptance, which is the responsibility of our acquiring customers. As a result, our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and the strength of our relationships with them. In turn, our customers' success depends on a variety of factors over which we have little or no influence, including economic conditions in global financial markets or their disintermediation by competitors or emerging technologies, as well as regulation. If our customers become financially unstable, we may lose revenue or we may be exposed to settlement risk. See our risk factor in "Risk Factors - Settlement and Third-Party Obligations" in this Part I, Item 1A with respect to how we guarantee certain third-party obligations for further discussion.

With the exception of the United States and a select number of other jurisdictions, most in-country (as opposed to cross-border) transactions conducted using Mastercard, Maestro and Cirrus cards are authorized, cleared and settled by our customers or other processors. Because we do not provide domestic switching services in these countries and do not, as described above, have direct relationships with account holders, we depend on our close working relationships with our customers to effectively manage our brands, and the perception of our payments system, among consumers in these countries. We also rely on these customers to help manage our brands and perception among regulators and merchants in these countries, alongside our own relationships with them. From time to time, our customers may take actions that we do not believe to be in the best interests of our payments system overall, which may materially and adversely impact our business.

Merchants' continued focus on acceptance costs may lead to additional litigation and regulatory proceedings and increase our incentive program costs, which could materially and adversely affect our profitability.

Merchants are important constituents in our payments system. We rely on both our relationships with them, as well as their relationships with our issuer and acquirer customers, to continue to expand the acceptance of our integrated products and services. We also work with merchants to help them enable new sales channels, create better purchase experiences, improve efficiencies, increase revenues and fight fraud. In the retail industry, there is a set of larger merchants with increasingly global scope and influence. We believe that these merchants are having a significant impact on all participants in the global payments industry, including Mastercard. Some large merchants have supported the legal, regulatory and legislative challenges to interchange fees that Mastercard has been defending, including the U.S. merchant litigations. See our risk factor in "Risk Factors – Other Regulation" in this Part I, Item 1A with respect to payments industry regulation, including interchange fees. The continued focus of merchants on the costs of accepting various forms of payment, including in connection with the growth of digital payments, may lead to additional litigation and regulatory proceedings.

Certain larger merchants are also able to negotiate incentives from us and pricing concessions from our issuer and acquirer customers as a condition to accepting our products. We also make payments to certain merchants to incentivize them to create co-branded payment programs with us. As merchants consolidate and become even larger, we may have to increase the amount of incentives that we provide to certain merchants, which could materially and adversely affect our results of operations.

Competitive and regulatory pressures on pricing could make it difficult to offset the costs of these incentives. Additionally, if the rate of merchant acceptance growth slows our business could suffer.

Our work with governments exposes us to unique risks that could have a material impact on our business and results of operations.

As we increase our work with national, state and local governments, both indirectly through financial institutions and with them directly as our customers, we may face various risks inherent in associating or contracting directly with governments. These risks include, but are not limited to, the following:

- Governmental entities typically fund projects through appropriated monies. Changes in governmental priorities or other political developments, including disruptions in governmental operations, could impact approved funding and result in changes in the scope, or lead to the termination of, the arrangements or contracts we or financial institutions enter into with respect to our payment products and services.

- Our work with governments subjects us to U.S. and international anti-corruption laws, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation and subsequent judgment or settlement under these laws could subject us to substantial monetary penalties and damages and have a significant reputational impact.

- Working or contracting with governments, either directly or via our financial institution customers, can subject us to heightened reputational risks, including extensive scrutiny and publicity, as well as a potential association with the policies of a government as a result of a business arrangement with that government. Any negative publicity or negative association with a government entity, regardless of its accuracy, may adversely affect our reputation.

Settlement and Third-Party Obligations

Our role as guarantor, as well as other contractual obligations, expose us to risk of loss or illiquidity.

We are a guarantor of certain third-party obligations, including those of certain of our customers. In this capacity, we are exposed to credit and liquidity risk from these customers and certain service providers. We may incur significant losses in connection with transaction settlements if a customer fails to fund its daily settlement obligations due to technical problems, liquidity shortfalls, insolvency or other reasons. Concurrent settlement failures of more than one of our larger customers or of several of our smaller customers either on a given day or over a condensed period of time may exceed our available resources and could materially and adversely affect our results of operations.

We have significant contractual indemnification obligations with certain customers. Should an event occur that triggers these obligations, such an event could materially and adversely affect our overall business and result of operations.

Global Economic and Political Environment

Global economic, political, financial and societal events or conditions could result in a material and adverse impact on our overall business and results of operations.

Adverse economic trends in key countries in which we operate may adversely affect our financial performance. Such impact may include, but is not limited to, the following:

- Customers mitigating their economic exposure by limiting the issuance of new Mastercard products and requesting greater incentive or greater cost stability from us

- Consumers and businesses lowering spending, which could impact domestic and cross-border spend

- Government intervention (including the effect of laws, regulations and/or government investments on or in our financial institution customers), as well as uncertainty due to changing political regimes in executive, legislative and/or judicial branches of government, that may have potential negative effects on our business and our relationships with customers or otherwise alter their strategic direction away from our products

- Tightening of credit availability that could impact the ability of participating financial institutions to lend to us under the terms of our credit facility

Additionally, we switch substantially all cross-border transactions using Mastercard, Maestro and Cirrus-branded cards and generate a significant amount of revenue from cross-border volume fees and fees related to switched transactions. Revenue from switching cross-border and currency conversion transactions for our customers fluctuates with the levels and destinations of cross-border travel and our customers' need for transactions to be converted into their base currency. Cross-border activity may be adversely affected by world geopolitical, economic, weather and other conditions. These include the threat of terrorism and outbreaks of flu, viruses and other diseases, as well as major environmental events (including those related to climate change). The uncertainty that could result from such events could decrease cross-border activity. Additionally, any regulation of interregional

interchange fees could also negatively impact our cross-border activity. In each case, decreased cross-border activity could decrease the revenue we receive.

Our operations as a global payments network rely in part on global interoperable standards to help facilitate safe and simple payments. To the extent geopolitical events result in jurisdictions no longer participating in the creation or adoption of these standards, or the creation of competing standards, the products and services we offer could be negatively impacted.

Any of these developments could have a material adverse impact on our overall business and results of operations.

Adverse currency fluctuations and foreign exchange controls could negatively impact our results of operations.

During 2019, approximately 68% of our revenue was generated from activities outside the United States. This revenue (and the related expense) could be transacted in a non-functional currency or valued based on a currency other than the functional currency of the entity generating the revenues. Resulting exchange gains and losses are included in our net income. Our risk management activities provide protection with respect to adverse changes in the value of only a limited number of currencies and are based on estimates of exposures to these currencies.

In addition, some of the revenue we generate outside the United States is subject to unpredictable currency fluctuations including devaluation of currencies where the values of other currencies change relative to the U.S. dollar. If the U.S. dollar strengthens compared

to currencies in which we generate revenue, this revenue may be translated at a materially lower amount than expected. Furthermore, we may become subject to exchange control regulations that might restrict or prohibit the conversion of our other revenue currencies into U.S. dollars, such as what we have experienced in Venezuela.

The occurrence of currency fluctuations or exchange controls could have a material adverse impact on our results of operations.

The United Kingdom's proposed withdrawal from the European Union could harm our business and financial results.

In June 2016, voters in the United Kingdom approved the withdrawal of the U.K. from the E.U. (commonly referred to as "Brexit"). The U.K. government triggered Article 50 of the Lisbon Treaty on March 29, 2017, which commenced the official E.U. withdrawal process. In January 2020, Parliament and the E.U. approved of an agreement between the U.K. and the E.U., and the U.K. officially departed from the E.U. On February 1, 2020, the U.K. entered into a transition/implementation period, during which all E.U. laws regulations, court decisions, trading agreements and other obligations continue to apply to the U.K. During this period, which is set to expire on December 31, 2020, the U.K. and E.U. will negotiate additional terms. Uncertainty over these terms could cause political and economic uncertainty in the U.K. and the rest of Europe, which could harm our business and financial results.

Subsequent to the end of the transition/implementation period on December 31, 2020, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations in the U.K. and E.U. We, as well as our customers who have significant operations in the U.K., may incur additional costs and expenses as we adapt to potentially divergent regulatory frameworks from the rest of the E.U. We may also face additional complexity with regard to immigration and travel rights for our employees located in the U.K. and the E.U. These factors may impact our ability to operate in the E.U. and U.K. seamlessly. Any of these effects of Brexit, among others, could harm our business and financial results.

Brand and Reputational Impact

Negative brand perception may materially and adversely affect our overall business.

Our brands and their attributes are key assets of our business. The ability to attract consumers to our branded products and retain them depends upon the external perception of us and our industry. Our business may be affected by actions taken by our customers, merchants or other organizations that impact the perception of our brands or the payments industry in general. From time to time, our customers may take actions that we do not believe to be in the best interests of our brands, such as creditor practices that may be viewed as "predatory". Moreover, adverse developments with respect to our industry or the industries of our customers or other companies and organizations with which we work may also, by association, impair our reputation, or result in greater regulatory or legislative scrutiny. We have also been pursuing the use of social media channels at an increasingly rapid pace. Under some circumstances, our use of social media, or the use of social media by others as a channel for criticism or other purposes, could also cause rapid, widespread reputational harm to our brands by disseminating rapidly and globally actual or perceived damaging information about us, our products or merchants or other end users who utilize our products. To the extent any of our published sustainability metrics are subsequently viewed as inaccurate or we are unable to execute on our sustainability initiatives, we may be viewed negatively by consumers, investors and other stakeholders concerned about these matters. Also, as we are headquartered in the United States, a negative perception of the United States could impact the perception of our company, which could adversely affect our business. Any of the above issues could have a material and adverse effect to our overall business.

Lack of visibility of our brand in our products and services, or in the products and services of our partners who use our technology, may materially and adversely affect our business.

As more players enter the global payments system, the layers between our brand and consumers and merchants increase. In order to compete with other powerful consumer brands that are also becoming part of the consumer payment experience, we often partner with those brands on payment solutions. These brands include large digital companies and other technology companies who are our customers and use our networks to build their own acceptance brands. In some cases, our brand may not be featured in the payment solution or may be secondary to other brands. Additionally, as part of our relationships with some issuers, our payment brand is only included on the back of the card. As a result, our brand may either be invisible to consumers or may not be the primary brand with which consumers associate the payment experience. This brand invisibility, or any consumer confusion as to our role in the consumer payment experience, could decrease the value of our brand, which could adversely affect our business.

Talent and Culture

We may not be able to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture, which could impact our ability to grow effectively.

Our performance largely depends on the talents and efforts of our employees, particularly our key personnel and senior management. We may be unable to retain or to attract highly qualified employees. The market for key personnel is highly competitive, particularly in technology and other skill areas significant to our business. Additionally, changes in immigration and work permit laws and regulations and related enforcement have made it difficult for employees to work in, or transfer among, jurisdictions in which we have operations and could impair our ability to attract and retain qualified employees. Failure to attract, hire, develop, motivate and retain highly qualified and diverse employee talent, or to maintain a corporate culture that fosters innovation, creativity and teamwork could harm our overall business and results of operations.

We rely on key personnel to lead with integrity. To the extent our leaders behave in a manner that is not consistent with our values, we could experience significant impact to our brand and reputation, as well as to our corporate culture.

Acquisitions

Acquisitions, strategic investments or entry into new businesses could disrupt our business and harm our results of operations or reputation.

Although we may continue to evaluate and/or make strategic acquisitions of, or acquire interests in joint ventures or other entities related to, complementary businesses, products or technologies, we may not be able to successfully partner with or integrate them, despite original intentions and focused efforts. In addition, such an integration may divert management's time and resources from our core business and disrupt our operations. Moreover, we may spend time and money on acquisitions or projects that do not meet our expectations or increase our revenue. To the extent we pay the purchase price of any acquisition in cash, it would reduce our cash reserves available to us for other uses, and to the extent the purchase price is paid with our stock, it could be dilutive to our stockholders. Furthermore, we may not be able to successfully finance the business following the acquisition as a result of costs of operations, including any litigation risk which may be inherited from the acquisition.

Any acquisition or entry into a new business could subject us to new regulations with which we would need to comply. This compliance could increase our costs, and we could be subject to liability or reputational harm to the extent we cannot meet any such compliance requirements. Our expansion into new businesses could also result in unanticipated issues which may be difficult to manage.

Class A Common Stock and Governance Structure

Provisions in our organizational documents and Delaware law could be considered anti-takeover provisions and have an impact on change-in-control.

Provisions contained in our amended and restated certificate of incorporation and bylaws and Delaware law could be considered anti-takeover provisions, including provisions that could delay or prevent entirely a merger or acquisition that our stockholders consider favorable. These provisions may also discourage acquisition proposals or have the effect of delaying or preventing entirely a change in control, which could harm our stock price. For example, subject to limited exceptions, our amended and restated certificate of incorporation prohibits any person from beneficially owning more than 15% of any of the Class A common stock or any other class or series of our stock with general voting power, or more than 15% of our total voting power. In addition:

- our stockholders are not entitled to the right to cumulate votes in the election of directors
- our stockholders are not entitled to act by written consent
- a vote of 80% or more of all of the outstanding shares of our stock then entitled to vote is required for stockholders to amend any provision of our bylaws
- any representative of a competitor of Mastercard or of Mastercard Foundation is disqualified from service on our board of directors

Mastercard Foundation's substantial stock ownership, and restrictions on its sales, may impact corporate actions or acquisition proposals favorable to, or favored by, the other public stockholders.

As of February 11, 2020, Mastercard Foundation owned 111,101,204 shares of Class A common stock, representing approximately 11.2% of our general voting power. Mastercard Foundation may not sell or otherwise transfer its shares of Class A common stock prior to May 1, 2027, except to the extent necessary to satisfy its charitable disbursement requirements, for which purpose earlier sales are permitted and have occurred. Mastercard Foundation is permitted to sell all of its remaining shares after May 1, 2027, subject to certain conditions. The directors of Mastercard Foundation are required to be independent of us and our customers. The ownership of Class A common stock by Mastercard Foundation, together with the restrictions on transfer, could discourage or make more difficult acquisition proposals favored by the other holders of the Class A common stock. In addition, because Mastercard Foundation is restricted from selling its shares for an extended period of time, it may not have the same interest in short or medium-term movements in our stock price as, or incentive to approve a corporate action that may be favorable to, our other stockholders.

Item 1B. Unresolved staff comments

Not applicable.

Item 2. Properties

We own our corporate headquarters, located in Purchase, New York, and our principal technology and operations center, located in O'Fallon, Missouri. As of December 31, 2019, Mastercard and its subsidiaries owned or leased commercial properties throughout the U.S. and other countries around the world, consisting of corporate and regional offices, as well as our operations centers.

We believe that our facilities are suitable and adequate for the business that we currently conduct. However, we periodically review our space requirements and may acquire or lease new space to meet the needs of our business, or consolidate and dispose of facilities that are no longer required.

Item 3. Legal proceedings

Refer to Note 13 (Accrued Expenses and Accrued Litigation) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Item 4. Mine Safety Disclosures

Not applicable.

Information about our executive officers

(as of February 14, 2020)

Name ***Current Position***	**Age**	**Previous Mastercard Experience**	**Previous Business Experience**
Ajay Banga *President & Chief Executive Officer* since July 2010	60	President and COO (2009-2010)	Executive positions at Citigroup (1996-2009), including CEO, Asia Pacific region; Chairman and CEO, International Global Consumer Group; Executive Vice President, Global Consumer Group; President, Retail Banking, North America; and business head for CitiFinancial and the U.S. Consumer Assets Division Previous experience at Nestlé India and PepsiCo totaling 15 years, in roles of increasing responsibility
Ajay Bhalla *President, Cyber and Intelligence Solutions* since November 2018	54	President, Enterprise Security Solutions (2014- 2018) President, Digital Gateway Services (2011-2013) President, South Asia and Southeast Asia (2008-2011) President, Southeast Asia (2002-2007) Country Manager, Singapore and Head of Marketing, Southeast Asia (1997-2002) Vice President (1993-1997)	Various leadership positions at HSBC and Xerox Corporation (1988-1993)
Ann Cairns *Vice Chairman* since June 2018	63	President, International (2011-2018)	Managing director, Alvarez & Marsal (led the European team managing the estate of Lehman Brothers Holdings International through the Chapter 11 process in Europe) (2002-2008) CEO, ABN AMRO Senior corporate and investment banking roles at Citigroup Research scientist and engineer for British Gas
Gilberto Caldart *President, International* since June 2018	60	President, Latin America and Caribbean region (2013-2018) Division President, South Latin America/Brazil (2008-2013)	Various leadership positions at Citigroup, including Country Business Manager, Brazil (2002-2008)
Michael Fraccaro *Chief People Officer* since July 2016	54	Executive Vice President, Human Resources, Global Products and Solutions (2014-2016) Senior Vice President, Human Resources, Global Products and Solutions (2012-2014)	Various executive-level human resources positions at HSBC Group, Hong Kong, a banking and financial services firm (2000-2012) Prior senior human resources positions in banking and financial

services in Australia and the Middle East

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Michael Froman *Vice Chairman and President, Strategic Growth* since April 2018	57	Mr. Froman joined the Company in April 2018 in his current role	U.S. Trade Representative in the Executive Office of President Obama (2013-2017) Assistant to the President and Deputy National Security Advisor for International Economic Policy (2009-2013) Various executive positions at Citigroup (1999-2009), including CEO, CitiInsurance and COO of Citigroup's alternative investments business
Edward McLaughlin *President, Operations and Technology* since May 2017	54	Chief Information Officer (2016-2017) Chief Emerging Payments Officer (2010-2015) Chief Franchise Development Officer (2009-2010) Senior Vice President, Bill Payment and Healthcare (2005-2009)	Group Vice President, Product and Strategy, Metavante Corporation (financial services technology company) (2002-2005) Co-Founder and CEO, Paytrust, Inc. (online payments company acquired by Metavante Corporation in 2002) (1998-2002)
Sachin Mehra *Chief Financial Officer* since April 2019	49	Chief Financial Operations Officer (2018-2019) Executive Vice President, Commercial Products (2015-2018) Executive Vice President and Business Financial Officer, North America (2013-2015) Corporate Treasurer (2010-2013)	Vice President and Treasurer, Hess Corporation (2008-2010) Vice President and Deputy Treasurer, Hess Corporation (2007-2008) Various treasury and finance positions of increasing responsibility, General Motors Corporation and GMAC (1996-2007)
Michael Miebach *Chief Product Officer* since January 2016	52	President, Middle East and Africa (2010-2015)	Managing Director, Middle East and North Africa, Barclays Bank PLC (2008-2010) Managing Director, Sub-Saharan Africa, Barclays Bank PLC (2007-2008) Various executive positions at Citigroup in Germany, Austria, U.K. and Turkey (1994-2007)
Tim Murphy *General Counsel* since April 2014	52	Chief Product Officer (2009-2014) President, U.S. Region (2007-2009) Executive Vice President, Customer Business Planning and Analysis (2006- 2007) Senior Vice President and Associate General Counsel (2002-2006)	Associate, Cleary, Gottlieb, Steen and Hamilton, New York and London
Raja Rajamannar *Chief Marketing and Communications Officer and*	58	Chief Marketing Officer (2013-2015)	Executive Vice President-Senior Business and Chief Transformation Officer, Anthem (formerly, WellPoint, Inc.) (2012- 2013)

President, Healthcare since January 2016	Senior Vice President and Chief Innovation and Marketing Officer, Humana Inc. (2009-2012) Various management positions at Citigroup (1994-2009), including Executive Vice President and Chief Marketing Officer-Citi Global Cards (2008-2009)

Name Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Raj Seshadri *President, Data and Services* since January 2020	54	President, U.S. Issuers (2016-2019)	Managing Director, Head of iShares U.S. Wealth Advisory business, BlackRock (2014-2016)
Kevin Stanton *Chief Transformation Officer* since January 2020	58	Chief Services Officer (2018-2019) President, Mastercard Advisors (2010-2017) President, Canada (2004-2010) Senior Vice President, Strategy and Market Development (2002-2004) Vice President, Senior Counsel and North America Region Counsel (1995-2002)	
Craig Vosburg *President, North America* since January 2016	52	Chief Product Officer (2014-2015) Executive Vice President, U.S. Market Development (2010-2014) Head of Mastercard Advisors, U.S. and Canada (2008-2010) Head of Mastercard Advisors, Southeast Asia, Greater China and South Asia/Middle East/Africa (2006-2008)	Senior member-financial services practice, Bain & Company (2002-2006) and A.T. Kearney (1997-2002) Vice president, CoreStates Financial Corporation (1989-1995)

PART II

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Item 6. Selected financial data

Item 7. Management's discussion and analysis of financial condition and results of operations

Item 7A. Quantitative and qualitative disclosures about market risk

Item 8. Financial statements and supplementary data

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Item 9A. Controls and procedures

Item 9B. Other information

Item 5. Market for registrant's common equity, related stockholder matters and issuer purchases of equity securities

Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". At February 11, 2020, we had 68 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Class A common stock is held in "street name" by brokers.

There is currently no established public trading market for our Class B common stock. There were approximately 271 holders of record of our non-voting Class B common stock as of February 11, 2020, constituting approximately 1.1% of our total outstanding equity.

Stock Performance Graph

The graph and table below compare the cumulative total stockholder return of Mastercard's Class A common stock, the S&P 500 Financials and the S&P 500 Index for the five-year period ended December 31, 2019. The graph assumes a $100 investment in our Class A common stock and both of the indices and the reinvestment of dividends. Mastercard's Class B common stock is not publicly traded or listed on any exchange or dealer quotation system.

Comparison of cumulative five-year total return

fiveyrtotalreturnline.jpg

Total returns to stockholders for each of the years presented were as follows:

	Base period	Indexed Returns For the Years Ended December 31,				
Company/Index	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Mastercard	$ 100.00	$ 113.80	$ 121.67	$ 179.67	$ 225.17	$ 358.38
S&P 500 Financials	100.00	98.47	120.92	147.75	128.50	169.78
S&P 500 Index	100.00	101.38	113.51	138.29	132.23	173.86

Dividend Declaration and Policy

On December 3, 2019, our Board of Directors declared a quarterly cash dividend of $0.40 per share paid on February 7, 2020 to holders of record on January 9, 2020 of our Class A common stock and Class B common stock. On February 4, 2020, our Board of Directors declared a quarterly cash dividend of $0.40 per share payable on May 8, 2020 to holders of record on April 9, 2020 of our Class A common stock and Class B common stock.

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Class A common stock and Class B common stock. However, 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.

Issuer Purchases of Equity Securities

On December 4, 2018, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $6.5 billion of our Class A common stock (the "2018 Share Repurchase Program"). This program became effective in January 2019. On December 3, 2019, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $8.0 billion of our Class A common stock (the "2019 Share Repurchase Program"). This program became effective in January 2020.

During the fourth quarter of 2019, we repurchased a total of approximately 3.6 million shares for $994 million at an average price of $275.00 per share of Class A common stock. Our repurchase activity during the fourth quarter of 2019 consisted of open market share repurchases and is summarized in the following table:

Period	Total Number of Shares Purchased	Average Price Paid per Share (including commission cost)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that may yet be Purchased under the Plans or Programs [1]
October 1 – 31	2,128,776	$ 271.55	2,128,776	$719,951,874
November 1 – 30	1,363,616	278.93	1,363,616	339,605,253
December 1 – 31	121,837	291.38	121,837	8,304,104,890
Total	3,614,229	275.00	3,614,229	

1 Dollar value of shares that may yet be purchased under the 2018 Share Repurchase Program and the 2019 Share Repurchase Program are as of the end of each period presented.

Item 6. Selected financial data

The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2019, 2018 and 2017, and the balance sheet data as of December 31, 2019 and 2018, were derived from the audited consolidated financial statements of Mastercard Incorporated included in Part II, Item 8. The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2016 and 2015, and the balance sheet data as of December 31, 2017, 2016 and 2015, were derived from audited consolidated financial statements not included in this Report. The data set forth below should be read in conjunction with, and are qualified by reference to, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 and our consolidated financial statements and notes thereto included in Part II, Item 8.

	Years Ended December 31,				
	2019	2018	2017	2016	2015
	(in millions, except per share data)				
Statement of Operations Data:					
Net revenue	$ 16,883	$ 14,950	$ 12,497	$ 10,776	$ 9,667
Operating expenses	7,219	7,668	5,875	5,015	4,589
Operating income	9,664	7,282	6,622	5,761	5,078
Net income	8,118	5,859	3,915	4,059	3,808
Basic earnings per share	7.98	5.63	3.67	3.70	3.36
Diluted earnings per share	7.94	5.60	3.65	3.69	3.35
Balance Sheet Data:					
Total assets	$ 29,236	$ 24,860	$ 21,329	$ 18,675	$ 16,250
Long-term debt	8,527	5,834	5,424	5,180	3,268
Total equity	5,917	5,418	5,497	5,684	6,062
Cash dividends declared per share	$ 1.39	$ 1.08	$ 0.91	$ 0.79	$ 0.67

Item 7. Management's discussion and analysis of financial condition and results of operations

The following discussion should be read in conjunction with the consolidated financial statements and notes of Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International") (together, "Mastercard" or the "Company"), included elsewhere in this Report. Percentage changes provided throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" were calculated on amounts rounded to the nearest thousand. For discussion related to the results of operations for the year ended December 31, 2018 compared to the year ended December 31, 2017, please see Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2018.

Business Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by providing a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We are a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through our unique and proprietary global payments network, which we refer to as our core network, we switch (authorize, clear and settle) payment transactions and deliver related products and services. We have additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). We also provide integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs and processing. Our payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

Financial Results Overview

The following table provides a summary of our key GAAP operating results, as reported:

	Year ended December 31,			2019 Increase/ (Decrease)	2018 Increase/ (Decrease)
	2019	2018	2017		
	($ in millions, except per share data)				
Net revenue	$ 16,883	$ 14,950	$ 12,497	13%	20%
Operating expenses	$ 7,219	$ 7,668	$ 5,875	(6)%	31%
Operating income	$ 9,664	$ 7,282	$ 6,622	33%	10%
Operating margin	57.2 %	48.7 %	53.0 %	8.5 ppt	(4.3) ppt
Income tax expense	$ 1,613	$ 1,345	$ 2,607	20%	(48)%
Effective income tax rate	16.6 %	18.7 %	40.0 %	(2.1) ppt	(21.3) ppt

Net income	$ 8,118	$ 5,859	$ 3,915	39%	50%
Diluted earnings per share	$ 7.94	$ 5.60	$ 3.65	42%	53%
Diluted weighted-average shares outstanding	1,022	1,047	1,072	(2)%	(2)%

The following table provides a summary of key non-GAAP operating results[1, 2], adjusted to exclude the impact of gains and losses on our equity investments, special items (which represent litigation judgments and settlements and certain one-time items) and the related tax impacts on our non-GAAP adjustments. In addition, we have presented growth rates, adjusted for the impact of currency:

	Year ended December 31,			2019 Increase/ (Decrease)		2018 Increase/ (Decrease)	
	2019	2018	2017	As adjusted	Currency-neutral	As adjusted	Currency-neutral
	($ in millions, except per share data)						
Net revenue	$ 16,883	$ 14,950	$ 12,497	13%	16%	20%	20%
Adjusted operating expenses	$ 7,219	$ 6,540	$ 5,693	10%	12%	15%	15%
Adjusted operating margin	57.2 %	56.2 %	54.4 %	1.0 ppt	1.3 ppt	1.8 ppt	1.8 ppt
Adjusted effective income tax rate[2]	17.0 %	18.5 %	26.8 %	(1.5) ppt	(1.3) ppt	(8.3) ppt	(8.2) ppt
Adjusted net income[2]	$ 7,937	$ 6,792	$ 4,906	17%	20%	38%	38%
Adjusted diluted earnings per share[2]	$ 7.77	$ 6.49	$ 4.58	20%	23%	42%	41%

Note: Tables may not sum due to rounding.

1 See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

2 For 2019 we updated our non-GAAP methodology to exclude the impact of gains and losses on our equity investments. Prior year periods were not restated as the impact of the change was immaterial in relation to our non-GAAP results.

Key highlights for 2019 as compared to 2018 were as follows:

Net revenue

GAAP	Non-GAAP (currency-neutral)
up 13%	up 16%

Net revenue increased 16% on a currency-neutral basis, which included growth of approximately 1 percentage point from acquisitions. The primary drivers of our net revenue growth were [1]:

- Gross dollar volume growth of 13% on a local currency basis
- Cross-border growth of 16% on a local currency basis
- Switched transaction growth of 19%
- Other revenues growth of 23%, or 24% on a currency-neutral basis. This includes 2 percentage points of growth due to acquisitions. The remaining growth was primarily driven by our Cyber & Intelligence and Data & Services solutions.
- These increases were partially offset by higher rebates and incentives, which increased 18%, or 20% on a currency-neutral basis, primarily due to the impact from new and renewed agreements and increased volumes.

The cross-border volume and switched transactions growth rates have been normalized to eliminate the effects of differing switching and carryover days between periods. Carryover days are those where transactions and volumes from days where the company does not clear and settle are processed.

Operating expenses	Adjusted operating expenses	
GAAP	Non-GAAP (currency-neutral)	Adjusted operating expenses on a currency-neutral basis included growth of approximately 2 percentage points from acquisitions and 1 percentage point related to the differential in hedging gains and losses versus the year-ago period. The remaining 9 percentage points of growth was primarily related to our continued investment in strategic initiatives.
down 6%	up 12%	

Effective income tax rate	Adjusted effective income tax rate	
GAAP	Non-GAAP (currency-neutral)	Adjusted effective income tax rate of 17.0% primarily attributable to a more favorable geographic mix of earnings and discrete tax benefits including a favorable court ruling in the current period.
16.6%	17.0%	

Other 2019 financial highlights were as follows:

- We generated net cash flows from operations of $8.2 billion.
- We completed the acquisitions of businesses for total consideration of $1.5 billion.
- We repurchased 26 million shares of our common stock for $6.5 billion and paid dividends of $1.3 billion
- We completed debt offerings for an aggregate principal amount of $2.8 billion and separately repaid $500 million of principal that matured related to our 2014 USD Notes.

Non-GAAP Financial Information

Non-GAAP financial information is defined as a numerical measure of a company's performance that excludes or includes amounts so as to be different than the most comparable measure calculated and presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Our non-GAAP financial measures exclude the impact of special items, where applicable, which represent litigation judgments and settlements and certain one-time items, as well as the related tax impacts ("Special Items"). For 2019, our non-GAAP financial measures also exclude the impact of gains and losses on our equity investments which includes mark-to-market fair value adjustments, impairments and gains and losses upon disposition and the related tax impacts. Prior year periods were not restated as the impact of the change was immaterial in relation to our non-GAAP results. Our non-GAAP financial measures for the comparable periods exclude the impact of the following:

Gains and Losses on Equity Investments

- During 2019, we recorded net gains of $167 million ($124 million after tax, or $0.12 per diluted share), primarily related to unrealized fair market value adjustments on marketable and non-marketable equity securities.

Special Items

Tax act

- During 2019, we recorded a $57 million net tax benefit ($0.06 per diluted share) which included a $30 million benefit related to a reduction to the 2017 one-time deemed repatriation tax on

accumulated foreign earnings (the "Transition Tax") resulting from final tax regulations issued in 2019 and a $27 million benefit related to additional foreign tax credits which can be carried back under transition rules.

- During 2018, we recorded a $75 million net tax benefit ($0.07 per diluted share) which included a $90 million benefit related to the carryback of foreign tax credits due to transition rules, offset by a net $15 million expense primarily related to an increase to our Transition Tax.

- During 2017, we recorded additional tax expense of $873 million ($0.81 per diluted share) which included $825 million of provisional charges attributable to the Transition Tax, the remeasurement of our net deferred tax asset in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding reinvestment of foreign earnings, as well as $48 million additional tax expense related to a foregone foreign tax credit benefit on 2017 repatriations.

Litigation provisions

- During 2018, we recorded pre-tax charges of $1,128 million ($1,008 million after tax, or $0.96 per diluted share) related to litigation provisions which included pre-tax charges of:

  - $654 million related to a fine issued by the European Commission

  - $237 million related to both the U.S. merchant class litigation and the filed and anticipated opt-out U.S. merchant cases
  - $237 million related to litigation settlements with U.K. and Pan-European merchants.

- During 2017, we recorded pre-tax charges of $15 million ($10 million after tax, or $0.01 per diluted share) related to a litigation settlement with Canadian merchants.

Venezuela charge

- During 2017, we recorded a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) in general and administrative expenses related to the deconsolidation of our Venezuelan subsidiaries.

See Note 1 (Summary of Significant Accounting Policies), Note 7 (Investments), Note 20 (Income Taxes) and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion. We excluded these items because management evaluates the underlying operations and performance of the Company separately from these recurring and nonrecurring items.

We believe that the non-GAAP financial measures presented facilitate an understanding of our operating performance and provide a meaningful comparison of our results between periods. We use non-GAAP financial measures to, among other things, evaluate our ongoing operations in relation to historical results, for internal planning and forecasting purposes and in the calculation of performance-based compensation.

In addition, we present growth rates adjusted for the impact of currency, which is a non-GAAP financial measure. Currency-neutral growth rates are calculated by remeasuring the prior period's results using the current period's exchange rates for both the translational and transactional impacts on operating results. The impact of currency translation represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency. The impact of the transactional currency represents the effect of converting revenue and expenses occurring in a currency other than the functional currency. We believe the presentation of currency-neutral growth rates provides relevant information to facilitate an understanding of our operating results.

Net revenue, operating expenses, operating margin, other income (expense), effective income tax rate, net income and diluted earnings per share adjusted for the impact of gains and losses on our equity investments, Special Items and/or the impact of currency, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP.

The following tables reconcile our reported financial measures calculated in accordance with GAAP to the respective non-GAAP adjusted financial measures:

	Year ended December 31, 2019					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$7,219	57.2 %	$ 67	16.6 %	$ 8,118	$ 7.94
(Gains) losses on equity investments	**	**	(167)	(0.2) %	(124)	(0.12)
Tax act	**	**	**	0.6 %	(57)	(0.06)
Non-GAAP	$7,219	57.2 %	$ (100)	17.0 %	$ 7,937	$ 7.77

	Year ended December 31, 2018					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$7,668	48.7 %	$ (78)	18.7 %	$ 5,859	$ 5.60
Litigation provisions	(1,128)	7.5 %	**	(1.1) %	1,008	0.96
Tax act	**	**	**	0.9 %	(75)	(0.07)
Non-GAAP	$6,540	56.2 %	$ (78)	18.5 %	$ 6,792	$ 6.49

	Year ended December 31, 2017					
	Operating expenses	Operating margin	Other income (expense)	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)					
Reported - GAAP	$5,875	53.0 %	$ (100)	40.0 %	$ 3,915	$ 3.65
Tax act	**	**	**	(13.4) %	873	0.81
Venezuela charge	(167)	1.3 %	**	0.2 %	108	0.10
Litigation provisions	(15)	0.1 %	**	— %	10	0.01
Non-GAAP	$5,693	54.4 %	$ (100)	26.8 %	$ 4,906	$ 4.58

Note: Tables may not sum due to rounding.
** Not applicable

The following tables represent the reconciliation of our growth rates reported under GAAP to our non-GAAP growth rates:

	Year Ended December 31, 2019 as compared to the Year Ended December 31, 2018					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	13 %	(6 %	8.5)	(2.1) ppt	39 %	42 %
(Gains) losses on equity investments [1]	**	**	**	(0.2) ppt	(2 %)	(2 %)
Tax act	**	**	**	(0.3) ppt	1 %	1 %
Litigation provisions	**	16 %	(7.5) ppt	1.1 ppt	(20 %)	(21 %)
Non-GAAP	13 %	10 %	1.0 ppt	(1.5) ppt	17 %	20 %
Currency impact [2]	3 %	2 %	0.3 ppt	0.2 ppt	3 %	3 %
Non-GAAP - currency-neutral	16 %	12 %	1.3 ppt	(1.3) ppt	20 %	23 %

	Year Ended December 31, 2018 as compared to the Year Ended December 31, 2017					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	20 %	31 %	(4.3) ppt	(21.3) ppt	50 %	53 %
Litigation provisions	**	(19 %	7.4 ppt)	(1.0) ppt	25 %	26 %
Tax act	**	**	**	14.2 ppt	(33 %)	(34 %)
Venezuela charge	**	3 %	(1.3) ppt	(0.2) ppt	(3 %)	(3 %)
Non-GAAP	20 %	15 %	1.8 ppt	(8.3) ppt	38 %	42 %
Currency impact [2]	— %	— %	—	0.1 ppt	— %	— %
Non-GAAP - currency-neutral	20 %	15 %	1.8 ppt	(8.2) ppt	38 %	41 %

Note: Tables may not sum due to rounding.
** Not applicable

1 For 2019 we updated our non-GAAP methodology to exclude the impact of gains and losses on our equity investments. Prior year periods were not restated as the impact of the change was immaterial in relation to our non-GAAP results.

2 Represents the currency translational and transactional impact.

Foreign Currency

Currency Impact (Translation and Transactional)

Our primary revenue functional currencies are the U.S. dollar, euro, Brazilian real and the British pound. Our overall operating results are impacted by currency translation, which represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency.

Our operating results can also be impacted by transactional currency. The impact of the transactional currency represents the effect of converting revenue and expense transactions occurring in a currency other than the functional currency. Changes in currency exchange rates directly impact the calculation of gross dollar volume ("GDV") and gross euro volume ("GEV"), which are used in the calculation of our domestic assessments, cross-border volume fees and volume-related rebates and incentives. In most non-European regions, GDV is calculated based on local currency spending volume converted to U.S. dollars using average exchange rates for the period. In Europe, GEV is calculated based on local currency spending volume converted to euros using average exchange rates for the period. As a result, our domestic assessments, cross-border volume fees and volume-related rebates and incentives are impacted by the strengthening or weakening of the U.S. dollar versus non-European local currencies and the strengthening or weakening of the euro versus other European local currencies. For example, our billing in Australia is in the U.S. dollar, however, consumer spend in Australia is in the Australian dollar. The currency transactional impact of converting Australian dollars to our U.S. dollar billing currency will have an impact on the revenue generated. The strengthening or weakening of the U.S. dollar is evident when GDV growth on a U.S. dollar-converted basis is compared to GDV growth on a local currency basis. In 2019, GDV on a U.S. dollar-converted basis increased 9.6%, while GDV on a local currency basis increased 13.0% versus 2018. In 2018, GDV on a U.S. dollar-converted basis increased 12.8%, while GDV on a local currency basis increased 13.8% versus 2017. Further, the impact from transactional currency occurs in transaction processing revenue, other revenue and operating expenses when the local currency of these items are different than the functional currency.

The translational and transactional impact of currency ("Currency impact") has been identified in our growth impact tables and has been excluded from our currency neutral growth rates, which are non-GAAP financial measures. See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments.

Foreign Exchange Activity

We incur foreign currency gains and losses from remeasuring monetary assets and liabilities that are in a currency other than the functional currency and from remeasuring foreign exchange derivative contracts ("Foreign Exchange Activity"). The impact of Foreign Exchange Activity has not been eliminated in our currency-neutral results (see "Non-GAAP Financial Information") and is recorded in general and administrative expenses on the consolidated statement of operations. We manage foreign currency balance sheet remeasurement and transactional currency exposure through our foreign exchange risk management activities, which are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8. Since we do not designate foreign exchange derivatives as hedging instruments pursuant to the accounting standards for derivative instruments and hedging activities, we record gains and losses on foreign exchange derivatives immediately in current-period earnings, with the related hedged item being recognized as the exposures materialize.

Risk of Currency Devaluation

We are exposed to currency devaluation in certain countries. In addition, we are subject to exchange control regulations that restrict the conversion of financial assets into U.S. dollars. While these revenues and assets are not material to us on a consolidated basis, we can be negatively impacted should there be a continued and sustained devaluation of local currencies relative to the U.S. dollar

and/or a continued and sustained deterioration of economic conditions in these countries. Specifically, in 2017, due to foreign exchange regulations which were restricting access to U.S. dollars in Venezuela, an other-than-temporary lack of exchangeability between the Venezuela bolivar and the U.S. dollar impacted our ability to manage risk, process cross-border transactions and satisfy U.S. dollar denominated liabilities related to our Venezuelan operations. As a result of these factors, we concluded that, effective December 31, 2017, we did not meet the accounting criteria for consolidation of these subsidiaries, and therefore we transitioned to the cost method of accounting. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) in 2017. We continue to operate and serve our Venezuelan issuers, acquirers, merchants and account holders with our products and services. See Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Financial Results

Revenue

Gross revenue increased 14%, or 17% on a currency-neutral basis in 2019 versus the prior year, primarily due to an increase in transactions, dollar volume of activity on cards carrying our brands for both domestic and cross-border transactions and other payment-related products and services.

Rebates and incentives increased 18%, or 20% on a currency-neutral basis in 2019 versus the prior year, primarily due to the impact from new and renewed agreements and increased volumes.

Our net revenue increased 13%, or 16% on a currency-neutral basis in 2019 versus the prior year, including growth of 1 percentage point from our acquisitions.

See Note 3 (Revenue) to the consolidated financial statements included in Part II, Item 8 for a further discussion of how we recognize revenue.

The components of net revenue were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2019	2018	2017	2019	2018
	($ in millions)				
Domestic assessments	$ 6,781	$ 6,138	$ 5,130	10%	20%
Cross-border volume fees	5,606	4,954	4,174	13%	19%
Transaction processing	8,469	7,391	6,188	15%	19%
Other revenues	4,124	3,348	2,853	23%	17%
Gross revenue	24,980	21,831	18,345	14%	19%
Rebates and incentives (contra-revenue)	(8,097)	(6,881)	(5,848)	18%	18%
Net revenue	$ 16,883	$ 14,950	$ 12,497	13%	20%

The following table summarizes the drivers of net revenue growth:

	For the Years Ended December 31,											
	Volume		Acquisitions		Revenue Standard [1]		Currency Impact [2]		Other [3]		Total	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Domestic assessments	13%	14%	—%	—%	**	6%	(3)%	(1)%	1% [4]	2% [4]	10%	20%
Cross-border volume fees	14%	17%	—%	—%	**	1%	(3)%	1%	2%	—%	13%	19%
Transaction processing	14%	14%	—%	—%	**	—%	(2)%	—%	3%	5%	15%	19%
Other revenues	**	**	2%	2%	**	—%	(1)%	(1)%	22% [5]	16% [5]	23%	17%
Rebates and incentives	9%	10%	—%	—%	**	(2)%	(3)%	(1)%	11% [6]	11% [6]	18%	18%
Net revenue	13%	14%	1%	0.5%	**	4%	(3)%	—%	2%	2%	13%	20%

Note: Table may not sum due to rounding
** Not applicable

1 Represents the impact of our adoption of the revenue guidance in 2018. For a more detailed discussion on the impact of the revenue guidance, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

2 Represents the currency translational and transactional impact.

3 Includes impact from pricing and other non-volume based fees.

4 Includes impact of the allocation of revenue to service deliverables, which are primarily recorded in other revenue when services are performed.

5 Includes impacts from cyber and intelligence fees, data analytics and consulting fees and other payment-related products and services.

6 Includes the impact of new, renewed and expired agreements.

The following tables provide a summary of the trend in volume and transaction growth. The cross-border volume and switched transactions growth rates have been normalized to eliminate the effects of differing switching and carryover days between periods. Carryover days are those where transactions and volumes from days where the company does not clear and settle are processed. Additionally, we adjusted the switched transactions growth rate in the prior period for the deconsolidation of our Venezuelan subsidiaries in 2017. For a more detailed discussion of the deconsolidation of our Venezuelan subsidiaries, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

	For the Years Ended December 31,			
	2019		2018	
	Growth (USD)	Growth (Local)	Growth (USD)	Growth (Local)
Mastercard-branded GDV [1]	10 %	13 %	13 %	14 %
Asia Pacific/Middle East/Africa	8 %	12 %	13 %	13 %
Canada	4 %	7 %	10 %	10 %
Europe	12 %	18 %	18 %	19 %
Latin America	9 %	15 %	8 %	17 %
United States	10 %	10 %	10 %	10 %
Cross-border volume [1]		16 %		18 %

1 Excludes volume generated by Maestro and Cirrus cards.

	For the Years Ended December 31,	
	2019	2018
Switched transactions	19 %	17 %

No individual country, other than the United States, generated more than 10% of net revenue in any such period. A significant portion of our net revenue is concentrated among our five largest customers. In 2019, the net revenue from these customers was approximately $3.5 billion, or 21%, of total net revenue. The loss of any of these customers or their significant card programs could adversely impact our revenue.

Operating Expenses

Operating expenses decreased 6% in 2019 versus the prior year. Adjusted operating expenses increased 10%, or 12% on a currency-neutral basis in 2019 versus the prior year. Current year results include growth of approximately 2 percentage points from acquisitions and 1 percentage point primarily from foreign exchange derivative contracts.

The components of operating expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2019	2018	2017	2019	2018
	($ in millions)				
General and administrative	$ 5,763	$ 5,174	$ 4,653	11 %	11 %
Advertising and marketing	934	907	771	3 %	18 %
Depreciation and amortization	522	459	436	14 %	5 %
Provision for litigation	—	1,128	15	**	**
Total operating expenses	7,219	7,668	5,875	(6 %)	31 %

Special Items[1]	—	(1,128)	(182)	**	**
Adjusted operating expenses (excluding Special Items[1])	$ 7,219	$ 6,540	$ 5,693	10 %	15 %

Note: Table may not sum due to rounding.
** Not meaningful

1 See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

The following table summarizes the drivers of changes in operating expenses:

	For the Years Ended December 31,											
	Operational		Special Items [2]		Acquisitions		Revenue Standard [3]		Currency Impact [4]		Total	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
General and administrative	11%	14 % [1]	**	(4 %)	2 %	1 %	**	— %	(2 %)	— %	11 %	11 %
Advertising and marketing	5%	(4 %)	**	**	— %	— %	**	21 %	(2 %)	— %	3 %	18 %
Depreciation and amortization	9%	(5 %)	**	**	7 %	10 %	**	— %	(2 %)	— %	14 %	5 %
Provision for litigation	**	**	**	**	**	**	**	**	**	**	**	**
Total operating expenses	10%	10 % [1]	(16 %)	16 %	2 %	2 %	**	3 %	(2 %)	— %	(6 %)	31 %

Note: Table may not sum due to rounding.
** Not meaningful

1 Includes a 2 percentage point impact to general and administrative and total operating expenses growth due to contributions made in 2018 to support inclusive growth efforts. Contributions made in 2019 were comparable to the prior year.

2 See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

3 Represents the impact of our adoption of the revenue guidance in 2018. For a more detailed discussion on the impact of the revenue guidance, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

4 Represents the currency translational and transactional impact.

General and Administrative

General and administrative expenses increased 11%, or 13% on a currency-neutral basis in 2019 versus the prior year. Current year results include growth of approximately 2 percentage points from acquisitions and 1 percentage point primarily from foreign exchange derivative contracts. The remaining increase was primarily driven by an increase in personnel to support our continued investment in our strategic initiatives.

The components of general and administrative expenses were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2019	2018	2017	2019	2018
	($ in millions)				
Personnel	$ 3,537	$ 3,214	$ 2,687	10%	20%
Professional fees	447	377	355	19%	6%
Data processing and telecommunications	666	600	504	11%	19%
Foreign exchange activity [1]	32	(36)	106	**	**
Other	1,081	1,019	1,001	6%	2%
Total general and administrative expenses	5,763	5,174	4,653	11%	11%
Special Items [2]	—	—	(167)	**	**
	$ 5,763	$ 5,174	$ 4,486	11%	15%

Adjusted general and administrative expenses
(excluding Special Items[2])

Note: Table may not sum due to rounding.
** Not meaningful

1 Foreign exchange activity includes gains and losses on foreign exchange derivative contracts and the impact of remeasurement of assets and liabilities denominated in foreign currencies. See Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8 for further discussion.

2 See "Non-GAAP Financial Information" for further information on our non-GAAP adjustments and the reconciliation to GAAP reported amounts.

Advertising and Marketing

Advertising and marketing expenses increased 3%, or 5% on a currency-neutral basis in 2019 versus the prior year, primarily due to higher spending on certain sponsorship initiatives.

Depreciation and Amortization

Depreciation and amortization expenses increased 14% , or 15% on a currency-neutral basis in 2019 versus the prior year. Current year results include growth of approximately 7 percentage points from acquisitions with the remaining increase primarily driven by amortization of certain intangible assets and depreciation on data center assets.

Provision for Litigation

Provision for litigation decreased in 2019 versus the prior year as there were no litigation charges in the current year. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Other Income (Expense)

Other income (expense) increased in 2019 versus the prior year primarily due to net gains of $167 million which were related to unrealized fair market value adjustments on marketable and non-marketable equity securities in the current period.

The components of other income (expense) were as follows:

	For the Years Ended December 31,			Increase (Decrease)	
	2019	2018	2017	2019	2018
	($ in millions)				
Investment Income	$ 97	$ 122	$ 56	(21 %)	**
Gains (losses) on equity investments, net	167	—	—	**	**
Interest expense	(224)	(186)	(154)	20 %	21 %
Other income (expense), net	27	(14)	(2)	**	**
Total other income (expense)	67	(78)	(100)	**	(22 %)

Note: Table may not sum due to rounding.
** Not meaningful

Income Taxes

The effective income tax rates for the years ended December 31, 2019 and 2018 were 16.6% and 18.7%, respectively. The effective income tax rate for 2019 was lower than the effective income tax rate for 2018, primarily due to the nondeductible nature of the fine issued by the European Commission in 2018 and a discrete tax benefit related to a favorable court ruling in 2019. These 2019 benefits were partially offset by discrete tax benefits in 2018 primarily related to foreign tax credits generated in 2018 as a result of U.S. tax reform, which can be carried back and utilized in 2017 under transition rules issued by the Department of the Treasury and the Internal Revenue Service.

The adjusted effective income tax rates for the years ended December 31, 2019 and 2018 were 17.0% and 18.5%, respectively. The adjusted effective income tax rate was lower than the prior year primarily due to a more favorable geographic mix of earnings and discrete tax benefits including a favorable court ruling in 2019.

See Note 20 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Liquidity and Capital Resources

We rely on existing liquidity, cash generated from operations and access to capital to fund our global operations, credit and settlement exposure, capital expenditures, investments in our business and current and potential obligations. The following table summarizes the cash, cash equivalents, investments and credit available to us at December 31:

	2019	2018
	(in billions)	
Cash, cash equivalents and investments [1]	$ 7.7	$ 8.4
Unused line of credit	6.0	4.5

1 Investments include available-for-sale securities and held-to-maturity securities. This amount excludes restricted cash and restricted cash equivalents of $2.0 billion and $1.7 billion at December 31, 2019 and 2018, respectively.

We believe that our existing cash, cash equivalents and investment securities balances, our cash flow generating capabilities, and our access to capital resources are sufficient to satisfy our future operating cash needs, capital asset purchases, outstanding commitments and other liquidity requirements associated with our existing operations and potential obligations.

Our liquidity and access to capital could be negatively impacted by global credit market conditions. We guarantee the settlement of many of the transactions between our customers. Historically, payments under these guarantees have not been significant; however, historical trends may not be an indication of potential future losses. The risk of loss on these guarantees is specific to individual customers, but may also be driven by regional or global economic conditions, including, but not limited to the health of the financial institutions in a country or region. See Note 22 (Settlement and Other Risk Management) to the consolidated financial statements in Part II, Item 8 for a description of these guarantees.

Our liquidity and access to capital could also be negatively impacted by the outcome of any of the legal or regulatory proceedings to which we are a party. For additional discussion of these and other risks facing our business, see Part I, Item 1A - Risk Factors - Legal and Regulatory Risks and Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8; and Part II, Item 7 (Business Environment).

Cash Flow

The table below shows a summary of the cash flows from operating, investing and financing activities for the years ended December 31:

	2019	2018	2017
	(in millions)		
Net cash provided by operating activities	$ 8,183	$ 6,223	$ 5,664
Net cash used in investing activities	(1,640)	(506)	(1,781)
Net cash used in financing activities	(5,867)	(4,966)	(4,764)

Net cash provided by operating activities increased $2.0 billion in 2019 versus the prior year, primarily due to higher net income as adjusted for non-cash items.

Net cash used in investing activities increased $1.1 billion in 2019 versus the prior year, primarily due to acquisitions and purchases of equity investments, partially offset by higher net proceeds from our investments in available-for-sale and held-to-maturity securities.

Net cash used in financing activities increased $901 million in 2019 versus the prior year, primarily due to higher repurchases of our Class A common stock, higher dividends paid and the settlement of the contingent consideration attributable to our 2017 acquisitions, partially offset by higher net debt proceeds in the current period.

Debt and Credit Availability

In May 2019, we issued $1.0 billion principal amount of notes due June 2029 and $1.0 billion principal amount of notes due June 2049 and in December 2019, we issued $750 million principal amount of notes due March 2025. Additionally, during 2019, $500 million of principal related to the 2014 USD Notes matured and was paid. Our total debt outstanding was $8.5 billion at December 31, 2019, with the earliest maturity of $650 million of principal occurring in November 2021.

As of December 31, 2019, we have a commercial paper program (the "Commercial Paper Program"), under which we are authorized to issue up to $6 billion in outstanding notes, with maturities up to 397 days from the date of issuance. In conjunction with the Commercial Paper Program, we have a committed unsecured $6 billion revolving credit facility (the "Credit Facility") which expires in November 2024.

Borrowings under the Commercial Paper Program and the Credit Facility are to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. In addition, we may borrow and repay amounts under these facilities for business continuity purposes. We had no borrowings outstanding under the Commercial Paper Program or the Credit Facility at December 31, 2019.

See Note 15 (Debt) to the consolidated financial statements included in Part II, Item 8 for further discussion on our debt, the Commercial Paper Program and the Credit Facility.

Dividends and Share Repurchases

We have historically paid quarterly dividends on our outstanding Class A common stock and Class B common stock. Subject to legally available funds, we intend to continue to pay a quarterly cash dividend. However, 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. The following table summarizes the annual, per share dividends paid in the years reflected:

	For the Years Ended December 31,		
	2019	2018	2017
	(in millions, except per share data)		
Cash dividend, per share	$ 1.32	$ 1.00	$ 0.88
Cash dividends paid	$ 1,345	$ 1,044	$ 942

On December 4, 2019, our Board of Directors declared a quarterly cash dividend of $0.40 per share paid on February 7, 2020 to holders of record on January 9, 2020 of our Class A common stock and Class B common stock. The aggregate amount of this dividend was $403 million.

On February 4, 2020, our Board of Directors declared a quarterly cash dividend of $0.40 per share payable on May 8, 2020 to holders of record on April 9, 2020 of our Class A common stock and Class B common stock. The aggregate amount of this dividend is estimated to be $402 million.

Repurchased shares of our common stock are considered treasury stock. The timing and actual number of additional shares repurchased will depend on a variety of factors, including the operating needs of the business, legal requirements, price and economic and market conditions. In December 2019, 2018 and 2017, our Board of Directors approved share repurchase programs authorizing us to repurchase up to $8.0 billion, $6.5 billion and $4.0 billion, respectively, of our Class A common stock. The program approved in 2019 became effective in January 2020 after completion of the share repurchase program authorized in 2018. The following table summarizes our share repurchase authorizations of our Class A common stock through December 31, 2019, under the plans approved in 2018 and 2017:

	(in millions, except per share data)
Remaining authorization at December 31, 2018	$ 6,801
Dollar-value of shares repurchased in 2019	$ 6,497
Remaining authorization at December 31, 2019	$ 8,304
Shares repurchased in 2019	26.4
Average price paid per share in 2019	$ 245.89

See Note 16 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Off-Balance Sheet Arrangements

We have no off-balance sheet debt, other than the commitments presented in the Future Obligations table that follows.

Future Obligations

The following table summarizes our obligations as of December 31, 2019 that are expected to impact liquidity and cash flow in future periods. We believe we will be able to fund these obligations through cash generated from operations and our cash balances.

	Payments Due by Period				
	2020	2021 - 2022	2023 - 2024	2025 and thereafter	Total
	(in millions)				
Debt	$ —	$ 1,435	$ 1,000	$ 6,165	$ 8,600
Interest on debt	242	470	423	2,235	3,370
Operating leases [1]	112	216	169	376	873
Other obligations					
Sponsorship, licensing and other	404	356	59	—	819
Employee benefits [2]	62	50	48	113	273
Transition Tax [3]	—	89	227	161	477
Redeemable non-controlling interests [4]	76	—	—	—	76
Total [5]	$ 896	$ 2,616	$ 1,926	$ 9,050	$ 14,488

1 Amounts relate to the maturity of our operating lease liabilities. See Note 10 (Property, Equipment and Right-of-Use Assets) to the consolidated financial statements included in Part II, Item 8 for further discussion.

2 Amounts relate to severance along with expected funding requirements for defined benefit pension and postretirement plans.

3 Amounts relate to the U.S. tax liability on the Transition Tax on accumulated non-U.S. earnings of U.S entities. See Note 20 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

4 Amount relates to the fixed-price put option for the Vocalink remaining shareholders to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter. See Note 2 (Acquisitions) to the consolidated financial statements included in Part II, Item 8 for further discussion.

5 The table does not include the following:

- Payment related to a definitive agreement to acquire the majority of the Corporate Services business of Nets Denmark A/S, for €2.85 billion (approximately $3.19 billion as of December 31, 2019) as the transaction is subject to regulatory approval and other customary closing conditions. See Note 2 (Acquisitions) to the consolidated financial statements included in Part II, Item 8 for further discussion.
- Liability for unrecognized tax benefits of $203 million as of December 31, 2019. These amounts have been excluded from the table since the settlement period of this liability cannot be reasonably estimated and the timing of these payments will depend on the progress of tax examinations with the various authorities. See Note 20 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.
- Litigation provision of $914 million as of December 31, 2019 as the timing of payments is not fixed and determinable. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.
- Future cash payments that will become due to customers and merchants under business agreements as the amounts due are contingent on future performance. We have accrued $4.8 billion as of December 31, 2019 related to these customer and merchant agreements.

Critical Accounting Estimates

The application of GAAP requires us to make estimates and assumptions about certain items and future events that directly affect our reported financial condition. Our significant accounting policies, including

recent accounting pronouncements, are described in Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

Revenue Recognition - Rebates and Incentives

We enter into business agreements with certain customers that provide for rebates or support when customers meet certain volume thresholds as well as other support incentives, which are tied to customer performance. We consider various factors in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer. Rebates and incentives are recorded as a reduction to gross revenue based on these estimates primarily when volume- and transaction - based revenues are recognized over the contractual term. Differences between actual results and our estimates are adjusted in the period the customer reports actual performance. If our customers' actual performance is not consistent with our estimates of their performance, net revenue may be materially different.

Loss Contingencies

We are currently involved in various claims and legal proceedings. We regularly review the status of each significant matter and assess its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to pending claims and litigation and may revise our estimates. Due to the inherent uncertainties of the legal and regulatory process in the multiple jurisdictions in which we operate, our judgments may be materially different than the actual outcomes. See Note 21 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Income Taxes

In calculating our effective income tax rate, we need to make estimates regarding the timing and amount of taxable and deductible items which will adjust the pretax income earned in various tax jurisdictions. Through our interpretation of local tax regulations, adjustments to pretax income for income earned in various tax jurisdictions are reflected within various tax filings. Although we believe that our estimates and judgments discussed herein are reasonable, actual results may be materially different than the estimated amounts.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Significant judgment is required in determining the valuation allowance. We consider projected future taxable income and ongoing tax planning strategies in assessing the need for the valuation allowance. If it is determined that we are able to realize deferred tax assets in excess of the net carrying value or to the extent we are unable to realize a deferred tax asset, we would adjust the valuation allowance in the period in which such a determination is made, with a corresponding increase or decrease to earnings.

We record tax liabilities for uncertain tax positions taken, or expected to be taken, which may not be sustained or may only be partially sustained, upon examination by the relevant taxing authorities. We consider all relevant facts and current authorities in the tax law in assessing whether any benefit resulting from an uncertain tax position is more likely than not to be sustained and, if so, how current law impacts the amount reflected within these financial statements. If upon examination, we realize a tax benefit which is not fully sustained or is more favorably sustained, this would decrease or increase earnings in the period. In certain situations, we will have offsetting tax credits or taxes in other jurisdictions.

Deferred taxes are established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. Ultimately, the working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

Business Combinations

We account for our business combinations using the acquisition method of accounting. The acquisition purchase price is allocated to the underlying identified, tangible and intangible assets, liabilities assumed and any non-controlling interest in the acquiree, based on their respective estimated fair values on the acquisition date. Any excess of purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. The amounts and useful lives assigned to acquisition-related tangible and intangible assets impact the amount and timing of future

amortization expense. We use various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty and multi-period excess earnings for estimating the value of intangible assets. These valuation techniques included comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. Determining the fair value of assets acquired, liabilities assumed, any non-controlling interest in the acquiree and the expected useful lives, requires management's judgment. The significance of management's estimates and assumptions is relative to the size of the acquisition. Our estimates are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable.

Item 7A. Quantitative and qualitative disclosures about market risk

Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in factors such as interest rates and foreign currency exchange rates. Our exposure to market risk from changes in interest rates and foreign exchange rates is limited. Management monitors risk exposures on an ongoing basis and establishes and oversees the implementation of policies governing our funding, investments and use of derivative financial instruments to manage these risks.

Foreign currency and interest rate exposures are managed through our risk management activities, which are discussed further in Note 23 (Derivative and Hedging Instruments) to the consolidated financial statements included in Part II, Item 8.

Foreign Exchange Risk

We enter into foreign exchange derivative contracts to manage transactional currency exposure associated with anticipated receipts and disbursements occurring in a currency other than the functional currency of the entity. We may also enter into foreign currency derivative contracts to offset possible changes in value of assets and liabilities due to foreign exchange fluctuations. The objective of these activities is to reduce our exposure to transaction gains and losses resulting from fluctuations of foreign currencies against our functional and reporting currencies, principally the U.S. dollar and euro. The effect of a hypothetical 10% adverse change in foreign exchange rates could result in a fair value loss of approximately $144 million and $113 million on our foreign exchange derivative contracts outstanding at December 31, 2019 and 2018, respectively, related to the hedging program.

We are also subject to foreign exchange risk as part of our daily settlement activities. To manage this risk, we enter into foreign exchange contracts based upon anticipated receipts and disbursements for the respective currency position. This risk is typically limited to a few days between the timing of when a payment transaction takes place and the subsequent settlement with our customers.

Interest Rate Risk

During the fourth quarter of 2019, we entered into interest rate derivative contracts that were designated as cash flow hedges in order to manage our exposure to interest rate changes on future forecasted debt issuances. At December 31, 2019, the total notional amount of these contracts was $1 billion. The maximum length of time over which we have hedged our exposure to the variability in future cash flows is 30 years. The effect of a hypothetical 100 basis point adverse change in interest rates could result in a fair value loss of approximately $168 million on our interest rate derivative contracts outstanding at December 31, 2019. There were no similar contracts outstanding as of December 31, 2018.

In addition, our available-for-sale debt investments include fixed and variable rate securities that are sensitive to interest rate fluctuations. Our policy is to invest in high quality securities, while providing adequate liquidity and maintaining diversification to avoid significant exposure. A hypothetical 100 basis point adverse change in interest rates would not have a material impact on our investments at December 31, 2019 and 2018.

Item 8. Financial statements and supplementary data

Mastercard Incorporated
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Management's report on internal control over financial reporting

The management of Mastercard Incorporated ("Mastercard") is responsible for establishing and maintaining adequate internal control over financial reporting. 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 reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. As required by Section 404 of the Sarbanes-Oxley Act of 2002, management has assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2019. In making its assessment, management has utilized the criteria set forth in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that, based on its assessment, Mastercard's internal control over financial reporting was effective as of December 31, 2019. The effectiveness of Mastercard'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 their report which appears on the next page.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Mastercard Incorporated:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Mastercard Incorporated and its subsidiaries (the "Company") as of December 31, 2019 and 2018 and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2019, including the related notes (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.

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 the accompanying Management's Report on Internal Control over Financial Reporting. 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 matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Rebates and Incentives

As described in Notes 1 and 3 to the consolidated financial statements, the Company provides certain customers with rebates or incentives which totaled $8.1 billion for the year ended December 31, 2019. The Company has business agreements with certain customers that provide for rebates or other support when customers meet certain volume hurdles as well as other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction to gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Rebates and incentives are calculated based upon estimated customer performance and the terms of the related business agreements. Management considers various factors in estimating customer performance, including forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer.

The principal considerations for our determination that performing procedures relating to rebates and incentives is a critical audit matter was the significant judgment of management when developing estimates related to rebates and incentives based on customer performance. This in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's estimates related to customer performance and the reasonableness of assumptions related to the forecasted transactions, card issuance and card conversion volumes, expected payments and historical experience with that customer.

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 customer rebates and incentives, including controls over evaluating customer performance based upon historical experience with that customer, forecasted transactions, card issuance and card conversion volumes and expected payments. These procedures also included, among others, evaluating the reasonableness of estimated customer performance for a sample of customer agreements, including (i) evaluating rebate and incentive contracts to identify whether all incentives are identified and recorded accurately; (ii) testing management's process for developing the estimated customer performance, including evaluating the reasonableness of the assumptions related to the forecasted transactions, card issuance and card conversion volumes, expected payments and historical customer experience; and (iii) evaluating the estimated customer performance as compared to actual results in the period the customer reports actual performance.

/s/ PricewaterhouseCoopers LLP

New York, New York
February 14, 2020

We have served as the Company's auditor since 1989.

Consolidated Statement of Operations

	For the Years Ended December 31,		
	2019	2018	2017
	(in millions, except per share data)		
Net Revenue	**$ 16,883**	**$ 14,950**	**$ 12,497**
Operating Expenses			
General and administrative	5,763	5,174	4,653
Advertising and marketing	934	907	771
Depreciation and amortization	522	459	436
Provision for litigation	—	1,128	15
Total operating expenses	7,219	7,668	5,875
Operating income	9,664	7,282	6,622
Other Income (Expense)			
Investment income	97	122	56
Gains (losses) on equity investments, net	167	—	—
Interest expense	(224)	(186)	(154)
Other income (expense), net	27	(14)	(2)
Total other income (expense)	67	(78)	(100)
Income before income taxes	9,731	7,204	6,522
Income tax expense	1,613	1,345	2,607
Net Income	**$ 8,118**	**$ 5,859**	**$ 3,915**
Basic Earnings per Share	**$ 7.98**	**$ 5.63**	**$ 3.67**
Basic weighted-average shares outstanding	1,017	1,041	1,067
Diluted Earnings per Share	**$ 7.94**	**$ 5.60**	**$ 3.65**
Diluted weighted-average shares outstanding	1,022	1,047	1,072

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Comprehensive Income

	For the Years Ended December 31,		
	2019	2018	2017
	(in millions)		
Net Income	$ 8,118	$ 5,859	$ 3,915
Other comprehensive income (loss):			
Foreign currency translation adjustments	10	(319)	565
Income tax effect	13	40	2
Foreign currency translation adjustments, net of income tax effect	23	(279)	567
Translation adjustments on net investment hedge	36	96	(236)
Income tax effect	(8)	(21)	83
Translation adjustments on net investment hedge, net of income tax effect	28	75	(153)
Cash flow hedges	14	—	—
Income tax effect	(3)	—	—
Cash flow hedges, net of income tax effect	11	—	—
Defined benefit pension and other postretirement plans	(22)	(18)	15
Income tax effect	3	3	(1)
Defined benefit pension and other postretirement plans, net of income tax effect	(19)	(15)	14
Investment securities available-for-sale	3	(3)	(3)
Income tax effect	(1)	1	2
Investment securities available-for-sale, net of income tax effect	2	(2)	(1)
Other comprehensive income (loss), net of income tax effect	45	(221)	427
Comprehensive Income	**$ 8,163**	**$ 5,638**	**$ 4,342**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Balance Sheet

	December 31,	
	2019	2018
	(in millions, except per share data)	
Assets		
Current assets:		
Cash and cash equivalents	$ 6,988	$ 6,682
Restricted cash for litigation settlement	584	553
Investments	688	1,696
Accounts receivable	2,514	2,276
Settlement due from customers	2,995	2,452
Restricted security deposits held for customers	1,370	1,080
Prepaid expenses and other current assets	1,763	1,432
Total current assets	**16,902**	**16,171**
Property, equipment and right-of-use assets, net	1,828	921
Deferred income taxes	543	570
Goodwill	4,021	2,904
Other intangible assets, net	1,417	991
Other assets	4,525	3,303
Total Assets	**$ 29,236**	**$ 24,860**
Liabilities, Redeemable Non-controlling Interests and Equity		
Current liabilities:		
Accounts payable	$ 489	$ 537
Settlement due to customers	2,714	2,189
Restricted security deposits held for customers	1,370	1,080
Accrued litigation	914	1,591
Accrued expenses	5,489	4,747
Current portion of long-term debt	—	500
Other current liabilities	928	949
Total current liabilities	**11,904**	**11,593**
Long-term debt	8,527	5,834
Deferred income taxes	85	67
Other liabilities	2,729	1,877
Total Liabilities	**23,245**	**19,371**
Commitments and Contingencies		
Redeemable Non-controlling Interests	**74**	**71**
Stockholders' Equity		
Class A common stock, $0.0001 par value; authorized 3,000 shares, 1,391 and 1,387 shares issued and 996 and 1,019 outstanding, respectively	—	—
Class B common stock, $0.0001 par value; authorized 1,200 shares, 11 and 12 issued and outstanding, respectively	—	—
Additional paid-in-capital	4,787	4,580
Class A treasury stock, at cost, 395 and 368 shares, respectively	(32,205)	(25,750)
Retained earnings	33,984	27,283

Accumulated other comprehensive income (loss)	(673)	(718)
Mastercard Incorporated Stockholders' Equity	**5,893**	**5,395**
Non-controlling interests	24	23
Total Equity	**5,917**	**5,418**
Total Liabilities, Redeemable Non-controlling Interests and Equity	**$ 29,236**	**$ 24,860**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Changes in Equity

	Stockholders' Equity								
	Common Stock		Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders Equity	Non-Controlling Interests	Total Equity
	Class A	Class B							
	(in millions, except per share data)								
Balance at December 31, 2016	**$ —**	**$ —**	**$4,183**	**$ (17,021)**	**$ 19,418**	**$ (924)**	**$ 5,656**	**$ 28**	**$ 5,684**
Net income	—	—	—	—	3,915	—	3,915	—	3,915
Activity related to non-controlling interests	—	—	—	—	—	—	—	1	1
Redeemable non-controlling interest adjustments	—	—	—	—	(2)	—	(2)	—	(2)
Other comprehensive income (loss)	—	—	—	—	—	427	427	—	427
Dividends	—	—	—	—	(967)	—	(967)	—	(967)
Purchases of treasury stock	—	—	—	(3,747)	—	—	(3,747)	—	(3,747)
Share-based payments	—	—	182	4	—	—	186	—	186
Balance at December 31, 2017	**—**	**—**	**4,365**	**(20,764)**	**22,364**	**(497)**	**5,468**	**29**	**5,497**
Adoption of revenue standard	—	—	—	—	366	—	366	—	366
Adoption of intra-entity asset transfers standard	—	—	—	—	(183)	—	(183)	—	(183)
Net income	—	—	—	—	5,859	—	5,859	—	5,859
Activity related to non-controlling interests	—	—	—	—	—	—	—	(6)	(6)
Redeemable non-controlling interest adjustments	—	—	—	—	(3)	—	(3)	—	(3)
Other comprehensive income (loss)	—	—	—	—	—	(221)	(221)	—	(221)
Dividends	—	—	—	—	(1,120)	—	(1,120)	—	(1,120)
Purchases of treasury stock	—	—	—	(4,991)	—	—	(4,991)	—	(4,991)
	—	—	215	5	—	—	220	—	220

Share-based payments									
Balance at December 31, 2018	**—**	**—**	**4,580**	**(25,750)**	**27,283**	**(718)**	**5,395**	**23**	**5,418**

Consolidated Statement of Changes in Equity (Continued)

	Stockholders' Equity								
	Common Stock		Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders Equity	Non-Controlling Interests	Total Equity
	Class A	Class B							
	(in millions, except per share data)								
Balance at December 31, 2018	**—**	**—**	**4,580**	**(25,750)**	**27,283**	**(718)**	**5,395**	**23**	**5,418**
Net income					8,118		8,118	—	8,118
Activity related to non-controlling interests	—	—	—	—		—	—	1	1
Redeemable non-controlling interest adjustments	—	—	—	—	(9)	—	(9)	—	(9)
Other comprehensive income (loss)	—	—	—	—	—	45	45	—	45
Dividends	—	—	—	—	(1,408)	—	(1,408)	—	(1,408)
Purchases of treasury stock	—	—	—	(6,463)	—	—	(6,463)	—	(6,463)
Share-based payments	—	—	207	8	—	—	215	—	215
Balance at December 31, 2019	**$ —**	**$ —**	**$4,787**	**$(32,205)**	**$33,984**	**$ (673)**	**$ 5,893**	**$ 24**	**$5,917**

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statement of Cash Flows

	For the Years Ended December 31,		
	2019	2018	2017
	(in millions)		
Operating Activities			
Net income	$ 8,118	$ 5,859	$ 3,915
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of customer and merchant incentives	1,141	1,235	1,001
Depreciation and amortization	522	459	437
(Gains) losses on equity investments, net	(167)	—	—
Share-based compensation	250	196	176
Deferred income taxes	(7)	(244)	86
Venezuela charge	—	—	167
Other	24	31	59
Changes in operating assets and liabilities:			
Accounts receivable	(246)	(317)	(445)
Income taxes receivable	(202)	(120)	(8)
Settlement due from customers	(444)	(1,078)	(281)
Prepaid expenses	(1,661)	(1,769)	(1,402)
Accrued litigation and legal settlements	(662)	869	(12)
Restricted security deposits held for customers	290	(6)	94
Accounts payable	(42)	101	290
Settlement due to customers	477	849	394
Accrued expenses	657	439	589
Long-term taxes payable	2	(20)	577
Net change in other assets and liabilities	133	(261)	27
Net cash provided by operating activities	8,183	6,223	5,664
Investing Activities			
Purchases of investment securities available-for-sale	(643)	(1,300)	(714)
Purchases of investments held-to-maturity	(215)	(509)	(1,145)
Proceeds from sales of investment securities available-for-sale	1,098	604	304
Proceeds from maturities of investment securities available-for-sale	376	379	500
Proceeds from maturities of investments held-to-maturity	383	929	1,020
Purchases of property and equipment	(422)	(330)	(300)
Capitalized software	(306)	(174)	(123)
Purchases of equity investments	(467)	(91)	(147)
Acquisition of businesses, net of cash acquired	(1,440)	—	(1,175)
Other investing activities	(4)	(14)	(1)
Net cash used in investing activities	(1,640)	(506)	(1,781)
Financing Activities			
Purchases of treasury stock	(6,497)	(4,933)	(3,762)
Dividends paid	(1,345)	(1,044)	(942)
Proceeds from debt	2,724	991	—
Payment of debt	(500)	—	(64)
Contingent consideration paid	(199)	—	—
Tax withholdings related to share-based payments	(161)	(80)	(47)
Cash proceeds from exercise of stock options	126	104	57

Other financing activities	(15)	(4)	(6)
Net cash used in financing activities	(5,867)	(4,966)	(4,764)
Effect of exchange rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	(44)	(6)	200
Net increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents	632	745	(681)
Cash, cash equivalents, restricted cash and restricted cash equivalents - beginning of period	8,337	7,592	8,273
Cash, cash equivalents, restricted cash and restricted cash equivalents - end of period	$ 8,969	$ 8,337	$ 7,592

The accompanying notes are an integral part of these consolidated financial statements.

Notes to consolidated financial statements

Note 1. Summary of Significant Accounting Policies

Organization

Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International" and together with Mastercard Incorporated, "Mastercard" or the "Company"), is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. The Company makes payments easier and more efficient by providing a wide range of payment solutions and services through its family of well-known brands, including Mastercard®, Maestro® and Cirrus®. The Company is a multi-rail network that offers customers one partner to turn to for their domestic and cross-border payment needs. Through its unique and proprietary global payments network, which is referred to as the core network, the Company switches (authorizes, clears and settles) payment transactions and delivers related products and services. Mastercard has additional payment capabilities that include automated clearing house ("ACH") transactions (both batch and real-time account-based payments). The Company also provides integrated value-added offerings such as cyber and intelligence products, information and analytics services, consulting, loyalty and reward programs and processing. The Company's payment solutions offer customers choice and flexibility and are designed to ensure safety and security for the global payments system.

A typical transaction on the Company's core network involves four participants in addition to the Company: account holder (a person or entity who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). The Company does not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of the Company's products. In most cases, account holder relationships belong to, and are managed by, the Company's financial institution customers.

Significant Accounting Policies

Consolidation and basis of presentation - The consolidated financial statements include the accounts of Mastercard and its majority-owned and controlled entities, including any variable interest entities ("VIEs") for which the Company is the primary beneficiary. Investments in VIEs for which the Company is not considered the primary beneficiary are not consolidated and are accounted for as equity method or measurement alternative method investments and recorded in other assets on the consolidated balance sheet. At December 31, 2019 and 2018, there were no significant VIEs which required consolidation and the investments were not considered material to the consolidated financial statements. The Company consolidates acquisitions as of the date in which the Company has obtained a controlling financial interest. Intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the 2019 presentation. The Company follows accounting principles generally accepted in the United States of America ("GAAP").

Prior to December 31, 2017, the Company included the financial results from its Venezuela subsidiaries in the consolidated financial statements using the consolidation method of accounting. In 2017, due to foreign exchange regulations restricting access to U.S. dollars in Venezuela, an other-than-temporary lack of exchangeability between the Venezuelan bolivar and U.S. dollar impacted the Company's ability to manage risk, process cross-border transactions and satisfy U.S. dollar denominated liabilities related to operations in Venezuela. As a result of these factors, Mastercard concluded that effective December

31, 2017, it did not meet the accounting criteria for consolidation of these Venezuelan subsidiaries, and therefore would transition to the measurement alternative method of accounting as of December 31, 2017. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax or $0.10 per diluted share) that was recorded in general and administrative expenses on the consolidated statement of operations for the year ended December 31, 2017.

Non-controlling interests represent the equity interest not owned by the Company and are recorded for consolidated entities in which the Company owns less than 100% of the interests. Changes in a parent's ownership interest while the parent retains its controlling interest are accounted for as equity transactions, and upon loss of control, retained ownership interests are remeasured at fair value, with any gain or loss recognized in earnings. For 2019, 2018 and 2017, net losses from non-controlling interests were not material and, as a result, amounts are included on the consolidated statement of operations within other income (expense).

Use of estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Future events and their effects cannot be predicted with certainty; accordingly, accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of the Company's consolidated financial statements may change as new events occur, as more experience is

acquired, as additional information is obtained and as the Company's operating environment changes. Actual results may differ from these estimates.

Revenue recognition - Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. Revenue is primarily generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by assessing customers based primarily on the dollar volume of activity, or gross dollar volume, on the products that carry the Company's brands. Revenue is generally derived from transactional information accumulated by Mastercard's systems or reported by customers.

Volume-based revenue (domestic assessments and cross-border volume fees) is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards. Certain volume-based revenue is based upon information reported by customers. Transaction-based revenue (transaction processing) is primarily based on the number and type of transactions and is recognized as revenue in the same period in which the related transactions occur. Other payment-related products and services are recognized as revenue in the period in which the related services are performed or transactions occur.

Mastercard has business agreements with certain customers that provide for rebates or other support when the customers meet certain volume hurdles as well as other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Rebates and incentives are calculated based upon estimated customer performance and the terms of the related business agreements. In addition, Mastercard may make payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

Contract assets include unbilled consideration typically resulting from executed data analytic and consulting services performed for customers in connection with Mastercard's payment network service arrangements. Collection for these services typically occurs over the contractual term. Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet.

The Company defers the recognition of revenue when consideration has been received prior to the satisfaction of performance obligations. As these performance obligations are satisfied, revenue is subsequently recognized. Deferred revenue is primarily derived from data analytic and consulting services. Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet.

Business combinations - The Company accounts for business combinations under the acquisition method of accounting. The Company measures the tangible and intangible identifiable assets acquired, liabilities assumed and any non-controlling interest in the acquiree, at fair value as of the acquisition date. Acquisition-related costs are expensed as incurred and are included in general and administrative expenses. Any excess purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill. Measurement period adjustments, if any, to the preliminary estimated fair value of the intangibles assets as of the acquisition date will be recorded in goodwill.

Goodwill and other intangible assets - Indefinite-lived intangible assets consist of goodwill, which represents the synergies expected to arise after the acquisition date and the assembled workforce, and customer relationships. Finite-lived intangible assets consist of capitalized software costs, trademarks, tradenames, customer relationships and other intangible assets. Intangible assets with finite useful lives are amortized over their estimated useful lives, on a straight-line basis, which range from one to twenty years. Capitalized software includes internal and external costs incurred directly related to the design, development and testing phases of each capitalized software project.

Impairment of assets - Goodwill and indefinite-lived intangible assets are not amortized but tested annually for impairment at the reporting unit level in the fourth quarter, or sooner when circumstances indicate an impairment may exist. The impairment evaluation for goodwill utilizes a qualitative assessment to determine whether it is more likely than not that goodwill is impaired. The qualitative factors may include, but are not limited to, macroeconomic conditions, industry and market conditions, operating environment, financial performance and other relevant events. If it is determined that it is more likely than not that goodwill is impaired, then the Company is required to perform a quantitative goodwill impairment test. If the fair value of a reporting unit exceeds the carrying value, goodwill is not impaired. If the fair value of the reporting unit is less than its carrying value, then goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. If the qualitative assessment indicates that it is more likely than not that indefinite-lived intangible assets are impaired, then a quantitative assessment is required.

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are tested for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable. If the carrying value of the asset cannot be recovered from estimated

future cash flows, undiscounted and without interest, the fair value of the asset is calculated using the present value of estimated net future cash flows. If the carrying amount of the asset exceeds its fair value, an impairment is recorded.

Impairment charges, if any, are recorded in general and administrative expenses on the consolidated statement of operations.

Litigation - The Company is a party to certain legal and regulatory proceedings with respect to a variety of matters. The Company evaluates the likelihood of an unfavorable outcome of all legal or regulatory proceedings to which it is a party and accrues a loss contingency when the loss is probable and reasonably estimable. Loss contingencies are recorded in provision for litigation on the consolidated statement of operations. These judgments are subjective based on the status of the legal or regulatory proceedings, the merits of its defenses and consultation with in-house and external legal counsel. Legal costs are expensed as incurred and recorded in general and administrative expenses on the consolidated statement of operations.

Settlement and other risk management - Mastercard's rules guarantee the settlement of many of the transactions between its customers. Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

The Company also enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable.

The Company accounts for each of its guarantees by recording the guarantee at its fair value at the inception or modification date through earnings.

Income taxes - The Company follows an asset and liability based approach in accounting for income taxes as required under GAAP. Deferred income tax assets and liabilities are recorded to reflect the tax consequences on future years of temporary differences between the financial statement carrying amounts and income tax bases of assets and liabilities. Deferred income taxes are displayed separately as noncurrent assets and liabilities on the consolidated balance sheet. Valuation allowances are provided against assets which are not more likely than not to be realized. The Company recognizes all material tax positions, including uncertain tax positions in which it is more likely than not that the position will be sustained based on its technical merits and if challenged by the relevant taxing authorities. At each balance sheet date, unresolved uncertain tax positions are reassessed to determine whether subsequent developments require a change in the amount of recognized tax benefit. The allowance for uncertain tax positions is recorded in other current and noncurrent liabilities on the consolidated balance sheet. The Company records interest expense related to income tax matters as interest expense on the consolidated statement of operations. The Company includes penalties related to income tax matters in the income tax provision.

Cash and cash equivalents - Cash and cash equivalents include certain investments with daily liquidity and with an original maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Restricted cash - The Company classifies cash and cash equivalents as restricted when it is unavailable for withdrawal or use in its general operations. The Company has the following types of restricted cash and restricted cash equivalents which are included in the reconciliation of beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows:

- *Restricted cash for litigation settlement* - The Company has restricted cash for litigation within a qualified settlement fund related to the settlement agreement for the U.S. merchant class litigation. The funds continue to be restricted for payments until the litigation matter is resolved.

- *Restricted security deposits held for customers* - The Company requires collateral from certain customers for settlement of their transactions. The majority of collateral for settlement is in the form of standby letters of credit and bank guarantees which are not recorded on the consolidated balance sheet. Additionally, the Company holds cash deposits and certificates of deposit from certain customers as collateral for settlement of their transactions, which are recorded as assets on the consolidated balance sheet. These assets are fully offset by corresponding liabilities included on the consolidated balance sheet. These security deposits are typically held for the duration of the agreement with the customers.

- *Other restricted cash balances* - The Company has other restricted cash balances which include contractually restricted deposits, as well as cash balances that are restricted based on the Company's intention with regard to usage. These funds are classified on the consolidated balance sheet within prepaid expenses and other current assets and other assets.

Fair value - The Company measures certain financial assets and liabilities at fair value on a recurring basis by estimating the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. The Company classifies these recurring fair value measurements into a three-level hierarchy ("Valuation Hierarchy").

The Valuation Hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. A financial instrument's categorization within the Valuation Hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of the Valuation Hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets

- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets and inputs that are observable for the asset or liability

- Level 3 - inputs to the valuation methodology are unobservable and cannot be directly corroborated by observable market data

Certain assets are measured at fair value on a nonrecurring basis. The Company's non-financial assets measured at fair value on a nonrecurring basis include property, equipment and right-of-use assets, goodwill and other intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment.

The valuation methods for goodwill and other intangible assets acquired in business combinations involve assumptions concerning comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. The Company uses various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty, and multi-period excess earnings for estimating the fair value of its intangible assets. As the assumptions employed to measure these assets are based on management's judgment using internal and external data, these fair value determinations are classified in Level 3 of the Valuation Hierarchy.

Contingent consideration - Certain business combinations involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones. These liabilities are classified within Level 3 of the Valuation Hierarchy as the inputs used to measure fair value are unobservable and require management's judgment. The fair value of the contingent consideration at the acquisition date and subsequent periods is determined utilizing an income approach based on a Monte Carlo technique and is recorded in other current liabilities and other liabilities on the consolidated balance sheet. Changes to projected performance milestones of the acquired businesses could result in a higher or lower contingent consideration liability. The changes in fair value as a result of updated assumptions will be recorded in general and administrative expenses on the consolidated statement of operations.

Investment securities - The Company classifies investments as available-for-sale or held-to-maturity at the date of acquisition.

- Available-for-sale debt securities:

  - Available-for-sale securities that are available to meet the Company's current operational needs are classified as current assets and the securities that are not available for current operational needs are classified as non-current assets on the consolidated balance sheet.

  The investments in debt securities are carried at fair value, with unrealized gains and losses, net of tax, recorded as a separate component of accumulated other comprehensive income (loss) on the consolidated statement of comprehensive income. Net realized gains and losses on debt securities are recognized in investment income on the consolidated statement of operations. The specific identification method is used to determine realized gains and losses.

The Company evaluates its debt securities for other-than-temporary impairment on an ongoing basis. When there has been a decline in fair value of a debt security below the amortized cost basis, the Company recognizes an other-than-temporary impairment if: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery of the amortized cost basis; or (3) it does not expect to recover the entire amortized cost basis of the security. The credit loss component of the impairment would be recognized in other income (expense), net on the consolidated statement of operations while the non-credit loss would remain in accumulated other comprehensive income (loss) until realized from a sale or an other-than-temporary impairment.

- Held-to-maturity securities:
  - Time deposits - The Company classifies time deposits with original maturities greater than three months as held-to-maturity. Held-to-maturity securities that mature within one year are classified as current assets within investments on the consolidated balance sheet while held-to-maturity securities with maturities of greater than one year are classified as non-current assets. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity.

Equity investments - The Company holds equity securities of publicly traded and privately held companies.

- Marketable equity securities - Marketable equity securities are strategic investments in publicly traded companies and are measured at fair value using quoted prices in their respective active markets with changes recorded through gain (losses) on equity investments, net on the consolidated statement of operations. Securities that are not for use in current operations are classified in other assets on the consolidated balance sheet.

- Nonmarketable equity investments - The Company's nonmarketable equity investments, which are reported in other assets on the consolidated balance sheet, include investments in privately held companies without readily determinable market values. The Company uses discounted cash flows and market assumptions to estimate the fair value of its nonmarketable equity investments when certain events or circumstances indicate that impairment may exist. The Company's nonmarketable equity investments are accounted for under the equity method or measurement alternative method.

  - Equity method - The Company accounts for investments in common stock or in-substance common stock under the equity method of accounting when it has the ability to exercise significant influence over the investee, generally when it holds between 20% and 50% ownership in the entity. In addition, investments in flow-through entities such as limited partnerships and limited liability companies are also accounted for under the equity method when the Company has the ability to exercise significant influence over the investee, generally when the investment ownership percentage is equal to or greater than 5% of the outstanding ownership interest. The excess of the cost over the underlying net equity of investments accounted for under the equity method is allocated to identifiable tangible and intangible assets and liabilities based on fair values at the date of acquisition. The amortization of the excess of the cost over the underlying net equity of investments and Mastercard's share of net earnings or losses of entities accounted for under the equity method of accounting is included in other income (expense), net on the consolidated statement of operations.

  - Measurement alternative method - The Company accounts for investments in common stock or in-substance common stock under the measurement alternative method of accounting when it does not exercise significant influence, generally when it holds less than 20% ownership in the entity or when the interest in a limited partnership or limited liability company is less than 5% and the Company has no significant influence over the operation of the investee. Investments in companies that Mastercard does not control, but that are not in the form of common stock or in-substance common stock, are also accounted for under the measurement alternative method of accounting. Measurement alternative investments are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Fair value adjustments, as well as impairments, are included in gain (losses) on equity investments, net on the consolidated statement of operations.

Derivative and hedging instruments - The Company's derivative financial instruments are recorded as either assets or liabilities on the balance sheet and measured at fair value. The Company's foreign exchange and interest rate derivative contracts are included in Level 2 of the Valuation Hierarchy as the fair value of the contracts are based on inputs, which are observable based on broker quotes for the same or similar instruments. As the Company does not designate foreign exchange contracts as hedging instruments, realized and unrealized gains and losses from the change in fair value of the contracts are recognized immediately in current-period earnings. The Company's foreign exchange contracts are not entered into for trading or speculative purposes.

The Company's derivatives that are designated as hedging instruments are required to meet established accounting criteria. In addition, an effectiveness assessment is required to demonstrate that the derivative is expected to be highly effective at offsetting changes in fair value or cash flows of the underlying exposure both at inception of the hedging relationship and on an ongoing basis. The method of assessing hedge effectiveness and measuring hedge results is formally documented at hedge inception and assessed at least quarterly throughout the designated hedge period. For cash flow hedges, the fair value adjustments are recorded, net of tax, in other comprehensive income (loss). Any gains and losses deferred in other comprehensive income (loss) are then recognized in current-period earnings when earnings are affected by the variability of cash flows of the hedged forecasted transaction.

The Company has numerous investments in its foreign subsidiaries. The net assets of these subsidiaries are exposed to volatility in foreign currency exchange rates. The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. The effective portion of the foreign currency gains and losses related to the foreign currency denominated debt are reported in accumulated other comprehensive income (loss) on the consolidated balance sheet as part of the cumulative translation adjustment component of equity. The Company evaluates the effectiveness of the net investment hedge each quarter.

Settlement due from/due to customers - The Company operates systems for clearing and settling payment transactions among customers. Net settlements are generally cleared daily among customers through settlement cash accounts by wire transfer or other bank clearing means. However, some transactions may not settle until subsequent business days, resulting in amounts due from and due to customers.

Property, equipment and right-of-use assets - Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets. Depreciation of leasehold improvements and amortization of finance leases is included in depreciation and amortization expense on the consolidated statement of operations. Operating lease amortization expense is included in general and administrative expenses on the consolidated statement of operations.

The useful lives of the Company's assets are as follows:

Asset Category	Estimated Useful Life
Buildings	30 years
Building equipment	10 - 15 years
Furniture and fixtures and equipment	3 - 5 years
Leasehold improvements	Shorter of life of improvement or lease term
Right-of-use assets	Shorter of life of the asset or lease term

The Company determines if a contract is, or contains, a lease at contract inception. The Company's right-of-use ("ROU") assets are primarily related to operating leases for office space, automobiles and other equipment. Leases are included in property, equipment and right-of-use assets, other current liabilities and other liabilities on the consolidated balance sheet.

ROU assets represent the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. In addition, ROU assets include initial direct costs incurred by the lessee as well as any lease payments made at or before the commencement date, and exclude lease incentives. As most of the Company's leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the commencement date in determining the present value of lease payments. The incremental borrowing rate is determined by using the rate of interest that the Company would pay to borrow on a collateralized basis an amount equal to the lease payments for a similar term and in a similar economic environment. Lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Leases with a term of one year or less are excluded from ROU assets and liabilities.

The Company excludes variable lease payments in measuring ROU assets and lease liabilities, other than those that depend on an index, a rate or are in-substance fixed payments. Lease and nonlease components are generally accounted for separately. When available, consideration is allocated to the separate lease and nonlease components in a lease contract on a relative standalone price basis using observable standalone prices.

Pension and other postretirement plans - The Company recognizes the funded status of its single-employer defined benefit pension plans and postretirement plans as assets or liabilities on its consolidated balance sheet and recognizes changes in the funded status in the year in which the changes occur through accumulated other comprehensive income (loss). The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation at December 31, the measurement date. Overfunded plans, if any, are aggregated and recorded in other assets, while underfunded plans are aggregated and recorded as accrued expenses and other liabilities on the consolidated balance sheet.

Net periodic pension and postretirement benefit cost/(income), excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations. These costs include interest cost, expected return on plan assets, amortization of prior service costs or credits and

gains or losses previously recognized as a component of accumulated other comprehensive income (loss). The service cost component is recognized in general and administrative expenses on the consolidated statement of operations.

Defined contribution plans - The Company's contributions to defined contribution plans are recorded as employees render service to the Company. The charge is recorded in general and administrative expenses on the consolidated statement of operations.

Advertising and marketing - Expenses incurred to promote Mastercard's brand, products and services are recognized in advertising and marketing on the consolidated statement of operations. The timing of recognition is dependent on the type of advertising or marketing expense.

Foreign currency remeasurement and translation - Monetary assets and liabilities are remeasured to functional currencies using current exchange rates in effect at the balance sheet date. Non-monetary assets and liabilities are recorded at historical exchange rates. Revenue and expense accounts are remeasured at the weighted-average exchange rate for the period. Resulting exchange gains and losses related to remeasurement are included in general and administrative expenses on the consolidated statement of operations.

Where a non-U.S. currency is the functional currency, translation from that functional currency to U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using a weighted-

average exchange rate for the period. Resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss).

Treasury stock - The Company records the repurchase of shares of its common stock at cost on the trade date of the transaction. These shares are considered treasury stock, which is a reduction to stockholders' equity. Treasury stock is included in authorized and issued shares but excluded from outstanding shares.

Share-based payments - The Company measures share-based compensation expense at the grant date, based on the estimated fair value of the award and uses the straight-line method of attribution, net of estimated forfeitures, for expensing awards over the requisite employee service period. The Company estimates the fair value of its non-qualified stock option awards ("Options") using a Black-Scholes valuation model. The fair value of restricted stock units ("RSUs") is determined and fixed on the grant date based on the Company's stock price, adjusted for the exclusion of dividend equivalents. The Monte Carlo simulation valuation model is used to determine the grant date fair value of performance stock units ("PSUs") granted. All share-based compensation expenses are recorded in general and administrative expenses on the consolidated statement of operations.

Redeemable non-controlling interests - The Company's business combinations may include provisions allowing non-controlling equity owners the ability to require the Company to purchase additional interests in the subsidiary at their discretion. The interests are initially recorded at fair value and in subsequent reporting periods are accreted or adjusted to the estimated redemption value. The adjustments to the redemption value are recorded to retained earnings or additional paid-in capital on the consolidated balance sheet. The redeemable non-controlling interests are considered temporary and reported outside of permanent equity on the consolidated balance sheet at the greater of the carrying amount adjusted for the non-controlling interest's share of net income (loss) or its redemption value.

Earnings per share - The Company calculates basic earnings per share ("EPS") by dividing net income by the weighted-average number of common shares outstanding during the year. Diluted EPS is calculated by dividing net income by the weighted-average number of common shares outstanding during the year, adjusted for the potentially dilutive effect of stock options and unvested stock units using the treasury stock method. The Company may be required to calculate EPS using the two-class method as a result of its redeemable non-controlling interests. If redemption value exceeds the fair value of the redeemable non-controlling interests, the excess would be a reduction to net income for the EPS calculation.

Accounting pronouncements adopted

Leases - In February 2016, the Financial Accounting Standards Board (the "FASB") issued accounting guidance that changed how companies account for and present lease arrangements. This guidance requires companies to recognize lease assets and liabilities for both finance and operating leases on the consolidated balance sheet. The Company adopted this guidance effective January 1, 2019, under the modified retrospective transition method with the available practical expedients.

The following table summarizes the impact of the changes made to the January 1, 2019 consolidated balance sheet for the adoption of the new accounting standard pertaining to leases. The prior periods have not been restated and have been reported under the accounting standard in effect for those periods.

	Balance at December 31, 2018	Impact of lease standard	Balance at January 1, 2019

		(in millions)	
Assets			
Property, equipment and right-of-use assets, net	$ 921	$ 375	$ 1,296
Liabilities			
Other current liabilities	949	72	1,021
Other liabilities	1,877	303	2,180

For a more detailed discussion on lease arrangements, refer to Note 10 (Property, Equipment and Right-of-Use Assets).

Comprehensive income - In February 2018, the FASB issued accounting guidance that allows for a one-time reclassification from accumulated other comprehensive income (loss) to retained earnings for stranded tax effects resulting from U.S. tax reform. The Company adopted this guidance effective January 1, 2019, electing to retain the stranded tax effects in accumulated other comprehensive income (loss). The adoption did not result in a material impact on the Company's consolidated financial statements.

Revenue recognition - In May 2014, the FASB issued accounting guidance that provides a single, comprehensive revenue recognition model for all contracts with customers and supersedes most of the existing revenue recognition requirements. Under this guidance, an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company adopted this guidance effective January 1, 2018 under the modified retrospective transition method, applying the standard to contracts not completed as of January 1, 2018 and considered the aggregate amount of modifications.

This revenue guidance impacts the timing of certain customer incentives recognized in the Company's consolidated statement of operations, as they are recognized over the life of the contract. Previously, such incentives were recognized when earned by the customer. This revenue guidance also impacts the Company's accounting recognition for certain market development fund contributions and expenditures. Historically, these items were recorded on a net basis in net revenue and will now be recognized on a gross basis, resulting in an increase to both revenues and expenses.

The following tables summarize the impact of the revenue standard on the Company's consolidated statement of operations and consolidated balance sheet:

	Year Ended December 31, 2018		
	Balances excluding revenue standard	**Impact of revenue standard**	**As reported**
		(in millions)	
Net Revenue	**$ 14,471**	**$ 479**	**$ 14,950**
Operating Expenses			
Advertising and marketing	743	164	907
Income before income taxes	6,889	315	7,204
Income tax expense	1,278	67	1,345
Net Income	**5,611**	**248**	**5,859**

	December 31, 2018		
	Balances excluding revenue standard	**Impact of revenue standard**	**As reported**
		(in millions)	
Assets			
Accounts receivable	$ 2,214	$ 62	$ 2,276
Prepaid expenses and other current assets	1,176	256	1,432
Deferred income taxes	666	(96)	570
Other assets	2,388	915	3,303
Liabilities			
Accounts payable	959	(422)	537
Accrued expenses	4,375	372	4,747
Other current liabilities	1,085	(136)	949
Other liabilities	1,145	732	1,877
Equity			
Retained earnings	26,692	591	27,283

For a more detailed discussion on revenue recognition, refer to Note 3 (Revenue).

Intra-entity asset transfers - In October 2016, the FASB issued accounting guidance to simplify the accounting for income tax consequences of intra-entity transfers of assets other than inventory. Under this guidance, companies are required to recognize the income tax consequences of an intra-entity asset transfer when the transfer occurs. This guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the period of adoption. The guidance is effective for periods beginning after December 15, 2017. The Company adopted this guidance effective January 1, 2018. See the section in this note entitled Cumulative Effect of the Adopted Accounting Pronouncements for a summary of the cumulative impact of adopting this standard as of January 1, 2018.

Cumulative effect of the 2018 adopted accounting pronouncements

The following table summarizes the cumulative impact of the changes made to the January 1, 2018 consolidated balance sheet for the adoption of the new accounting standards pertaining to revenue recognition and intra-entity asset transfers. The prior periods have not been restated and have been reported under the accounting standards in effect for those periods.

	Balance at December 31, 2017	Impact of revenue standard	Impact of intra-entity asset transfers standard	Balance at January 1, 2018
	(in millions)			
Assets				
Accounts receivable	$ 1,969	$ 44	$ —	$ 2,013
Prepaid expenses and other current assets	1,040	181	(17)	1,204
Deferred income taxes	250	(69)	186	367
Other assets	2,298	690	(352)	2,636
Liabilities				
Accounts payable	933	(495)	—	438
Accrued expenses	3,931	391	—	4,322
Other current liabilities	792	(44)	—	748
Other liabilities	1,438	628	—	2,066
Equity				
Retained earnings	22,364	366	(183)	22,547

Accounting pronouncements not yet adopted

Implementation costs incurred in a hosting arrangement that is a service contract - In August 2018, the FASB issued accounting guidance which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This guidance is effective for periods beginning after December 15, 2019. Companies are required to adopt this guidance either retrospectively or by prospectively applying the guidance to all implementation costs incurred after the date of adoption. The Company will adopt this guidance effective January 1, 2020 by applying the prospective approach as of the date of adoption and this guidance will not have a material impact on its consolidated financial statements.

Disclosure requirements for fair value measurement - In August 2018, the FASB issued accounting guidance which modifies disclosure requirements for fair value measurements by removing, modifying and adding certain disclosures. This guidance is effective for periods beginning after December 15, 2019. Companies are required to adopt the guidance for certain added disclosures prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption and all other amendments retrospectively to all periods presented upon their effective date. The Company will adopt this guidance effective January 1, 2020 and the impact will not be material.

Note 2. Acquisitions

In 2019 and 2017, the Company acquired several businesses in separate transactions for total consideration of $1.5 billion in each year, representing both cash and contingent consideration. There were no acquisitions in 2018. These acquisitions align with the Company's strategy to grow, diversify

and build the Company's business. Refer to Note 1 (Summary of Significant Accounting Policies) for the valuation techniques Mastercard utilizes to fair value the respective components of business combinations. The residual value allocated to goodwill is primarily attributable to the synergies expected to arise after the acquisition date and a portion of the goodwill is expected to be deductible for tax purposes.

The Company is evaluating and finalizing the purchase accounting for businesses acquired during 2019. In 2018, the Company finalized the purchase accounting for businesses acquired during 2017. The preliminary estimated and final fair values of the purchase price allocations in aggregate, as of the acquisition dates, are noted below for 2019 and 2017, respectively. There were no acquisitions in 2018.

	2019	2017
	(in millions)	
Assets:		
Cash and cash equivalents	$ 54	$ 111
Other current assets	143	110
Other intangible assets	395	488
Goodwill	1,076	1,135
Other assets	48	91
Total assets	**1,716**	**1,935**
Liabilities:		
Other current liabilities	121	234
Deferred income taxes	52	64
Other liabilities	32	66
Total liabilities	**205**	**364**
Net assets acquired	**$ 1,511**	**$ 1,571**

The following table summarizes the identified intangible assets acquired for 2019 and 2017:

	2019	2017	2019	2017
	Acquisition Date Fair Value		Weighted-Average Useful Life	
	(in millions)		(in years)	
Developed technologies	$ 199	$ 319	7.7	7.5
Customer relationships	178	166	12.6	9.9
Other	18	3	5.0	1.4
Other intangible assets	**$ 395**	**$ 488**	**9.7**	**8.3**

Pro forma information related to the acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

The businesses acquired in 2019 were not individually significant to Mastercard. For the businesses acquired in 2017, the largest acquisition relates to Vocalink, a payment systems and ATM switching platform operator, located principally in the U.K. On April 28, 2017, Mastercard acquired 92.4% controlling interest in Vocalink for cash consideration of £719 million ($929 million). In addition, the Vocalink sellers earned additional contingent consideration of £169 million ($219 million) upon meeting 2018 revenue targets in accordance with terms of the purchase agreement. Refer to Note 8 (Fair Value Measurements) for additional information related to the fair value of contingent consideration.

A majority of Vocalink's shareholders have retained a 7.6% ownership for at least three years, which is recorded as redeemable non-controlling interests on the consolidated balance sheet. These remaining shareholders have a put option to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter (the "Third Anniversary Option" and "Fifth Anniversary Option", respectively). The Third Anniversary Option is exercisable at a fixed price of £58

million (approximately $76 million as of December 31, 2019) ("Fixed Price"). The Fifth Anniversary Option is exercisable at the greater of the Fixed Price or fair value. Additionally, Mastercard has a call option to purchase the remaining interest from Vocalink's shareholders on the fifth anniversary of the transaction and quarterly thereafter, which is exercisable at the greater of the Fixed Price or fair value. The fair value of the redeemable non-controlling interests was determined utilizing a market approach, which extrapolated the consideration transferred that was discounted for lack of control and marketability.

Pending Acquisition

In August 2019, Mastercard entered into a definitive agreement to acquire the majority of the Corporate Services business of Nets Denmark A/S, for €2.85 billion (approximately $3.19 billion as of December 31, 2019) after adjusting for cash and certain other liabilities at closing. The pending acquisition primarily comprises the clearing and instant payment services, and e-billing solutions of Nets Denmark A/S's Corporate Services business. While the Company anticipates completing the acquisition in the first half of 2020, the transaction is subject to regulatory approval and other customary closing conditions.

Note 3. Revenue

Mastercard's business model involves four participants in addition to the Company: account holders, issuers (the account holders' financial institutions), merchants and acquirers (the merchants' financial institutions). Revenue from contracts with customers is recognized when services are performed in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those services. Revenue recognized from domestic assessments, cross-border volume fees and transaction processing are derived from Mastercard's payment network services. Revenue is primarily generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by assessing customers based primarily on the dollar volume of activity, or gross dollar volume, on the products that carry the Company's brands. Revenue is generally derived from transactional information accumulated by Mastercard's systems or reported by customers. In addition, the Company recognizes revenue from other payment-related products and services in the period in which the related transactions occur or services are performed.

The price structure for Mastercard's products and services is dependent on the nature of volumes, types of transactions and type of products and services offered to customers. Net revenue can be impacted by the following:

- domestic or cross-border transactions
- geographic region or country in which the transaction occurs
- volumes/transactions subject to tiered rates
- processed or not processed by the Company
- amount of usage of the Company's other products or services
- amount of rebates and incentives provided to customers

The Company classifies its net revenue into the following five categories:

Domestic assessments are fees charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are the same. Revenue from domestic assessments is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Cross-border volume fees are charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the merchant country and the country of issuance are different. Revenue from cross-border volume is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Transaction processing revenue is recognized for both domestic and cross-border transactions in the period in which the related transactions occur. Transaction processing includes the following:

- *Switched transaction* revenue is generated from the following products and services:
  - Authorization is the process by which a transaction is routed to the issuer for approval. In certain circumstances, such as when the issuer's systems are unavailable or cannot be contacted, Mastercard or others approve such transactions on behalf of the issuer in accordance with either the issuer's instructions or applicable rules (also known as "stand-in").
  - Clearing is the determination and exchange of financial transaction information between issuers and acquirers after a transaction has been successfully conducted at the point of interaction. Transactions are cleared among customers through Mastercard's central and regional processing systems.
  - Settlement is facilitating the exchange of funds between parties.
- *Connectivity fees* are charged to issuers, acquirers and other financial institutions for network access, equipment and the transmission of authorization and settlement messages. These fees are based on the size of the data being transmitted and the number of connections to the Company's network.
- *Other processing fees* include issuer and acquirer processing solutions; payment gateways for e-commerce merchants; mobile gateways for mobile-initiated transactions; and safety and security.

Other revenues consist of value-added service offerings that are typically sold with the Company's payment service offerings and are recognized in the period in which the related services are performed or transactions occur. Other revenues include the following:

- Data analytics and consulting fees.
- Cyber and intelligence fees are for products and services offered to prevent, detect and respond to fraud and to ensure the safety of transactions made primarily on Mastercard products.
- Loyalty and rewards solutions fees are charged to issuers for benefits provided directly to consumers with Mastercard-branded cards, such as access to a global airline lounge network, global and local concierge services, individual insurance coverages, emergency card replacement, emergency cash advance services and a 24-hour cardholder service center. Loyalty and reward solution fees also include rewards campaigns and management services.
- Program management services provided to prepaid card issuers consist of foreign exchange margin, commissions, load fees and ATM withdrawal fees paid by cardholders on the sale and encashment of prepaid cards.
- Batch and real-time account-based payment services relating to ACH transactions and other ACH related services.
- Other payment-related products and services, including account and transaction enhancement services, rules compliance and publications.

Rebates and incentives (contra-revenue) are provided to customers that meet certain volume targets and can be in the form of a rebate or other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of gross revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. In addition, Mastercard may make incentive payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

The Company's disaggregated net revenue by source and geographic region were as follows for the years ended December 31:

	2019	2018
	(in millions)	
Revenue by source:		
Domestic assessments	$ 6,781	$ 6,138
Cross-border volume fees	5,606	4,954
Transaction processing	8,469	7,391
Other revenues	4,124	3,348
Gross revenue	**24,980**	**21,831**
Rebates and incentives (contra-revenue)	(8,097)	(6,881)
Net revenue	**$ 16,883**	**$ 14,950**
Net revenue by geographic region:		
North American Markets	$ 5,843	$ 5,312
International Markets	10,869	9,514
Other [1]	171	124
Net revenue	**$ 16,883**	**$ 14,950**

[1] Includes revenues managed by corporate functions.

Receivables from contracts with customers of $2.3 billion and $2.1 billion as of December 31, 2019 and 2018, respectively, are recorded within accounts receivable on the consolidated balance sheet. The Company's customers are generally billed weekly, however the frequency is dependent upon the nature of the performance obligation and the underlying contractual terms. The Company does not typically offer extended payment terms to customers.

Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet at December 31, 2019 in the amounts of $48 million and $152 million, respectively. The comparable amounts included in prepaid expenses and other current assets and other assets at December 31, 2018 were $40 million and $92 million, respectively.

Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet at December 31, 2019 in the amounts of $238 million and $106 million, respectively. The comparable amounts included in other current liabilities and other

liabilities at December 31, 2018 were $218 million and $101 million, respectively. In 2019 and 2018, revenue recognized from the satisfaction of such performance obligations was $904 million in each year.

The Company's remaining performance periods for its contracts with customers for its payment network services are typically long-term in nature (generally up to 10 years). As a payment network service provider, the Company provides its customers with continuous access to its global payment processing network and stands ready to provide transaction processing and related services over the contractual term. Consideration is variable as the Company generates revenues from assessing its customers based on the GDV of activity on the products that carry the Company's brands. The Company has elected the optional exemption to not disclose the remaining performance obligations related to its payment network services. The Company also earns revenues from other value-added services comprised of both batch and real-time account-based payment services, consulting fees, loyalty programs and other payment-related products and services. At December 31, 2019, the estimated aggregate consideration allocated to unsatisfied performance obligations for these other value-added services is $1.3 billion, which is expected to be recognized through 2022. The estimated remaining performance obligations related to these revenues are subject to change and are affected by several factors, including modifications and terminations and are not expected to be material to any future annual period.

Note 4. Earnings Per Share

The components of basic and diluted EPS for common shares for each of the years ended December 31 were as follows:

	2019	2018	2017
	(in millions, except per share data)		
Numerator			
Net income	$ 8,118	$ 5,859	$ 3,915
Denominator			
Basic weighted-average shares outstanding	1,017	1,041	1,067
Dilutive stock options and stock units	5	6	5
Diluted weighted-average shares outstanding [1]	1,022	1,047	1,072
Earnings per Share			
Basic	$ 7.98	$ 5.63	$ 3.67
Diluted	$ 7.94	$ 5.60	$ 3.65

Note: Table may not sum due to rounding.

1 For the years presented, the calculation of diluted EPS excluded a minimal amount of anti-dilutive share-based payment awards.

Note 5. Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents

The following table provides a reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents reported on the consolidated balance sheet that total to the amounts shown on the consolidated statement of cash flows for the years ended December 31:

	2019	2018	2017	2016
	(in millions)			
Cash and cash equivalents	$ 6,988	$ 6,682	$ 5,933	$ 6,721

Restricted cash and restricted cash equivalents				
Restricted cash for litigation settlement	584	553	546	543
Restricted security deposits held for customers	1,370	1,080	1,085	991
Prepaid expenses and other current assets	27	22	28	3
Other assets	—	—	—	15
Cash, cash equivalents, restricted cash and restricted cash equivalents	**$8,969**	**$8,337**	**$7,592**	**$ 8,273**

Note 6. Supplemental Cash Flows

The following table includes supplemental cash flow disclosures for each of the years ended December 31:

	2019	2018	2017
	(in millions)		
Cash paid for income taxes, net of refunds	$ 1,644	$ 1,790	$ 1,893
Cash paid for interest	199	153	135
Cash paid for legal settlements	668	260	47
Non-cash investing and financing activities			
Dividends declared but not yet paid	403	340	263
Accrued property, equipment and right-of-use assets	468	10	30
Fair value of assets acquired, net of cash acquired	1,662	—	1,825
Fair value of liabilities assumed related to acquisitions	205	—	365

Note 7. Investments

The Company's investments on the consolidated balance sheet include both available-for-sale and held-to-maturity securities (see Investments section below). The Company classifies its investments in equity securities of publicly traded and privately held companies within other assets on the consolidated balance sheet (see Equity Investments section below).

Investments

Investments on the consolidated balance sheet consisted of the following at December 31:

	2019	2018
	(in millions)	
Available-for-sale securities	$ 591	$ 1,432
Held-to-maturity securities	97	264
Total investments	**$ 688**	**$ 1,696**

Available-for-Sale Securities

The major classes of the Company's available-for-sale investment securities and their respective amortized cost basis and fair values were as follows:

	December 31, 2019				December 31, 2018			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
	(in millions)							
Municipal securities	$ 15	$ —	$ —	$ 15	$ 15	$ —	$ —	$ 15
Government and agency securities	108	—	—	108	157	—	—	157
Corporate securities	381	1	—	382	1,044	1	(2)	1,043

Asset-backed securities	85	1	—	86	217	—	—	217
Total	**$ 589**	**$ 2**	**$ —**	**$ 591**	**$1,433**	**$ 1**	**$ (2)**	**$ 1,432**

The Company's available-for-sale investment securities held at December 31, 2019 and 2018, primarily carried a credit rating of A- or better with unrealized gains and losses recorded as a separate component of other comprehensive income (loss) on the consolidated statement of comprehensive income. The municipal securities are comprised of state tax-exempt bonds and are diversified across states and sectors. Government and agency securities include U.S. government bonds, U.S. government sponsored agency bonds and foreign government bonds with similar credit quality to that of the U.S. government bonds. Corporate securities are comprised of commercial paper and corporate bonds. The asset-backed securities are investments in bonds which are collateralized primarily by automobile loan receivables.

The maturity distribution based on the contractual terms of the Company's investment securities at December 31, 2019 was as follows:

	Available-For-Sale	
	Amortized Cost	Fair Value
	(in millions)	
Due within 1 year	$ 180	$ 181
Due after 1 year through 5 years	409	410
Total	**$ 589**	**$ 591**

Investment income on the consolidated statement of operations primarily consists of interest income generated from cash, cash equivalents, time deposits, and realized gains and losses on the Company's debt securities. The realized gains and losses from the sale of available-for-sale securities for 2019, 2018 and 2017 were not significant.

Held-to-Maturity Securities

The Company classifies time deposits with maturities greater than three months but less than one year as held-to-maturity. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity. The cost of these securities approximates fair value.

Equity Investments

Included in other assets on the consolidated balance sheet are equity investments with readily determinable fair values ("Marketable securities") and equity investments without readily determinable fair values ("Nonmarketable securities"). Marketable securities are publicly traded companies and are measured using unadjusted quoted prices in their respective active markets. Nonmarketable securities that do not qualify for equity method accounting are measured at cost, less any impairment and adjusted for changes resulting from observable price changes in orderly transactions for the identical or similar investments of the same issuer ("measurement alternative").

The following table is a summary of the activity related to the Company's equity investments:

	Balance at December 31, 2018	Purchases (Sales), net[1]	Changes in Fair Value[2]	Balance at December 31, 2019
	(in millions)			
Marketable securities	$ —	$ 362	$ 117	$ 479
Nonmarketable securities	337	48	50	435
Total equity investments	**$ 337**	**$ 410**	**$ 167**	**$ 914**

1 Includes impact of balance sheet foreign currency translation

2 Recorded in gains (losses) on equity investments, net on the consolidated statement of operations

At December 31, 2019, the total carrying value of Nonmarketable securities included $317 million of measurement alternative investments and $118 million of equity method investments. At December 31, 2018, the total carrying value of Nonmarketable securities included $232 million of measurement alternative investments and $105 million of equity method investments.

Note 8. Fair Value Measurements

The Company classifies its fair value measurements of financial instruments into a three-level hierarchy within the Valuation Hierarchy. Financial instruments are categorized for fair value measurement purposes as recurring or non-recurring in nature. There were no transfers made among the three levels in the Valuation Hierarchy for 2019 and 2018.

Financial Instruments - Recurring Measurements

The distribution of the Company's financial instruments measured at fair value on a recurring basis within the Valuation Hierarchy were as follows:

	December 31, 2019				December 31, 2018			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in millions)							
Assets								
Investment securities available for sale [1]:								
Municipal securities	$ —	$ 15	$ —	$ 15	$ —	$ 15	$ —	$ 15
Government and agency securities	66	42	—	108	65	92	—	157
Corporate securities	—	382	—	382	—	1,043	—	1,043
Asset-backed securities	—	86	—	86	—	217	—	217
Derivative instruments [2]:								
Foreign exchange contracts	—	12	—	12	—	35	—	35
Interest rate contracts	—	14	—	14	—	—	—	—
Marketable securities [3]:								
Equity securities	479	—	—	479	—	—	—	—
Deferred compensation plan [4]:								
Deferred compensation assets	67	—	—	67	54	—	—	54
Liabilities								
Derivative instruments [2]:								
Foreign exchange derivative liabilities	$ —	$ (32)	$ —	$ (32)	$ —	$ (6)	$ —	$ (6)
Deferred compensation plan [5]:								
Deferred compensation liabilities	(67)	—	—	(67)	(54)	—	—	(54)

1 The Company's U.S. government securities are classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices for identical assets in active markets. The fair value of the Company's available-for-sale municipal securities, government and agency securities, corporate securities and asset-backed securities are based on observable inputs such as quoted prices, benchmark yields and issuer spreads for similar assets in active markets and are therefore included in Level 2 of the Valuation Hierarchy.

2 The Company's foreign exchange and interest rate derivative asset and liability contracts have been classified within Level 2 of the Valuation Hierarchy as the fair value is based on observable inputs such as broker quotes relating to foreign currency exchange rates for similar derivative instruments. See Note 23 (Derivative and Hedging Instruments) for further details.

3 The Company's Marketable securities are publicly held and classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices in their respective active markets.

4 The Company has a nonqualified deferred compensation plan where assets are invested primarily in mutual funds held in a rabbi trust, which is restricted for payments to participants of the plan. The Company has elected to use the fair value option for these mutual funds, which are measured using quoted prices of identical instruments in active markets and are included in prepaid expenses and other current assets on the consolidated balance sheet.

5 The deferred compensation liabilities are measured at fair value based on the quoted prices of identical instruments to the investment vehicles selected by the participants. These are included in other liabilities on the consolidated balance sheet.

Financial Instruments - Non-Recurring Measurements

Nonmarketable Securities

The Company's Nonmarketable securities are recorded at fair value on a non-recurring basis in periods after initial recognition under the equity method or measurement alternative method. Nonmarketable securities are classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices, the inherent lack of liquidity and unobservable inputs used to measure fair value that require management's judgment. The Company uses discounted cash flows and market assumptions to estimate the fair value of its Nonmarketable securities when certain events or circumstances indicate that impairment may exist. See Note 7 (Investments) for further details.

Debt

The Company estimates the fair value of its long-term debt based on market quotes. These debt instruments are not traded in active markets and are classified as Level 2 of the Valuation Hierarchy. At December 31, 2019, the carrying value and fair value of total long-term debt (including the current portion) was $8.5 billion and $9.2 billion, respectively. At December 31, 2018, the carrying value and fair value of long-term debt (including the current portion) was $6.3 billion and $6.5 billion, respectively. See Note 15 (Debt) for further details.

Other Financial Instruments

Certain financial instruments are carried on the consolidated balance sheet at cost or amortized cost basis, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, restricted cash, time deposits, accounts receivable, settlement due from customers, restricted security deposits held for customers, accounts payable, settlement due to customers and other accrued liabilities.

Contingent Consideration

The contingent consideration attributable to acquisitions made in 2017 was primarily based on the achievement of 2018 revenue targets and was measured at fair value on a recurring basis. This contingent consideration liability of $219 million was included in other current liabilities on the consolidated balance sheet at December 31, 2018. This liability was classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices and unobservable inputs used to measure fair value that require management's judgment. During 2019, the Company paid $219 million to settle the contingent consideration.

Note 9. Prepaid Expenses and Other Assets

Prepaid expenses and other current assets consisted of the following at December 31:

	2019	2018
	(in millions)	
Customer and merchant incentives	$ 872	$ 778
Prepaid income taxes	105	51
Other	786	603
Total prepaid expenses and other current assets	**$ 1,763**	**$ 1,432**

Other assets consisted of the following at December 31:

	2019	2018
	(in millions)	
Customer and merchant incentives	$ 2,838	$ 2,458

Equity investments	914	337
Income taxes receivable	460	298
Other	313	210
Total other assets	**$ 4,525**	**$ 3,303**

Customer and merchant incentives represent payments made to customers and merchants under business agreements. Costs directly related to entering into such an agreement are generally deferred and amortized over the life of the agreement.

See Note 7 (Investments) for further information on the Company's equity investments.

Note 10. Property, Equipment and Right-of-Use Assets

Property, equipment and right-of-use assets consisted of the following at December 31:

	2019	2018
	(in millions)	
Building, building equipment and land	$ 505	$ 481
Equipment	1,218	987
Furniture and fixtures	92	85
Leasehold improvements	303	215
Operating lease right-of-use assets	810	—
Property, equipment and right-of-use assets	**2,928**	**1,768**
Less accumulated depreciation and amortization	(1,100)	(847)
Property, equipment and right-of-use assets, net	**$ 1,828**	**$ 921**

Depreciation and amortization expense for the above property, equipment and right-of-use assets was $336 million, $209 million and $185 million for 2019, 2018 and 2017, respectively.

The increase in property, equipment and right-of-use assets at December 31, 2019 from December 31, 2018 was primarily due to the impact from the adoption of the new accounting standard pertaining to lease arrangements as of January 1, 2019 as well as leases that commenced in 2019. See Note 1 (Summary of Significant Accounting Policies) for additional information of the accounting policy under the new leasing standard.

Operating lease ROU assets and operating lease liabilities are recorded on the consolidated balance sheet as follows:

	December 31, 2019
	(in millions)
Balance sheet location	
Property, equipment and right-of-use assets, net	$ 711
Other current liabilities	106
Other liabilities	656

Operating lease amortization expense for 2019 was $99 million. As of December 31, 2019, weighted-average remaining lease term of operating leases was 9.5 years and weighted-average discount rate for operating leases was 2.9%.

The following table summarizes the maturity of the Company's operating lease liabilities at December 31, 2019 based on lease term:

	Operating Leases
	(in millions)
2020	$ 112
2021	113
2022	103
2023	90

2024		79
Thereafter		376
Total operating lease payments		**873**
Less: Interest		(111)
Present value of operating lease liabilities	**$**	**762**

As of December 31, 2019, the Company has entered into additional operating leases as a lessee, primarily for real estate. These leases have not yet commenced and will result in ROU assets and corresponding lease liabilities of approximately $23 million. These operating leases are expected to commence in fiscal year 2020, with lease terms between one and ten years.

The following disclosures relate to periods prior to adoption of the new lease accounting standard, including those operating leases entered into during 2018, but not yet commenced:

At December 31, 2018, the Company had the following future minimum payments due under non-cancelable leases:

	Operating Leases
	(in millions)
2019	$ 72
2020	75
2021	76
2022	68
2023	58
Thereafter	327
Total	**$ 676**

Consolidated rental expense for the Company's leased office space was $94 million and $77 million for 2018 and 2017, respectively. Consolidated lease expense for automobiles, computer equipment and office equipment was $20 million and $22 million for 2018 and 2017, respectively.

Note 11. Goodwill

The changes in the carrying amount of goodwill for the years ended December 31 were as follows:

	2019	2018
	(in millions)	
Beginning balance	$ 2,904	$ 3,035
Additions	1,076	2
Foreign currency translation	41	(133)
Ending balance	**$ 4,021**	**$ 2,904**

The Company performed its annual qualitative assessment of goodwill during the fourth quarter of 2019 and determined a quantitative assessment was not necessary. The Company concluded that goodwill was not impaired and had no accumulated impairment losses at December 31, 2019.

Note 12. Other Intangible Assets

The following table sets forth net intangible assets, other than goodwill, at December 31:

	2019			2018		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Finite-lived intangible assets						

Capitalized software	$ 1,884	$ (988)	$ 896	$ 1,514	$ (898)	$ 616
Customer relationships	621	(264)	357	439	(232)	207
Other	44	(44)	—	46	(45)	1
Total	**2,549**	**(1,296)**	**1,253**	**1,999**	**(1,175)**	**824**
Indefinite-lived intangible assets						
Customer relationships	164	—	164	167	—	167
Total	**$ 2,713**	**$ (1,296)**	**$ 1,417**	**$ 2,166**	**$ (1,175)**	**$ 991**

The increase in the gross carrying amount of amortized intangible assets in 2019 was primarily related to the businesses acquired in 2019. See Note 2 (Acquisitions) for further details. Certain intangible assets are denominated in foreign currencies. As such, the change in intangible assets includes a component attributable to foreign currency translation. Based on the qualitative assessment performed in 2019, it was determined that the Company's indefinite-lived intangible assets were not impaired.

Amortization on the assets above amounted to $285 million, $250 million and $252 million in 2019, 2018 and 2017, respectively. The following table sets forth the estimated future amortization expense on finite-lived intangible assets on the consolidated balance sheet at December 31, 2019 for the years ending December 31:

	(in millions)
2020	$ 300
2021	243
2022	164
2023	115
2024 and thereafter	431
	$ 1,253

Note 13. Accrued Expenses and Accrued Litigation

Accrued expenses consisted of the following at December 31:

	2019	2018
	(in millions)	
Customer and merchant incentives	$ 3,892	$ 3,275
Personnel costs	713	744
Income and other taxes	332	158
Other	552	570
Total accrued expenses	**$ 5,489**	**$ 4,747**

Customer and merchant incentives represent amounts to be paid to customers under business agreements. As of December 31, 2019 and 2018, the Company's provision for litigation was $914 million and $1,591 million, respectively. These amounts are not included in the accrued expenses table above and are separately reported as accrued litigation on the consolidated balance sheet. See Note 21 (Legal and Regulatory Proceedings) for additional information regarding the Company's accrued litigation.

Note 14. Pension, Postretirement and Savings Plans

The Company and certain of its subsidiaries maintain various pension and other postretirement plans that cover substantially all employees worldwide.

Defined Contribution Plans

The Company sponsors defined contribution retirement plans. The primary plan is the Mastercard Savings Plan, a 401(k) plan for substantially all of the Company's U.S. employees, which is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended. In addition, the Company has several defined contribution plans outside of the U.S. The Company's total expense for its defined contribution plans was $127 million, $98 million and $84 million in 2019, 2018 and 2017, respectively.

Defined Benefit and Other Postretirement Plans

The Company sponsors pension and postretirement plans for certain non-U.S. employees (the "non-U.S. Plans") that cover various benefits specific to their country of employment. Additionally, Vocalink has a defined benefit pension plan (the "Vocalink Plan") which was permanently closed to new entrants and future accruals as of July 21, 2013, however, plan participants' obligations are adjusted for future salary changes. The Company has agreed to make contributions of £15 million (approximately $19 million as of December 31, 2019) annually until September 2022. The term "Pension Plans" includes the non-U.S. Plans and the Vocalink Plan.

The Company maintains a postretirement plan providing health coverage and life insurance benefits for substantially all of its U.S. employees hired before July 1, 2007 (the "Postretirement Plan").

The Company uses a December 31 measurement date for the Pension Plans and its Postretirement Plan (collectively the "Plans"). The Company recognizes the funded status of its Plans, measured as the difference between the fair value of the plan assets and the projected benefit obligation, in the consolidated balance sheet. The following table sets forth the Plans' funded status, key assumptions and amounts recognized in the Company's consolidated balance sheet at December 31:

	Pension Plans		Postretirement Plan	
	2019	2018	2019	2018
	($ in millions)			
Change in benefit obligation				
Benefit obligation at beginning of year	**$ 438**	**$ 468**	**$ 57**	**$ 61**
Service cost	11	9	1	1
Interest cost	13	12	2	2
Actuarial (gain) loss	73	(7)	9	(2)
Benefits paid	(15)	(22)	(5)	(5)
Transfers in	2	1	—	—
Foreign currency translation	9	(23)	—	—
Benefit obligation at end of year	**531**	**438**	**64**	**57**
Change in plan assets				
Fair value of plan assets at beginning of year	**410**	**427**	**—**	**—**
Actual (loss) gain on plan assets	79	(8)	—	—
Employer contributions	32	33	5	5
Benefits paid	(15)	(23)	(5)	(5)
Transfers in	2	2	—	—
Foreign currency translation	10	(21)	—	—
Fair value of plan assets at end of year	**518**	**410**	**—**	**—**
Funded status at end of year	**$ (13)**	**$ (28)**	**$ (64)**	**$ (57)**
Amounts recognized on the consolidated balance sheet consist of:				
Other liabilities, short-term	—	—	(3)	(3)
Other liabilities, long-term	(13)	(28)	(61)	(54)
	$ (13)	**$ (28)**	**$ (64)**	**$ (57)**
Accumulated other comprehensive income consists of:				
Net actuarial (gain) loss	$ 7	$ (5)	$ 2	$ (7)
Prior service credit	1	1	(5)	(6)
Balance at end of year	**$ 8**	**$ (4)**	**$ (3)**	**$ (13)**
Weighted-average assumptions used to determine end of year benefit obligations				
Discount rate				
Non-U.S. Plans	0.70%	1.80%	*	*
Vocalink Plan	2.00%	3.10%	*	*
Postretirement Plan	*	*	3.25%	4.25%
Rate of compensation increase				
Non-U.S. Plans	1.50%	2.60%	*	*
Vocalink Plan	2.50%	4.00%	*	*

Postretirement Plan	*	*	3.00 %	3.00 %

* Not applicable

All of the Pension Plans had benefit obligations in excess of plan assets at December 31, 2019 and 2018. Information on the Pension Plans were as follows:

	2019	2018
	(in millions)	
Projected benefit obligation	$ 531	$ 438
Accumulated benefit obligation	524	430
Fair value of plan assets	518	410

For the year ended December 31, 2019, the Company's projected benefit obligation related to its Pension Plans increased $93 million primarily attributable to actuarial losses related to lower discount rate assumptions. For the year ended December 31, 2018, the Company's projected benefit obligation related to its Pension Plans decreased $30 million primarily attributable to foreign currency translation and benefits paid.

Components of net periodic benefit cost recorded in earnings were as follows for the Plans for each of the years ended December 31:

	Pension Plans			Postretirement Plan		
	2019	2018	2017	2019	2018	2017
	(in millions)					
Service cost	$ 11	$ 9	$ 9	$ 1	$ 1	$ 1
Interest cost	13	12	8	2	2	2
Expected return on plan assets	(18)	(20)	(13)	—	—	—
Amortization of actuarial loss	1	—	—	—	—	—
Amortization of prior service credit	—	—	—	(1)	(2)	(2)
Net periodic benefit cost	**$ 7**	**$ 1**	**$ 4**	**$ 2**	**$ 1**	**$ 1**

The service cost component is recognized in general and administrative expenses on the consolidated statement of operations. Net periodic benefit cost, excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations.

Other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

	Pension Plans			Postretirement Plan		
	2019	2018	2017	2019	2018	2017
	(in millions)					
Current year actuarial loss (gain)	$ 12	$ 17	$ (22)	$ 9	$ (2)	$ 5
Current year prior service credit	—	1	—	—	—	—
Amortization of prior service credit	—	—	—	1	2	2
Total other comprehensive loss (income)	**$ 12**	**$ 18**	**$ (22)**	**$ 10**	**$ —**	**$ 7**
Total net periodic benefit cost and other comprehensive loss (income)	**$ 19**	**$ 19**	**$ (18)**	**$ 12**	**$ 1**	**$ 8**

Assumptions

Weighted-average assumptions used to determine net periodic benefit cost were as follows for the years ended December 31:

	Pension Plans			Postretirement Plan		
	2019	2018	2017	2019	2018	2017
Discount rate						
Non-U.S. Plans	1.80 %	1.80 %	1.60 %	*	*	*
Vocalink Plan	2.00 %	2.80 %	2.50 %	*	*	*
Postretirement Plan	*	*	*	4.25 %	3.50 %	4.00 %
Expected return on plan assets						
Non-U.S. Plans	2.10 %	3.00 %	3.25 %	*	*	*
Vocalink Plan	3.75 %	4.75 %	4.75 %	*	*	*
Rate of compensation increase						
Non-U.S. Plans	1.50 %	2.60 %	2.59 %	*	*	*
Vocalink Plan	2.50 %	3.85 %	3.95 %	*	*	*
Postretirement Plan	*	*	*	3.00 %	3.00 %	3.00 %

* Not applicable

The Company's discount rate assumptions are based on yield curves derived from high quality corporate bonds, which are matched to the expected cash flows of each respective plan. The expected return on plan assets assumptions are derived using the current and expected asset allocations of the Pension Plans' assets and considering historical as well as expected returns on various classes of plan assets. The rates of compensation increases are determined by the Company, based upon its long-term plans for such increases.

The following additional assumptions were used at December 31 in accounting for the Postretirement Plan:

	2019	2018
Health care cost trend rate assumed for next year	6.00 %	6.00 %
Ultimate trend rate	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	2	2

Assets

Plan assets are managed taking into account the timing and amount of future benefit payments. The Vocalink Plan assets are managed within the following target asset allocations: fixed income 36%, U.K. government securities 25%, equity 25%, real estate 9% and cash and cash equivalents 5%. For the non-U.S. Plans, the assets are concentrated primarily in insurance contracts.

The Valuation Hierarchy of the Pension Plans' assets is determined using a consistent application of the categorization measurements for the Company's financial instruments. See Note 1 (Summary of Significant Accounting Policies) for additional information.

The following tables set forth by level, within the Valuation Hierarchy, the Pension Plans' assets at fair value:

	December 31, 2019				December 31, 2018			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)							
Cash and cash equivalents [1]	$ 16	$ —	$ —	$ 16	$ 22	$ —	$ —	$ 22
Government and agency securities [2]	—	—	—	—	—	88	—	88
Mutual funds [3]	153	193	—	346	154	30	—	184
Insurance contracts [4]	—	75	—	75	—	57	—	57
Asset-backed securities [5]	—	—	—	—	—	—	34	34
Other [6]	—	—	—	—	—	25	—	25
Total	**$169**	**$ 268**	**$ —**	**$437**	**$176**	**$ 200**	**$ 34**	**$410**
Investments at Net Asset Value ("NAV") [7]								
Mutual funds				36				—
Other				45				—
Total Plan Assets				**$518**				**$410**

1 Cash and cash equivalents are valued at quoted market prices, which represent the net asset value of the shares held by the Plans.

2 Governmental and agency securities are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors.

3 Certain mutual funds are valued at quoted market prices, which represent the value of the shares held by the Plans, and are therefore included in Level 1. Certain other mutual funds are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2.

4 Insurance contracts are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors.

5 Asset-backed securities are classified as Level 3 due to a lack of observable inputs in measuring fair value. These assets were sold during 2019.

6 Other represents hedge fund pooled vehicles which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2.

7 Mutual funds (comprised primarily of credit investments) and other investments (comprised primarily of real estate investments) are valued using the NAV provided by the administrator as a practical expedient, and therefore these investments are not included in the valuation hierarchy. These investments have quarterly redemption frequencies with redemption notice periods ranging from 60 to 90 days.

The following table summarizes expected benefit payments (as of December 31, 2019) through 2029 for the Pension Plans and the Postretirement Plan, including those payments expected to be paid from the Company's general assets. Actual benefit payments may differ from expected benefit payments.

	Pension Plans	Postretirement Plan
	(in millions)	
2020	$ 17	$ 4
2021	11	4
2022	12	4
2023	13	4
2024	15	4
2025 - 2029	70	20

Note 15. Debt

Long-term debt consisted of the following at December 31:

Notes	Issuance Date	Interest Payment Terms	Maturity Date	Aggregate Principal Amount	Stated Interest Rate	Effective Interest Rate	2019	2018
				(in millions, except percentages)				
2019 USD Notes	May 2019	Semi-annually	2029	$ 1,000	2.950 %	3.030 %	$ 1,000	$ —
			2049	1,000	3.650 %	3.689 %	1,000	—
	December 2019	Semi-annually	2025	750	2.000 %	2.147 %	750	$ —
				$2,750				
2018 USD Notes	February 2018	Semi-annually	2028	$ 500	3.500 %	3.598 %	500	500
			2048	500	3.950 %	3.990 %	500	500
				$1,000				
2016 USD Notes	November 2016	Semi-annually	2021	$ 650	2.000 %	2.236 %	650	650
			2026	750	2.950 %	3.044 %	750	750
			2046	600	3.800 %	3.893 %	600	600
				$2,000				
2015 Euro Notes	December 2015	Annually	2022	€ 700	1.100 %	1.265 %	785	801
			2027	800	2.100 %	2.189 %	896	916
			2030	150	2.500 %	2.562 %	169	172
				€1,650				
2014 USD Notes	March 2014	Semi-annually	2019	$ 500	2.000 %	2.178 %	—	500
			2024	1,000	3.375 %	3.484 %	1,000	1,000
				$1,500				
							8,600	**6,389**
Less: Unamortized discount and debt issuance costs							(73)	(55)
Total debt outstanding							**$ 8,527**	**$ 6,334**
Less: Current portion[1]							—	(500)
Long-term debt							**$ 8,527**	**$ 5,834**

1 Relates to the 2014 USD Notes, which was classified in current liabilities as of December 31, 2018, matured and was paid during 2019

In May 2019, the Company issued $1 billion principal amount of notes due June 2029 and $1 billion principal amount of notes due June 2049 and in December 2019, the Company issued $750 million principal amount of notes due March 2025 (collectively the "2019 USD Notes"). The net proceeds from

the issuance of the 2019 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $2.724 billion.

The net proceeds, after deducting the original issue discount, underwriting discount and offering expenses, from the issuance of the 2018 USD Notes were $991 million.

The outstanding debt, described above, is not subject to any financial covenants and it may be redeemed in whole, or in part, at the Company's option at any time for a specified make-whole amount. These notes are senior unsecured obligations and would rank equally with any future unsecured and unsubordinated indebtedness. The proceeds of the notes are to be used for general corporate purposes.

Scheduled annual maturities of the principal portion of long-term debt outstanding at December 31, 2019 are summarized below.

	(in millions)
2020	$ —
2021	650
2022	785
2023	—
2024	1,000
Thereafter	6,165
Total	**$ 8,600**

On November 14, 2019, the Company increased its commercial paper program (the "Commercial Paper Program") from $4.5 billion to $6 billion under which the Company is authorized to issue unsecured commercial paper notes with maturities of up to 397 days from the date of issuance. The Commercial Paper Program is available in U.S. dollars.

In conjunction with the Commercial Paper Program, the Company entered into a committed five-year unsecured $6 billion revolving credit facility (the "Credit Facility") on November 14, 2019. The Credit Facility, which expires on November 14, 2024, amended and restated the Company's prior $4.5 billion credit facility which was set to expire on November 15, 2023. Borrowings under the Credit Facility are available in U.S. dollars and/or euros. The facility fee under the Credit Facility is determined according to the Company's credit rating and is payable on the average daily commitment, regardless of usage, per annum. In addition to the facility fee, interest rates on borrowings under the Credit Facility would be based on prevailing market interest rates plus applicable margins that fluctuate based on the Company's credit rating. The Credit Facility contains customary representations, warranties, affirmative and negative covenants, events of default and indemnification provisions. The Company was in compliance in all material respects with the covenants of the Credit Facility at December 31, 2019 and 2018.

Borrowings under the Commercial Paper Program and the Credit Facility are used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by the Company's customers. The Company may borrow and repay amounts under the Commercial Paper Program and Credit Facility from time to time. The Company had no borrowings under the Credit Facility and the Commercial Paper Program at December 31, 2019 and 2018.

Note 16. Stockholders' Equity

Classes of Capital Stock

Mastercard's amended and restated certificate of incorporation authorizes the following classes of capital stock:

Class	Par Value Per Share	Authorized Shares	Dividend and Voting Rights

		(in millions)	
A	$0.0001	3,000	One vote per share Dividend rights
B	$0.0001	1,200	Non-voting Dividend rights
Preferred	$0.0001	300	No shares issued or outstanding at December 31, 2019 and 2018. Dividend and voting rights are to be determined by the Board of Directors of the Company upon issuance.

Dividends

The Company declared a quarterly cash dividend on its Class A and Class B Common Stock during each of the four quarters of 2019, 2018 and 2017. For the years ended December 31, 2019, 2018 and 2017, the Company declared total per share dividends of $1.39, $1.08, and $0.91, respectively, resulting in total annual dividends of $1,408 million, $1,120 million and $967 million, respectively.

Ownership and Governance Structure

Equity ownership and voting power of the Company's shares were allocated as follows as of December 31:

	2019		2018	
	Equity Ownership	General Voting Power	Equity Ownership	General Voting Power
Public Investors (Class A stockholders)	87.8 %	88.8 %	88.0 %	89.0 %
Principal or Affiliate Customers (Class B stockholders)	1.1 %	— %	1.1 %	— %
Mastercard Foundation (Class A stockholders)	11.1 %	11.2 %	10.9 %	11.0 %

Class B Common Stock Conversions

Shares of Class B common stock are convertible on a one-for-one basis into shares of Class A common stock. Entities eligible to hold Mastercard's Class B common stock are defined in the Company's amended and restated certificate of incorporation (generally the Company's principal or affiliate customers), and they are restricted from retaining ownership of shares of Class A common stock. Class B stockholders are required to subsequently sell or otherwise transfer any shares of Class A common stock received pursuant to such a conversion.

Mastercard Foundation

In connection and simultaneously with its 2006 initial public offering (the "IPO"), the Company issued and donated 135 million newly authorized shares of Class A common stock to Mastercard Foundation. Mastercard Foundation is a private charitable foundation incorporated in Canada that is controlled by directors who are independent of the Company and its principal customers. Under the terms of the donation, Mastercard Foundation became able to resell the donated shares in May 2010 to the extent necessary to meet charitable disbursement requirements dictated by Canadian tax law. Under Canadian tax law, Mastercard Foundation is generally required to disburse at least 3.5% of its assets not used in administration each year for qualified charitable disbursements. However, Mastercard Foundation obtained permission from the Canadian tax authorities to defer the giving requirements until 2021. Mastercard Foundation, at its discretion, may decide to meet its disbursement obligations on an annual basis or to settle previously accumulated obligations during any given year. Mastercard Foundation will be permitted to sell all of its remaining shares beginning May 1, 2027, subject to certain conditions.

Stock Repurchase Programs

The Company's Board of Directors have approved share repurchase programs authorizing the Company to repurchase shares of its Class A Common Stock. These programs become effective after the completion of the previously authorized share repurchase program.

The following table summarizes the Company's share repurchase authorizations of its Class A common stock through December 31, 2019, as well as historical purchases:

Board authorization dates	**December 2019**	**December 2018**	**December 2017**	**December 2016**	**December 2015**	
Date program became effective	**January 2020**	**January 2019**	**March 2018**	**April 2017**	**February 2016**	**Total**
	(in millions, except average price data)					
Board authorization	$ 8,000	$ 6,500	$ 4,000	$4,000	$ 4,000	$ 26,500
Dollar-value of shares repurchased in 2017	$ —	$ —	$ —	$2,766	$ 996	$ 3,762
Remaining authorization at December 31, 2017	$ —	$ —	$ 4,000	$1,234	$ —	$ 5,234
Dollar-value of shares repurchased in 2018	$ —	$ —	$ 3,699	$1,234	$ —	$ 4,933
Remaining authorization at December 31, 2018	$ —	$ 6,500	$ 301	$ —	$ —	$ 6,801
Dollar-value of shares repurchased in 2019	$ —	$ 6,196	$ 301	$ —	$ —	$ 6,497
Remaining authorization at December 31, 2019	$ 8,000	$ 304	$ —	$ —	$ —	$ 8,304
Shares repurchased in 2017	—	—	—	21.0	9.1	30.1
Average price paid per share in 2017	$ —	$ —	$ —	$131.97	$109.16	$ 125.05
Shares repurchased in 2018	—	—	19.0	7.2	—	26.2
Average price paid per share in 2018	$ —	$ —	$194.77	$171.11	$ —	$ 188.26
Shares repurchased in 2019	—	24.8	1.6	—	—	26.4
Average price paid per share in 2019	$ —	$249.58	$188.38	$ —	$ —	$ 245.89
Cumulative shares repurchased through December 31, 2019	—	24.8	20.6	28.2	40.4	114.0
Cumulative average price paid per share	$ —	$249.58	$194.27	$141.99	$ 99.10	$ 159.68

The following table presents the changes in the Company's outstanding Class A and Class B common stock for the years ended December 31:

	Outstanding Shares	
	Class A	**Class B**
	(in millions)	
Balance at December 31, 2016	1,062.4	19.3
Purchases of treasury stock	(30.1)	—
Share-based payments	2.2	—
Conversion of Class B to Class A common stock	5.2	(5.2)
Balance at December 31, 2017	**1,039.7**	**14.1**
Purchases of treasury stock	(26.2)	—
Share-based payments	2.8	—
Conversion of Class B to Class A common stock	2.3	(2.3)
Balance at December 31, 2018	**1,018.6**	**11.8**
Purchases of treasury stock	(26.4)	—
Share-based payments	3.2	—
Conversion of Class B to Class A common stock	0.6	(0.6)

Balance at December 31, 2019	**996.0**	**11.2**

Note 17. Accumulated Other Comprehensive Income (Loss)

The changes in the balances of each component of accumulated other comprehensive income (loss), net of tax, for the years ended December 31, 2019 and 2018 were as follows:

	Foreign Currency Translation Adjustments [1]	Translation Adjustments on Net Investment Hedge [2]	Cash Flow Hedges [3]	Defined Benefit Pension and Other Postretirement Plans [4]	Investment Securities Available-for-Sale [5]	Accumulated Other Comprehensive Income (Loss)
	(in millions)					
Balance at December 31, 2017	$ (382)	$ (141)	$ —	$ 25	$ 1	$ (497)
Other comprehensive income (loss)	(279)	75	—	(15)	(2)	(221)
Balance at December 31, 2018	**(661)**	**(66)**	**—**	**10**	**(1)**	**(718)**
Other comprehensive income (loss)	23	28	11	(19)	2	45
Balance at December 31, 2019	**$ (638)**	**$ (38)**	**$ 11**	**$ (9)**	**$ 1**	**$ (673)**

1 During 2018, the increase in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the depreciation of the euro, British pound and Brazilian real. During 2019, the decrease in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the British pound partially offset by the depreciation of the euro.

2 The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. Changes in the value of the debt are recorded in accumulated other comprehensive income (loss). During 2018 and 2019, the decreases in the accumulated other comprehensive loss related to the net investment hedge were driven by the depreciation of the euro. See Note 23 (Derivative and Hedging Instruments) for additional information.

3 In 2019, the Company entered into treasury rate locks which are accounted for as cash flow hedges. During 2019, in connection with these cash flow hedges, the Company recorded unrealized gains, net of tax, of $11 million in accumulated other comprehensive income (loss). See Note 23 (Derivative and Hedging Instruments) for additional information.

4 During 2018, the decrease in the accumulated other comprehensive gain related to the Company's Plans was driven primarily by an actuarial loss within the Vocalink Plan. During 2019, the decrease in the accumulated other comprehensive gain related to the Company's Plans was primarily driven by actuarial losses within the Vocalink and non-U.S. Plans. During 2018 and 2019, amounts reclassified from accumulated other comprehensive income (loss) to earnings, were not material. See Note 14 (Pension, Postretirement and Savings Plans) for additional information.

5 During 2018 and 2019, gains and losses on available-for-sale investment securities, reclassified from accumulated other comprehensive income (loss) to investment income, were not material. See Note 7 (Investments) for additional information.

Note 18. Share-Based Payments

In May 2006, the Company implemented the Mastercard Incorporated 2006 Long Term Incentive Plan, which was amended and restated as of June 5, 2012 (the "LTIP"). The LTIP is a stockholder-approved plan that permits the grant of various types of equity awards to employees. The Company has granted Options, RSUs and PSUs under the LTIP. The Company uses the straight-line method of attribution for

expensing all equity awards. Compensation expense is recorded net of estimated forfeitures, with estimates adjusted as appropriate.

There are approximately 116 million shares of Class A common stock authorized for equity awards under the LTIP. Although the LTIP permits the issuance of shares of Class B common stock, no such shares have been authorized for issuance. Shares issued as a result of Option exercises and the conversions of RSUs and PSUs were funded primarily with the issuance of new shares of Class A common stock.

Stock Options

Stock Options expire ten years from the date of grant and vest ratably over four years. For Options granted, a participant's unvested awards are forfeited upon termination. However, in the event a participant terminates employment due to disability or retirement more than six months (seven months for those granted on or after March 1, 2017) after receiving the award, the participant retains all of their awards without providing additional service to the Company. Retirement eligibility is dependent upon age and years of service. Compensation expense continues to be recognized over the vesting period as stated in the LTIP.

The fair value of each Option is estimated on the date of grant using a Black-Scholes option pricing model. The following table presents the weighted-average assumptions used in the valuation and the resulting weighted-average fair value per option granted for the years ended December 31:

	2019	2018	2017
Risk-free rate of return	2.6 %	2.7 %	2.0 %
Expected term (in years)	6.00	6.00	5.00
Expected volatility	19.6 %	19.7 %	19.3 %
Expected dividend yield	0.6 %	0.6 %	0.8 %
Weighted-average fair value per Option granted	$ 53.09	$ 40.90	$ 21.23

The risk-free rate of return was based on the U.S. Treasury yield curve in effect on the date of grant. The expected term and the expected volatility were based on historical Mastercard information. The expected dividend yields were based on the Company's expected annual dividend rate on the date of grant.

The following table summarizes the Company's option activity for the year ended December 31, 2019:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in millions)		(in years)	(in millions)
Outstanding at January 1, 2019	7.6	$ 93		
Granted	0.9	$ 227		
Exercised	(1.8)	$ 71		
Forfeited/expired	(0.1)	$ 148		
Outstanding at December 31, 2019	**6.6**	**$ 117**	**6.2**	**$1,206**
Exercisable at December 31, 2019	**3.9**	**$ 86**	**5.1**	**$ 836**
Options vested and expected to vest at December 31, 2019	**6.6**	**$ 116**	**6.2**	**$1,200**

As of December 31, 2019, there was $34 million of total unrecognized compensation cost related to non-vested Options. The cost is expected to be recognized over a weighted-average period of 2.3 years.

Restricted and Performance Stock Units

RSUs and PSUs generally vest after three years. For all RSUs and PSUs granted prior to March 2017, a participant's unvested awards are forfeited upon termination of employment. For all RSUs and PSUs granted on or after March 1, 2017, in the event of termination due to job elimination (as defined by the

Company), a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than six months (seven months for those granted on or after March 1, 2017) after receiving the award, the participant retains all of their awards without providing additional service to the Company. Compensation expense is recognized over the shorter of the vesting periods stated in the LTIP or the date the individual becomes eligible to retire but not less than six months (or seven months for grants awarded on or after March 1, 2017).

The following table summarizes the Company's RSU activity for the year ended December 31, 2019:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2019	3.7	$ 117	
Granted	1.0	$ 226	
Converted	(1.6)	$ 93	
Forfeited	(0.2)	$ 154	
Outstanding at December 31, 2019	**2.9**	**$ 166**	**$ 852**
RSUs expected to vest at December 31, 2019	**2.8**	**$ 165**	**$ 824**

The fair value of each RSU is the closing stock price on the New York Stock Exchange of the Company's Class A common stock on the date of grant, adjusted for the exclusion of dividend equivalents. Upon vesting, a portion of the RSU award may be withheld to satisfy the minimum statutory withholding taxes. The remaining RSUs will be settled in shares of the Company's Class A common stock after the vesting period. As of December 31, 2019, there was $180 million of total unrecognized compensation cost related to non-vested RSUs. The cost is expected to be recognized over a weighted-average period of 1.8 years.

The following table summarizes the Company's PSU activity for the year ended December 31, 2019:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2019	0.6	$ 120	
Granted	0.1	$ 231	
Converted	(0.4)	$ 92	
Other[1]	0.2	$ 126	
Outstanding at December 31, 2019	**0.5**	**$ 167**	**$ 162**
PSUs expected to vest at December 31, 2019	**0.5**	**$ 167**	**$ 162**

1 Represents additional shares issued in March 2019 related to the 2016 PSU grant based on performance and market conditions achieved over the three-year measurement period. These shares vested upon issuance.

Since 2013, PSUs containing performance and market conditions have been issued. Performance measures used to determine the actual number of shares that vest after three years include net revenue growth, EPS growth and relative total shareholder return ("TSR"). Relative TSR is considered a market condition, while net revenue and EPS growth are considered performance conditions. The Monte Carlo simulation valuation model is used to determine the grant-date fair value.

Compensation expenses for PSUs are recognized over the requisite service period if it is probable that the performance target will be achieved and subsequently adjusted if the probability assessment changes. As of December 31, 2019, there was $13 million of total unrecognized compensation cost

related to non-vested PSUs. The cost is expected to be recognized over a weighted-average period of 1.8 years.

Additional Information

The following table includes additional share-based payment information for each of the years ended December 31:

	2019	2018	2017
	(in millions, except weighted-average fair value)		
Share-based compensation expense: Options, RSUs and PSUs	$ 250	$ 196	$ 176
Income tax benefit recognized for equity awards	53	41	57
Income tax benefit realized related to Options exercised	69	53	36
Options:			
Total intrinsic value of Options exercised	317	242	106
RSUs:			
Weighted-average grant-date fair value of awards granted	226	171	112
Total intrinsic value of RSUs converted into shares of Class A common stock	394	194	131
PSUs:			
Weighted-average grant-date fair value of awards granted	231	226	126
Total intrinsic value of PSUs converted into shares of Class A common stock	85	40	13

Note 19. Commitments

At December 31, 2019, the Company had the following future minimum payments due under noncancelable agreements, primarily related to sponsorships to promote the Mastercard brand and licensing arrangements. The Company has accrued $20 million of these future payments as of December 31, 2019.

	(in millions)
2020	$ 404
2021	224
2022	132
2023	42
2024	17
Thereafter	—
Total	**$ 819**

Note 20. Income Taxes

Components of Income and Income tax expense

The domestic and foreign components of income before income taxes for the years ended December 31 are as follows:

	2019	2018	2017
	(in millions)		

United States	$ 4,213	$ 3,510	$ 3,482
Foreign	5,518	3,694	3,040
Income before income taxes	**$ 9,731**	**$ 7,204**	**$ 6,522**

The total income tax provision for the years ended December 31 is comprised of the following components:

	2019	2018	2017
	(in millions)		
Current			
Federal	$ 642	$ 649	$ 1,704
State and local	81	69	65
Foreign	897	871	752
	1,620	**1,589**	**2,521**
Deferred			
Federal	40	(228)	134
State and local	—	(11)	1
Foreign	(47)	(5)	(49)
	(7)	**(244)**	**86**
Income tax expense	**$ 1,613**	**$ 1,345**	**$ 2,607**

Effective Income Tax Rate

A reconciliation of the effective income tax rate to the U.S. federal statutory income tax rate for the years ended December 31, is as follows:

	2019		2018		2017	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 9,731		$ 7,204		$ 6,522	
Federal statutory tax	2,044	21.0 %	1,513	21.0 %	2,283	35.0 %
State tax effect, net of federal benefit	65	0.7 %	46	0.6 %	43	0.7 %
Foreign tax effect	(208)	(2.1)%	(92)	(1.3)%	(380)	(5.8)%
European Commission fine	—	— %	194	2.7 %	—	— %
Foreign tax credits[1]	(32)	(0.3)%	(110)	(1.5)%	(27)	(0.4)%
Transition Tax	(30)	(0.3)%	22	0.3 %	629	9.6 %
Remeasurement of deferred taxes	—	— %	(7)	(0.1)%	157	2.4 %
Windfall benefit	(129)	(1.3)%	(72)	(1.0)%	(43)	(0.7)%
Other, net	(97)	(1.1)%	(149)	(2.0)%	(55)	(0.8)%
Income tax expense	**$ 1,613**	**16.6 %**	**$ 1,345**	**18.7 %**	**$ 2,607**	**40.0 %**

1 Included within the impact of the foreign tax credits is $27 million for 2019 and $90 million for 2018 of tax benefits relating to the carryback of certain foreign tax credits.

The effective income tax rates for the years ended December 31, 2019, 2018 and 2017 were 16.6%, 18.7% and 40.0%, respectively. The effective income tax rate for 2019 was lower than the effective income tax rate for 2018, primarily due to the nondeductible nature of the fine issued by the European Commission in 2018 and a discrete tax benefit related to a favorable court ruling in 2019. These 2019 benefits were partially offset by discrete tax benefits in 2018 primarily related to foreign tax credits

generated in 2018 as a result of U.S. tax reform, which can be carried back and utilized in 2017 under transition rules issued by the Department of the Treasury and the Internal Revenue Service.

The effective income tax rate for 2018 was lower than the effective income tax rate for 2017 primarily due to additional tax expense of $873 million in 2017 attributable to U.S. tax reform (which included provisional amounts of $825 million related to the one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax"), the remeasurement of the Company's net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding the indefinite reinvestment of a substantial amount of the Company's foreign earnings, as well as $48 million due to a foregone foreign tax credit benefit on 2017 repatriations). Additionally, the lower effective income tax rate in 2018 was due to a lower 2018 statutory tax rate in the U.S. and Belgium, a more favorable geographic mix of earnings and discrete tax benefits, relating primarily to $90 million of foreign tax credits generated in 2018, which can be carried back and utilized in 2017 under transition rules issued by the Department of the Treasury and the Internal Revenue Service, along with provisions for legal matters in the United States. These benefits were partially offset by the

nondeductible nature of the fine issued by the European Commission. See Note 21 (Legal and Regulatory Proceedings) for further discussion of the European Commission fine and U.S. merchant class litigation.

Singapore Income Tax Rate

In connection with the expansion of the Company's operations in the Asia Pacific, Middle East and Africa region, the Company's subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL") received an incentive grant from the Singapore Ministry of Finance in 2010. The incentive had provided MAPPL with, among other benefits, a reduced income tax rate for the 10-year period commencing January 1, 2010 on taxable income in excess of a base amount. The Company continued to explore business opportunities in this region, resulting in an expansion of the incentives being granted by the Ministry of Finance, including a further reduction to the income tax rate on taxable income in excess of a revised fixed base amount commencing July 1, 2011 and continuing through December 31, 2025. Without the incentive grant, MAPPL would have been subject to the statutory income tax rate on its earnings. For 2019, 2018 and 2017, the impact of the incentive grant received from the Ministry of Finance resulted in a reduction of MAPPL's income tax liability of $300 million, or $0.29 per diluted share, $212 million, or $0.20 per diluted share, and $104 million, or $0.10 per diluted share, respectively.

Indefinite Reinvestment

During 2019 and 2018, the Company repatriated approximately $2.5 billion and $3.3 billion, respectively. As of December 31, 2019 and 2018 the Company had approximately $3.5 billion and $2.5 billion, respectively, of accumulated earnings to be repatriated in the future, for which immaterial deferred tax benefits were recorded. The tax effect is primarily related to the estimated foreign exchange impact recognized when earnings are repatriated. The Company expects that foreign withholding taxes associated with these future repatriated earnings will not be material. Earnings of approximately $0.8 billion remain permanently reinvested and the Company estimates that immaterial U.S. federal and state and local income tax benefit would result, primarily from foreign exchange, if these earnings were to be repatriated.

Deferred Taxes

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The components of deferred tax assets and liabilities at December 31 are as follows:

	2019	2018
	(in millions)	
Deferred Tax Assets		
Accrued liabilities	$ 354	$ 297
Compensation and benefits	214	210
State taxes and other credits	41	30
Net operating and capital losses	119	104
U.S. foreign tax credits[1]	145	—
Intangible assets	157	170
Other items	94	115
Less: Valuation allowance	(205)	(94)
Total Deferred Tax Assets	**919**	**832**

Deferred Tax Liabilities

Prepaid expenses and other accruals	83	89
Goodwill and intangible assets	187	125
Property, plant and equipment	128	97
Other items	63	18
Total Deferred Tax Liabilities	**461**	**329**
Net Deferred Tax Assets	**$ 458**	**$ 503**

1 A deferred tax asset has been established in 2019 for $145 million related to foreign taxes paid in the current period, which are not expected to be utilized as credits in the current or future period, with a corresponding full valuation allowance.

The valuation allowance balance at December 31, 2019 primarily relates to the Company's ability to recognize future tax benefits associated with the carry forward of U.S. foreign tax credits generated in the current period and certain foreign net operating losses. The valuation allowance balance at December 31, 2018 relates primarily to the Company's ability to recognize tax benefits associated

with certain foreign net operating losses. The recognition of the foreign tax credits is dependent upon the realization of future foreign source income in the appropriate foreign tax credit basket in accordance with U.S. federal income tax law. The recognition of the foreign losses is dependent upon the future taxable income in such jurisdictions and the ability under tax law in these jurisdictions to utilize net operating losses following a change in control.

A reconciliation of the beginning and ending balance for the Company's unrecognized tax benefits for the years ended December 31, is as follows:

	2019	2018	2017
	(in millions)		
Beginning balance	$ 164	$ 183	$ 169
Additions:			
Current year tax positions	22	23	21
Prior year tax positions	37	5	9
Reductions:			
Prior year tax positions	(11)	(17)	(1)
Settlements with tax authorities	(2)	(18)	(4)
Expired statute of limitations	(7)	(12)	(11)
Ending balance	**$ 203**	**$ 164**	**$ 183**

The unrecognized tax benefit of $203 million, if recognized, would reduce the effective income tax rate. In 2019, there was an increase to the Company's unrecognized tax benefits primarily due to various U.S. and non-U.S. tax issues, compared to a reduction in the prior year primarily due to a favorable court decision and settlements with tax authorities in multiple jurisdictions. Further, the information gained related to these matters was considered in measuring uncertain tax benefits recognized for the periods subsequent to the periods settled.

The Company is subject to tax in the U.S., Belgium, Singapore, the United Kingdom and various other foreign jurisdictions, as well as state and local jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted after considering facts and circumstances, including progress of tax audits, developments in case law and closing of statutes of limitation. Within the next twelve months, the Company believes that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. While such a change may be significant, it is not possible to provide a range of the potential change until the examinations progress further or the related statutes of limitation expire. The Company has effectively settled its U.S. federal income tax obligations through 2011. With limited exception, the Company is no longer subject to state and local or foreign examinations by tax authorities for years before 2010.

At December 31, 2019 and 2018, the Company had a net income tax-related interest payable of $13 million and $8 million, respectively, in its consolidated balance sheet. Tax-related interest income/(expense) in 2019, 2018 and 2017 was not material. In addition, as of December 31, 2019 and 2018, the amounts the Company has recognized for penalties payable in its consolidated balance sheet were not material.

Note 21. Legal and Regulatory Proceedings

Mastercard is a party to legal and regulatory proceedings with respect to a variety of matters in the ordinary course of business. Some of these proceedings are based on complex claims involving substantial uncertainties and unascertainable damages. Accordingly, except as discussed below, it is not possible to determine the probability of loss or estimate damages, and therefore, Mastercard has not established reserves for any of these proceedings. When the Company determines that a loss is both probable and reasonably estimable, Mastercard records a liability and discloses the amount of the liability if it is material. When a material loss contingency is only reasonably possible, Mastercard does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Unless otherwise stated below with respect to these matters, Mastercard cannot provide an estimate of the possible loss or range of loss based on one or more of the following reasons: (1) actual or potential plaintiffs have not claimed an amount of monetary damages or the amounts are unsupportable or exaggerated, (2) the matters are in early stages, (3) there is uncertainty as to the outcome of pending appeals or motions, (4) there are significant factual issues to be resolved, (5) the existence in many such proceedings of multiple defendants or potential defendants whose share of any potential financial responsibility has yet to be determined and/or (6) there are novel legal issues presented. Furthermore, except as identified with respect to the matters below, Mastercard does not believe that the outcome of any individual existing legal or regulatory proceeding to which it is a party will have a material adverse effect on its results of operations, financial condition or overall business. However, an adverse judgment or other outcome or settlement with respect to any proceedings discussed below could result in fines or payments by Mastercard and/or could require Mastercard to change its business practices. In addition, an adverse outcome in a regulatory proceeding could lead to the filing of civil damage claims and possibly result in significant damage awards. Any of these events could have a material adverse effect on Mastercard's results of operations, financial condition and overall business.

Interchange Litigation and Regulatory Proceedings

Mastercard's interchange fees and other practices are subject to regulatory, legal review and/or challenges in a number of jurisdictions, including the proceedings described below. When taken as a whole, the resulting decisions, regulations and legislation with respect to interchange fees and acceptance practices may have a material adverse effect on the Company's prospects for future growth and its overall results of operations, financial position and cash flows.

United States. In June 2005, the first of a series of complaints were filed on behalf of merchants (the majority of the complaints were styled as class actions, although a few complaints were filed on behalf of individual merchant plaintiffs) against Mastercard International, Visa U.S.A., Inc., Visa International Service Association and a number of financial institutions. Taken together, the claims in the complaints were generally brought under both Sections 1 and 2 of the Sherman Act, which prohibit monopolization and attempts or conspiracies to monopolize a particular industry, and some of these complaints contain unfair competition law claims under state law. The complaints allege, among other things, that Mastercard, Visa, and certain financial institutions conspired to set the price of interchange fees, enacted point of sale acceptance rules (including the no surcharge rule) in violation of antitrust laws and engaged in unlawful tying and bundling of certain products and services. The cases were consolidated for pre-trial proceedings in the U.S. District Court for the Eastern District of New York in MDL No. 1720. The plaintiffs filed a consolidated class action complaint that seeks treble damages.

In July 2006, the group of purported merchant class plaintiffs filed a supplemental complaint alleging that Mastercard's initial public offering of its Class A Common Stock in May 2006 (the "IPO") and certain purported agreements entered into between Mastercard and financial institutions in connection with the IPO: (1) violate U.S. antitrust laws and (2) constituted a fraudulent conveyance because the financial institutions allegedly attempted to release, without adequate consideration, Mastercard's right

to assess them for Mastercard's litigation liabilities. The class plaintiffs sought treble damages and injunctive relief including, but not limited to, an order reversing and unwinding the IPO.

In February 2011, Mastercard and Mastercard International entered into each of: (1) an omnibus judgment sharing and settlement sharing agreement with Visa Inc., Visa U.S.A. Inc. and Visa International Service Association and a number of financial institutions; and (2) a Mastercard settlement and judgment sharing agreement with a number of financial institutions. The agreements provide for the apportionment of certain costs and liabilities which Mastercard, the Visa parties and the financial institutions may incur, jointly and/or severally, in the event of an adverse judgment or settlement of one or all of the cases in the merchant litigations. Among a number of scenarios addressed by the agreements, in the event of a global settlement involving the Visa parties, the financial institutions and Mastercard, Mastercard would pay 12% of the monetary portion of the settlement. In the event of a settlement involving only Mastercard and the financial institutions with respect to their issuance of Mastercard cards, Mastercard would pay 36% of the monetary portion of such settlement.

In October 2012, the parties entered into a definitive settlement agreement with respect to the merchant class litigation (including with respect to the claims related to the IPO) and the defendants separately entered into a settlement agreement with the individual merchant plaintiffs. The settlements included cash payments that were apportioned among the defendants pursuant to the omnibus judgment sharing and settlement sharing agreement described above. Mastercard also agreed to provide class members with a short-term reduction in default credit interchange rates and to modify certain of its business practices, including its "no surcharge" rule. The court

granted final approval of the settlement in December 2013, and objectors to the settlement appealed that decision to the U.S. Court of Appeals for the Second Circuit. In June 2016, the court of appeals vacated the class action certification, reversed the settlement approval and sent the case back to the district court for further proceedings. The court of appeals' ruling was based primarily on whether the merchants were adequately represented by counsel in the settlement. As a result of the appellate court ruling, the district court divided the merchants' claims into two separate classes - monetary damages claims (the "Damages Class") and claims seeking changes to business practices (the "Rules Relief Class"). The court appointed separate counsel for each class.

In September 2018, the parties to the Damages Class litigation entered into a class settlement agreement to resolve the Damages Class claims. Mastercard increased its reserve by $237 million during 2018 to reflect both its expected financial obligation under the Damages Class settlement agreement and the filed and anticipated opt-out merchant cases. The time period during which Damages Class members were permitted to opt out of the class settlement agreement ended in July 2019 with merchants representing slightly more than 25% of the Damages Class interchange volume choosing to opt out of the settlement. The district court granted final approval of the settlement in December 2019. The district court's settlement approval order has been appealed. Mastercard has commenced settlement negotiations with a number of the opt-out merchants and has reached settlements and/or agreements in principle to settle a number of these claims. The Damages Class settlement agreement does not relate to the Rules Relief Class claims. Separate settlement negotiations with the Rules Relief Class are ongoing.

As of December 31, 2019 and 2018, Mastercard had accrued a liability of $914 million as a reserve for both the Damages Class litigation and the filed and anticipated opt-out merchant cases. As of December 31, 2019 and 2018, Mastercard had $584 million and $553 million, respectively, in a qualified cash settlement fund related to the Damages Class litigation and classified as restricted cash on its consolidated balance sheet. During the first quarter of 2019, Mastercard increased its qualified cash settlement fund by $108 million in accordance with a January 2019 preliminary approval of the settlement. The Damages Class settlement agreement provided for a return to the defendants of a portion of the cash settlement fund, based upon the percentage of interchange volume represented by the opt out merchants. During the fourth quarter of 2019, $84 million of the qualified cash settlement fund was reclassified from restricted cash to cash and cash equivalents in accordance with the December 2019 final approval of the settlement.

The reserve as of December 31, 2019 for both the Damages Class litigation and the filed opt-out merchants represents Mastercard's best estimate of its probable liabilities in these matters. The portion of the accrued liability relating to both the opt-out merchants and the Damages Class litigation settlement does not represent an estimate of a loss, if any, if the matters were litigated to a final outcome. Mastercard cannot estimate the potential liability if that were to occur.

Canada. In December 2010, a proposed class action complaint was commenced against Mastercard in Quebec on behalf of Canadian merchants. The suit essentially repeated the allegations and arguments of a previously filed application by the Canadian Competition Bureau to the Canadian Competition Tribunal (dismissed in Mastercard's favor) concerning certain Mastercard rules related to point-of-sale acceptance, including the "honor all cards" and "no surcharge" rules. The Quebec suit sought compensatory and punitive damages in unspecified amounts, as well as injunctive relief. In the first half of 2011, additional purported class action lawsuits were commenced in British Columbia and Ontario against Mastercard, Visa and a number of large Canadian financial institutions. The British Columbia suit sought compensatory damages in unspecified amounts, and the Ontario suit sought compensatory damages of $5 billion on the basis of alleged conspiracy and various alleged breaches of the Canadian Competition Act. Additional purported class action complaints were commenced in Saskatchewan and Alberta with claims that largely mirror those in the other suits. In June 2017, Mastercard entered into a class settlement agreement to resolve all of the Canadian class action litigation. The settlement, which requires Mastercard to make a cash payment and modify its "no surcharge" rule, has received court approval in each Canadian province. Objectors to the settlement

have sought to appeal the approval orders. Certain appellate courts have rejected the objectors' appeals, while outstanding appeals remain in a few provinces. In 2017, Mastercard recorded a provision for litigation of $15 million related to this matter.

Europe. In July 2015, the European Commission ("EC") issued a Statement of Objections related to Mastercard's interregional interchange fees and central acquiring rule within the European Economic Area (the "EEA"). The Statement of Objections, which followed an investigation opened in 2013, included preliminary conclusions concerning the alleged anticompetitive effects of these practices. In December 2018, Mastercard announced the anticipated resolution of the EC's investigation. With respect to interregional interchange fees, Mastercard made a settlement proposal whereby it would make changes to its interregional interchange fees. The EC issued a decision accepting the settlement in April 2019, with changes to interregional interchange fees going into effect in the fourth quarter of 2019. In addition, with respect to Mastercard's historic central acquiring rule, the EC issued a negative decision in January 2019. The EC's negative decision covers a period of time of less than two years before the rule's modification. The rule was modified in late 2015 to comply with the requirements of the EEA Interchange Fee Regulation. The decision does not require any modification of Mastercard's current business practices but included a fine of €571 million, which was paid in April 2019. Mastercard incurred a charge of $654 million in 2018 in relation to this matter.

Since May 2012, a number of United Kingdom ("U.K.") retailers filed claims or threatened litigation against Mastercard seeking damages for alleged anti-competitive conduct with respect to Mastercard's cross-border interchange fees and its U.K. and Ireland domestic

interchange fees (the "U.K. Merchant claimants"). In addition, Mastercard, has faced similar filed or threatened litigation by merchants with respect to interchange rates in other countries in Europe (the "Pan-European Merchant claimants"). In aggregate, the alleged damages claims from the U.K. and Pan-European Merchant claimants were in the amount of approximately £3 billion (approximately $4 billion as of December 31, 2019). Mastercard has resolved over £2 billion (approximately $3 billion as of December 31, 2019) of these damages claims through settlement or judgment. Since June 2015, Mastercard has recorded litigation provisions for settlements, judgments and legal fees relating to these claims, including charges of $237 million in 2018. As detailed below, Mastercard continues to litigate with the remaining U.K. and Pan-European Merchant claimants and it has submitted statements of defense disputing liability and damages claims.

In January 2017, Mastercard received a liability judgment in its favor on all significant matters in a separate action brought by ten of the U.K. Merchant claimants. Three of the U.K. Merchant claimants appealed the judgment, and these appeals were combined with Mastercard's appeal of a 2016 judgment in favor of one U.K. merchant. In July 2018, the U.K. appellate court ruled against both Mastercard and Visa on two of the three legal issues being considered, concluding that U.K. interchange rates restricted competition and that they were not objectively necessary for the payment networks. The appellate court sent the cases back to trial for reconsideration on the remaining issue concerning the "lawful" level of interchange. The U.K. Supreme Court granted the parties permission to appeal the appellate court's rulings and oral argument on the appeals was heard in January 2020. Mastercard expects the litigation process to be delayed pending the decision of the U.K. Supreme Court on the appeals.

In September 2016, a proposed collective action was filed in the United Kingdom on behalf of U.K. consumers seeking damages for intra-EEA and domestic U.K. interchange fees that were allegedly passed on to consumers by merchants between 1992 and 2008. The complaint, which seeks to leverage the European Commission's 2007 decision on intra-EEA interchange fees, claims damages in an amount that exceeds £14 billion (approximately $17 billion as of December 31, 2019). In July 2017, the trial court denied the plaintiffs' application for the case to proceed as a collective action. In April 2019, the U.K. appellate court granted the plaintiffs' appeal of the trial court's decision and sent the case back to the trial court for a re-hearing on the plaintiffs' collective action application. Mastercard has been granted permission to appeal the appellate court ruling to the U.K. Supreme Court and oral argument on that appeal is scheduled to occur in May 2020.

ATM Non-Discrimination Rule Surcharge Complaints

In October 2011, a trade association of independent Automated Teller Machine ("ATM") operators and 13 independent ATM operators filed a complaint styled as a class action lawsuit in the U.S. District Court for the District of Columbia against both Mastercard and Visa (the "ATM Operators Complaint"). Plaintiffs seek to represent a class of non-bank operators of ATM terminals that operate in the United States with the discretion to determine the price of the ATM access fee for the terminals they operate. Plaintiffs allege that Mastercard and Visa have violated Section 1 of the Sherman Act by imposing rules that require ATM operators to charge non-discriminatory ATM surcharges for transactions processed over Mastercard's and Visa's respective networks that are not greater than the surcharge for transactions over other networks accepted at the same ATM. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

Subsequently, multiple related complaints were filed in the U.S. District Court for the District of Columbia alleging both federal antitrust and multiple state unfair competition, consumer protection and common law claims against Mastercard and Visa on behalf of putative classes of users of ATM services (the "ATM Consumer Complaints"). The claims in these actions largely mirror the allegations made in the ATM Operators Complaint, although these complaints seek damages on behalf of consumers of ATM services who pay allegedly inflated ATM fees at both bank and non-bank ATM operators as a result of the defendants' ATM rules. Plaintiffs seek both injunctive and monetary relief equal to treble the

damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees.

In January 2012, the plaintiffs in the ATM Operators Complaint and the ATM Consumer Complaints filed amended class action complaints that largely mirror their prior complaints. In February 2013, the district court granted Mastercard's motion to dismiss the complaints for failure to state a claim. On appeal, the Court of Appeals reversed the district court's order in August 2015 and sent the case back for further proceedings. In September 2019, the plaintiffs filed their motions for class certification in which the plaintiffs, in aggregate, allege over $1 billion in damages against all of the defendants. Mastercard intends to vigorously defend against both the plaintiffs' liability and damages claims and to oppose class certification. Mastercard expects briefing on class certification to be completed in the second quarter of 2020.

U.S. Liability Shift Litigation

In March 2016, a proposed U.S. merchant class action complaint was filed in federal court in California alleging that Mastercard, Visa, American Express and Discover (the "Network Defendants"), EMVCo and a number of issuing banks (the "Bank Defendants") engaged in a conspiracy to shift fraud liability for card present transactions from issuing banks to merchants not yet in compliance with the standards for EMV chip cards in the United States (the "EMV Liability Shift"), in violation of the Sherman Act and California law. Plaintiffs allege damages equal to the value of all chargebacks for which class members became liable as a result of the EMV Liability Shift on October 1, 2015. The plaintiffs seek treble damages, attorney's fees and costs and an injunction against future violations of governing law, and the defendants have filed a motion to dismiss. In September 2016, the court denied the Network Defendants' motion to dismiss the complaint, but granted such a motion for EMVCo and the Bank Defendants. In May 2017, the court transferred the case to New York so that discovery could be coordinated with the U.S. merchant class interchange litigation described above. The plaintiffs have filed a renewed motion for class certification, following the district court's denial of their initial motion.

Telephone Consumer Protection Class Action

Mastercard is a defendant in a Telephone Consumer Protection Act ("TCPA") class action pending in Florida. The plaintiffs are individuals and businesses who allege that approximately 381,000 unsolicited faxes were sent to them advertising a Mastercard co-brand card issued by First Arkansas Bank ("FAB"). The TCPA provides for uncapped statutory damages of $500 per fax. Mastercard has asserted various defenses to the claims, and has notified FAB of an indemnity claim that it has (which FAB has disputed). In June 2018, the court granted Mastercard's motion to stay the proceedings until the Federal Communications Commission ("FCC") makes a decision on the application of the TCPA to online fax services. In December 2019, the FCC issued a declaratory ruling clarifying that the TCPA does not apply to faxes sent to online fax services that are received via e-mail. As a result of the ruling, the stay of the litigation was lifted in January 2020.

Note 22. Settlement and Other Risk Management

Mastercard's rules guarantee the settlement of many of the transactions between its customers ("settlement risk"). Settlement exposure is the settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

Gross settlement exposure is estimated using the average daily payment volume during the three months ended December 31, 2019 multiplied by the estimated number of days of exposure. The Company has global risk management policies and procedures, which include risk standards, to provide a framework for managing the Company's settlement risk and exposure. In the event of a failed customer, Mastercard may pursue one or more remedies available under the Company's rules to recover potential losses. Historically, the Company has experienced a low level of losses from customer failures.

As part of its policies, Mastercard requires certain customers that are not in compliance with the Company's risk standards to post collateral, such as cash, letters of credit, or guarantees. This requirement is based on a review of the individual risk circumstances for each customer. Mastercard monitors its credit risk portfolio on a regular basis and the adequacy of collateral on hand. Additionally, from time to time, the Company reviews its risk management methodology and standards. As such, the amounts of estimated settlement exposure are revised as necessary.

The Company's estimated settlement exposure was as follows at December 31:

	2019	2018
	(in millions)	
Gross settlement exposure	$ 55,800	$ 49,666
Collateral held for settlement exposure	(4,772)	(4,711)
Net uncollateralized settlement exposure	**$ 51,028**	**$ 44,955**

Mastercard also provides guarantees to customers and certain other counterparties indemnifying them from losses stemming from failures of third parties to perform duties. This includes guarantees of Mastercard-branded travelers cheques issued, but not yet cashed of $367 million and $377 million at December 31, 2019 and 2018, respectively, of which $290 million and $297 million at December 31, 2019 and 2018, respectively, is mitigated by collateral arrangements. In addition, the Company enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. Certain indemnifications do not provide a stated maximum exposure. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable. Historically, payments made by the Company under these types of contractual arrangements have not been material.

Note 23. Derivative and Hedging Instruments

The Company monitors and manages its foreign currency and interest rate exposures as part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. A primary objective of the Company's risk management strategies is to reduce the financial impact that may arise from volatility in foreign currency exchange rates principally through the use of both foreign exchange derivative contracts (Derivatives) and foreign currency denominated debt (Net Investment Hedge). In addition, the Company may enter into interest rate derivative contracts to manage the effects of interest rate movements on the Company's aggregate liability portfolio, including potential future debt issuances (Cash Flow Hedges).

Foreign Exchange Risk

Derivatives

The Company enters into foreign exchange derivative contracts to manage transactional currency exposure associated with anticipated receipts and disbursements which are valued based on currencies other than the functional currency of the entity. The Company may also enter into foreign exchange derivative contracts to offset possible changes in value due to foreign exchange fluctuations of assets and liabilities. The objective of these activities is to reduce the Company's exposure to gains and losses resulting from fluctuations of foreign currencies against its functional currencies.

The Company's foreign exchange derivative contracts are summarized below:

	December 31, 2019		December 31, 2018	
	Notional	Estimated Fair Value	Notional	Estimated Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 185	$ 3	$ 34	$ (1)
Commitments to sell foreign currency	1,506	(25)	1,066	26
Options to sell foreign currency	21	2	25	4
Balance sheet location				
Prepaid expenses and other current assets [1]		$ 12		$ 35
Other current liabilities [1]		(32)		(6)

1 The derivative contracts are subject to enforceable master netting arrangements, which contain various netting and setoff provisions.

The amount of gain (loss) recognized on the consolidated statement of operations for the contracts to purchase and sell foreign currency is summarized below:

	Year Ended December 31,		
	2019	2018	2017
	(in millions)		
Foreign exchange derivative contracts			
General and administrative	$ (39)	$ 53	$ (75)

The fair value of the foreign exchange derivative contracts generally reflects the estimated amounts that the Company would receive (or pay), on a pre-tax basis, to terminate the contracts. The terms of the foreign exchange derivative contracts are generally less than 18 months. The Company had no

deferred gains or losses related to foreign exchange contracts in accumulated other comprehensive income as of December 31, 2019 and 2018, as these contracts were not designated as hedging instruments for accounting.

The Company's derivative financial instruments are subject to both market and counterparty credit risk. Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as foreign currency exchange rates, interest rates and other related variables. Counterparty credit risk is the risk of loss due to failure of the counterparty to perform its obligations in accordance with contractual terms. To mitigate counterparty credit risk, the Company enters into derivative contracts with a diversified group of selected financial institutions based upon their credit ratings and other factors. Generally, the Company does not obtain collateral related to derivatives because of the high credit ratings of the counterparties.

Net Investment Hedge

The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates, with changes in the value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). In 2015, the Company designated its €1.65 billion euro-denominated debt as a net investment hedge for a portion of its net investment in European operations. As of December 31, 2019, the Company had a net foreign currency transaction pre-tax loss of $84 million in accumulated other comprehensive income (loss) associated with hedging activity.

Interest Rate Risk

Cash Flow Hedges

The Company is exposed to interest rate volatility on future debt issuances. To manage this risk, in the fourth quarter of 2019, the Company entered into treasury rate locks to lock the benchmark rate on a portion of the interest payments related to forecasted debt issuances. These locks are linked to future interest payments on anticipated U.S. dollar debt issuances forecasted to occur during 2020 and are accounted for as cash flow hedges. The maximum length of time over which the Company has hedged its exposure to the variability in future cash flows is 30 years. As of December 31, 2019, the total notional amount of interest rate contracts outstanding was $1 billion. The Company did not have any derivative instruments relating to this program outstanding as of December 31, 2018.

As of December 31, 2019, in connection with these cash flow hedges, the Company recorded pre-tax net unrealized gains of $14 million in accumulated other comprehensive income. As of December 31, 2019, the fair value of these contracts was $14 million and is included in prepaid expenses and other current assets on the consolidated balance sheet.

Note 24. Segment Reporting

Mastercard has concluded it has one reportable operating segment, "Payment Solutions." Mastercard's President and Chief Executive Officer has been identified as the chief operating decision-maker. All of the Company's activities are interrelated, and each activity is dependent upon and supportive of the other. Accordingly, all significant operating decisions are based upon analysis of Mastercard at the consolidated level.

Revenue by geographic market is based on the location of the Company's customer that issued the card, as well as the location of the merchant acquirer where the card is being used. Revenue generated in the U.S. was approximately 32% of total revenue in 2019, 33% in 2018 and 35% in 2017. No individual country, other than the U.S., generated more than 10% of total revenue in those periods. Mastercard did not have any individual customer that generated greater than 10% of net revenue in 2019, 2018 or 2017.

The following table reflects the geographical location of the Company's property, equipment and right-of-use assets, net, as of December 31:

	2019	2018	2017
		(in millions)	
United States	$ 1,147	$ 613	$ 572
Other countries	681	308	257
Total	**$ 1,828**	**$ 921**	**$ 829**

Note 25. Summary of Quarterly Data (Unaudited)

	2019 Quarter Ended				
	March 31	June 30	September 30	December 31	2019 Total
	(in millions, except per share data)				
Net revenue	$ 3,889	$ 4,113	$ 4,467	$ 4,414	$ 16,883
Operating income	2,213	2,397	2,655	2,399	9,664
Net income	1,862	2,048	2,108	2,100	8,118
Basic earnings per share	$ 1.81	$ 2.01	$ 2.08	$ 2.08	$ 7.98
Basic weighted-average shares outstanding	1,026	1,020	1,013	1,008	1,017
Diluted earnings per share	$ 1.80	$ 2.00	$ 2.07	$ 2.07	$ 7.94
Diluted weighted-average shares outstanding	1,032	1,025	1,019	1,013	1,022

	2018 Quarter Ended				
	March 31	June 30	September 30	December 31	2018 Total
	(in millions, except per share data)				
Net revenue	$ 3,580	$ 3,665	$ 3,898	$ 3,807	$ 14,950
Operating income	1,825	1,936	2,287	1,234	7,282
Net income	1,492	1,569	1,899	899	5,859
Basic earnings per share	$ 1.42	$ 1.50	$ 1.83	$ 0.87	$ 5.63
Basic weighted-average shares outstanding	1,051	1,043	1,037	1,032	1,041
Diluted earnings per share	$ 1.41	$ 1.50	$ 1.82	$ 0.87	$ 5.60
Diluted weighted-average shares outstanding	1,057	1,049	1,043	1,038	1,047

Note: Tables may not sum due to rounding.

Item 9. Changes in and disagreements with accountants on accounting and financial disclosure

Not applicable.

Item 9A. Controls and procedures

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our President and Chief Executive Officer and our Chief Financial Officer, to allow timely decisions regarding disclosure. The President and Chief Executive Officer and the Chief Financial Officer, with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2019 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of such date.

Internal Control over Financial Reporting

In addition, Mastercard Incorporated's management assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2019. Management's report on internal control over financial reporting is included in Part II, Item 8. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There was no change in Mastercard's internal control over financial reporting that occurred during the three months ended December 31, 2019 that has materially affected, or is reasonably likely to materially affect, Mastercard's internal control over financial reporting.

Item 9B. Other Information

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, we hereby incorporate by reference herein the disclosure contained in Exhibit 99.1 of this Report.

PART III

Item 10. Directors, executive officers and corporate governance

Item 11. Executive compensation

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

Item 13. Certain relationships and related transactions, and director independence

Item 14. Principal accountant fees and services

Item 10. Directors, executive officers and corporate governance

Information regarding our executive officers is included in section "Information about our executive officers" in Part I of this Report. Additional information required by this Item with respect to our directors and executive officers, code of ethics, procedures for recommending nominees, audit committee, audit committee financial experts and compliance with Section 16(a) of the Exchange Act will appear in our definitive proxy statement to be filed with the SEC and delivered to stockholders in connection with our 2020 annual meeting of stockholders (the "Proxy Statement").

The aforementioned information in the Proxy Statement is incorporated by reference into this Report.

Item 11. Executive compensation

The information required by this Item with respect to executive officer and director compensation will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 12. Security ownership of certain beneficial owners and management and related stockholder matters

The information required by this Item with respect to security ownership of certain beneficial owners and management equity and compensation plans will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 13. Certain relationships and related transactions, and director independence

The information required by this Item with respect to transactions with related persons, the review, approval or ratification of such transactions and director independence will appear in the Proxy Statement and is incorporated by reference into this Report.

Item 14. Principal accountant fees and services

The information required by this Item with respect to auditors' services and fees will appear in the Proxy Statement and is incorporated by reference into this Report.

PART IV

Item 15. Exhibits and financial statement schedules

Item 16. Form 10-K summary

Item 15. Exhibits and financial statement schedules

(a) The following documents are filed as part of this Report:

1 Consolidated Financial Statements

See Index to Consolidated Financial Statements in Part II, Item 8.

2 Consolidated Financial Statement Schedules

None.

3 The following exhibits are filed as part of this Report or, where indicated, were previously filed and are hereby incorporated by reference:

Refer to the Exhibit Index included herein.

Item 16. Form 10-K summary

None.

Exhibit index

Exhibit number	Exhibit Description
3.1(a)	Amended and Restated Certificate of Incorporation of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
3.1(b)	Amended and Restated Bylaws of Mastercard Incorporated (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
4.1	Indenture, dated as of March 31, 2014, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.2	Officer's Certificate of the Company, dated as of March 31, 2014 (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.3	Form of Global Note representing the Company's 2.000% Notes due 2019 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.4	Form of Global Note representing the Company's 3.375% Notes due 2024 (included in Officer's Certificate of the Company, dated as of March 31, 2014) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.5	Officer's Certificate of the Company, dated as of December 1, 2015 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.6	Form of Global Note representing the Company's 1.100% Notes due 2022 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.7	Form of Global Note representing the Company's 2.100% Notes due 2027 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.8	Form of Global Note representing the Company's 2.500% Notes due 2030 (included in Officer's Certificate of the Company, dated as of December 1, 2015) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.9	Officer's Certificate of the Company, dated as of November 21, 2016 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.10	Form of Global Note representing the Company's 2.000% Notes due 2021 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.11	Form of Global Note representing the Company's 2.950% Notes due 2026 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.12	Form of Global Note representing the Company's 3.800% Notes due 2046 (included in Officer's Certificate of the Company, dated as of November 21, 2016) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.13	

	Officer's Certificate of the Company, dated as of February 26, 2018 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.14	Form of Global Note representing the Company's 3.5% Notes due 2028 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by reference to Exhibit 4.1 of the of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.15	Form of Global Note representing the Company's 3.95% Notes due 2048 (included in Officer's Certificate of the Company, dated as of February 26, 2018) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.16	Officer's Certificate of the Company, dated as of May 31, 2019 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on May 31, 2019 (File No. 001-32877)).
4.17	Form of Global Note representing the Company's 2.950% Notes due 2029 (included in Officer's Certificate of the Company, dated as of May 31, 2019) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on May 31, 2019 (File No. 001-32877)).
4.18	Form of Global Note representing the Company's 3.650% Notes due 2049 (included in Officer's Certificate of the Company, dated as of May 31, 2019) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on May 31, 2019 (File No. 001-32877)).
4.19	Officer's Certificate of the Company, dated as of December 3, 2019 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 3, 2019 (File No. 001-32877)).
4.20	Form of Global Note representing the Company's 2.000% Notes due 2025 (included in Officer's Certificate of the Company, dated as of December 3, 2019) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 3, 2019 (File No. 001-32877)).
4.21*	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
10.1*	$6,000,000,000 Amended and Restated Credit Agreement, dated as of November 14, 2019, among Mastercard Incorporated, the several lenders and agents from time to time party thereto, Citibank, N.A., as managing administrative agent and JPMorgan Chase Bank, N.A. as administrative agent.
10.2+	Employment Agreement between Mastercard International Incorporated and Ajaypal Banga, dated as of July 1, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 8, 2010 (File No. 001-32877)).
10.3+	Employment Agreement between Martina Hund-Mejean and Mastercard International, amended and restated as of December 24, 2012 (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K filed February 14, 2013 (File No. 001-32877)).
10.3.1+	Amendment to Amended and Restated Employment Agreement between Martina Hund-Mejean and Mastercard International, dated as of December 21, 2017 (incorporated by reference to Exhibit 10.3.1 to the Company's Annual Report on Form 10-K filed February 14, 2018 (File No. 001-32877)).
10.4+	Contract of Employment between Mastercard UK Management Services Limited and Ann Cairns, amended and restated as of April 5, 2018 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.4.1+	Deed of Employment between Mastercard UK Management Services Limited and Ann Cairns, dated July 6, 2011 (incorporated by reference to Exhibit 10.8.2 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.5+	Description of Employment Arrangement with Craig Vosburg (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.6+	Description of Employment Arrangement with Gilberto Caldart (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed April 30, 2019 (File No. 001-32877)).
10.7+	

	Description of Employment Arrangement with Tim Murphy (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed April 30, 2019 (File No. 001-32877)).
10.8+	Mastercard International Senior Executive Annual Incentive Compensation Plan, as amended and restated effective June 9, 2015 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 10, 2015 (File No. 001-32877)).
10.9+	Mastercard International Incorporated Restoration Program, as amended and restated January 1, 2007 unless otherwise provided (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.10+	Mastercard Incorporated Deferral Plan, as amended and restated effective December 1, 2008 for account balances established after December 31, 2004 (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.11+	Mastercard Incorporated 2006 Long Term Incentive Plan, amended and restated effective June 5, 2012 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.12+	Form of Restricted Stock Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2019) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed April 30, 2019 (File No. 001-32877)).
10.13+	Form of Stock Option Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2019) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed April 30, 2019 (File No. 001-32877)).
10.14+	Form of Performance Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2019) (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed April 30, 2019 (File No. 001-32877)).
10.15+	Form of Mastercard Incorporated Long Term Incentive Plan Non-Competition and Non-Solicitation Agreement for named executive officers (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.16+	Amended and Restated Mastercard International Incorporated Executive Severance Plan, amended and restated as of April 10, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.17+	Amended and Restated Mastercard International Incorporated Change in Control Severance Plan, amended and restated as of June 25, 2018 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 26, 2018 (File No. 001-32877)).
10.18	Schedule of Non-Employee Directors' Annual Compensation effective as of June 25, 2019 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 30, 2019 (File No. 001-32877)).
10.19	2006 Non-Employee Director Equity Compensation Plan, amended and restated effective as of June 26, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed July 26, 2018 (File No. 001-32877)).
10.20	Form of Deferred Stock Unit Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 26, 2018 (effective for awards granted on and subsequent to June 25, 2019) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed July 30, 2019 (File No. 001-32877)).
10.21	Form of Restricted Stock Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 26, 2018 (effective for awards granted on and subsequent to June 25, 2019) (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed July 30, 2019 (File No. 001-32877)).
10.22	Form of Indemnification Agreement between Mastercard Incorporated and certain of its directors (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).

10.23	Form of Indemnification Agreement between Mastercard Incorporated and certain of its director nominees (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).
10.24	Deed of Gift between Mastercard Incorporated and Mastercard Foundation (incorporated by reference to Exhibit 10.28 to Pre-Effective Amendment No. 5 to the Company's Registration Statement on Form S-1 filed May 3, 2006 (File No. 333-128337)).
10.25	Settlement Agreement, dated as of June 4, 2003, between Mastercard International Incorporated and Plaintiffs in the class action litigation entitled In Re Visa Check/ MasterMoney Antitrust Litigation (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 8, 2003 (File No. 000-50250)).
10.26	Stipulation and Agreement of Settlement, dated July 20, 2006, between Mastercard Incorporated, the several defendants and the plaintiffs in the consolidated federal class action lawsuit titled In re Foreign Currency Conversion Fee Antitrust Litigation (MDL 1409), and the California state court action titled Schwartz v. Visa Int'l Corp., et al. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 1, 2006 (File No. 001-32877)).
10.27	Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A. Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.33 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.27.1	Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of August 25, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.27.2	Second Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).
10.28**	Mastercard Settlement and Judgment Sharing Agreement, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.34 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.28.1	Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of August 26, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.28.2	Second Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).
10.29	Superseding and Amended Class Settlement Agreement, dated September 17, 2018, by and among Mastercard Incorporated and Mastercard International Incorporated; Visa, Inc., Visa U.S.A. Inc. and Visa International Service Association; the Class Plaintiffs defined therein; and the Customer Banks defined therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 18, 2018 (File No. 001-32877)).
21*	List of Subsidiaries of Mastercard Incorporated.
23.1*	Consent of PricewaterhouseCoopers LLP.
31.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	

	Certification of Sachin Mehra, Chief Financial Officer, pursuant to Rule 13a-14(a)/ 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Sachin Mehra, Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.1*	Disclosure pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

\+ Management contracts or compensatory plans or arrangements.

* Filed or furnished herewith.

** Exhibit omits certain information that has been filed separately with the U.S. Securities and Exchange Commission and has been granted confidential treatment.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and should not be relied upon for that purpose. In particular, any representations and warranties made by the Company in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

Signatures

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

MASTERCARD INCORPORATED
(Registrant)

Date: February 14, 2020 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Date: February 14, 2020 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer; Director
(Principal Executive Officer)

Date: February 14, 2020 By: /s/ SACHIN MEHRA
Sachin Mehra
Chief Financial Officer
(Principal Financial Officer)

Date: February 14, 2020 By: /s/ SANDRA ARKELL
Sandra Arkell
Corporate Controller
(Principal Accounting Officer)

Date: February 14, 2020 By: /s/ DAVID R. CARLUCCI
David R. Carlucci
Director

Date: February 14, 2020 By: /s/ RICHARD K. DAVIS
Richard K. Davis
Director

Date: February 14, 2020 By: /s/ STEVEN J. FREIBERG
Steven J. Freiberg
Director

Date: February 14, 2020 By: /s/ JULIUS GENACHOWSKI

		Julius Genachowski **Director**
Date: February 14, 2020	By:	/s/ CHOON PHONG GOH **Choon Phong Goh** **Director**
Date: February 14, 2020	By:	/s/ RICHARD HAYTHORNTHWAITE **Richard Haythornthwaite** **Chairman of the Board; Director**
Date: February 14, 2020	By:	/s/ MERIT E. JANOW **Merit E. Janow** **Director**
Date: February 14, 2020	By:	/s/ OKI MATSUMOTO **Oki Matsumoto** **Director**
Date: February 14, 2020	By:	/s/ YOUNGME MOON **Youngme Moon** **Director**
Date: February 14, 2020	By:	/s/ RIMA QURESHI **Rima Qureshi** **Director**
Date: February 14, 2020	By:	/s/ JOSÉ OCTAVIO REYES LAGUNES **José Octavio Reyes Lagunes** **Director**
Date: February 14, 2020	By:	/s/ GABRIELLE SULZBERGER **Gabrielle Sulzberger** **Director**
Date: February 14, 2020	By:	/s/ JACKSON TAI **Jackson Tai** **Director**
Date: February 14, 2020	By:	/s/ LANCE UGGLA **Lance Uggla** **Director**

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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, 2018
Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to
Commission file number: 001-32877

malogo.jpg

Mastercard Incorporated
(Exact name of registrant as specified in its charter)

Delaware	**13-4172551**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification Number)**
2000 Purchase Street	**10577**
Purchase, NY	**(Zip Code)**
(Address of principal executive offices)	

(914) 249-2000
(Registrant's telephone number, including area code)

Title of each Class	Name of each exchange on which registered
Class A common stock, par value $0.0001 per share	**New York Stock Exchange**

Securities registered pursuant to Section 12(g): Class B common stock, par value $0.0001 per share

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an 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. (Check One):

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (do not check if a smaller reporting company)	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 ☒

The aggregate market value of the registrant's Class A common stock, par value $0.0001 per share, held by non-affiliates (using the New York Stock Exchange closing price as of June 29, 2018, the last business day of the registrant's most recently completed second fiscal quarter) was approximately $179.5 billion. There is currently no established public trading market for the registrant's Class B common stock, par value $0.0001 per share. As of February 8, 2019, there were 1,014,237,644 shares outstanding of the registrant's Class A common stock, par value $0.0001 per share and 11,671,404 shares outstanding of the registrant's Class B common stock, par value $0.0001 per share.

Portions of the registrant's definitive proxy statement for the 2019 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

MASTERCARD INCORPORATED
FISCAL YEAR 2018 FORM 10-K ANNUAL REPORT
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In this Report on Form 10-K ("Report"), references to the "Company," "Mastercard," "we," "us" or "our" refer to the business conducted by Mastercard Incorporated and its consolidated subsidiaries, including our operating subsidiary, Mastercard International Incorporated, and to the Mastercard brand.

Forward-Looking Statements

This Report contains forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts may be forward-looking statements. When used in this Report, the words "believe", "expect", "could", "may", "would", "will", "trend" and similar words are intended to identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements that relate to the Company's future prospects, developments and business strategies.

Many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved. Any one of those factors could cause our actual results to differ materially from those expressed or implied in writing in any forward-looking statements made by Mastercard or on its behalf, including, but not limited to, the following factors:

- regulation directly related to the payments industry (including regulatory, legislative and litigation activity with respect to interchange rates, surcharging and the extension of current regulatory activity to additional jurisdictions or products)
- the impact of preferential or protective government actions
- regulation of privacy, data protection, security and the digital economy
- regulation that directly or indirectly applies to us based on our participation in the global payments industry (including anti-money laundering, counter terrorist financing, economic sanctions and anti-corruption; account-based payment systems; issuer practice regulation; and regulation of internet and digital transactions)
- the impact of changes in tax laws, as well as regulations and interpretations of such laws or challenges to our tax positions
- potential or incurred liability and limitations on business related to any litigation or litigation settlements
- the impact of competition in the global payments industry (including disintermediation and pricing pressure)
- the challenges relating to rapid technological developments and changes
- the challenges relating to operating a real-time account-based payment system and to working with new customers and end users
- the impact of information security incidents, account data breaches, fraudulent activity or service disruptions

- issues related to our relationships with our financial institution customers (including loss of substantial business from significant customers, competitor relationships with our customers and banking industry consolidation)

- the impact of our relationships with other stakeholders, including merchants and governments

- exposure to loss or illiquidity due to our role as guarantor, as well as other contractual obligations

- the impact of global economic, political, financial and societal events and conditions

- reputational impact, including impact related to brand perception

- the inability to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture

- issues related to acquisition integration, strategic investments and entry into new businesses

- issues related to our Class A common stock and corporate governance structure

Please see "Risk Factors" in Part I, Item 1A for a complete discussion of these risk factors. We caution you that the important factors referenced above may not contain all of the factors that are important to you. Our forward-looking statements speak only as of the date of this Report or as of the date they are made, and we undertake no obligation to update our forward-looking statements.

PART I

ITEM 1. BUSINESS

Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by creating a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We are a multi-rail network. Through our core global payments processing network, we facilitate the switching (authorization, clearing and settlement) of payment transactions and deliver related products and services. With additional payment capabilities that include real-time account-based payments (including automated clearing house ("ACH") transactions), we offer customers one partner to turn to for their payment needs for both domestic and cross-border transactions across multiple payment flows. We also provide value-added offerings such as safety and security products, information and analytics services, consulting, loyalty and reward programs and issuer and acquirer processing. Our payment solutions are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a consumer who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our branded products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

We generate revenues from assessing our customers based on the gross dollar volume ("GDV") of activity on the products that carry our brands, from the fees we charge to our customers for providing transaction switching and from other payment-related products and services.

Our Performance

The following are our key financial and operational results for 2018:

performancegraphicr7.jpg

1 Non-GAAP results excludes the impact of Special Items and/or foreign currency. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results Overview" in Part II, Item 7 for the reconciliation to the most direct comparable GAAP financial measures.

2 Adjusted to normalize for the effects of differing switching days between periods.

3 Adjusted for the deconsolidation of our Venezuelan subsidiaries in 2017. See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Financial Results- Revenue" in Part II, Item 7.

Our Strategy

We grow, diversify and build our business through a combination of organic growth and strategic investments. Our ability to grow our business is influenced by personal consumption expenditure ("PCE") growth, driving cash and check transactions toward electronic forms of payment, increasing our share in electronic payments and providing value-added products and services. In addition, growing our business includes supplementing our core network with enhanced payment capabilities to capture new payment flows, such as business to business ("B2B"), person to person ("P2P"), business to consumer ("B2C") and government payments, through a combination of product offerings and expanded solutions for our customers.

a2019strategyoutlinev7.jpg

***Grow*.** We focus on growing our core business globally, including growing our consumer credit, debit, prepaid and commercial products and solutions, as well as increasing the number of payment transactions we switch. We also look to take advantage of the opportunities presented by the evolving ways people interact and transact in the growing digital economy. This includes expanding merchant access to electronic payments through new technologies in an effort to deliver a better consumer experience, while creating greater efficiencies and security.

***Diversify*.** We diversify our business by:

- working with new customers, including governments, merchants, financial technology companies, digital players, mobile providers and other corporate businesses
- scaling our capabilities and business into new geographies, including growing acceptance in markets with limited electronic payments acceptance today
- broadening financial inclusion for the unbanked and underbanked

***Build*.** We build our business by:

- creating and acquiring differentiated products to provide unique, innovative solutions that we bring to market to support new payment flows, such as real-time account-based payment, Mastercard B2B Hub™ and Mastercard Send™ platforms
- providing services across data analytics, consulting, managed services, safety and security, loyalty and processing

***Strategic Partners*.** We work with a variety of stakeholders. We provide financial institutions with solutions to help them increase revenue by driving preference for Mastercard-branded products. We help merchants, financial institutions and other organizations by delivering data-driven insights and other services that help them grow and create simple and secure customer experiences. We partner with technology companies such as digital players and mobile providers to deliver digital payment solutions powered by our technology, expertise and security protocols. We help national and local governments drive increased financial inclusion and efficiency, reduce costs, increase transparency to reduce crime and corruption and advance social programs. For consumers, we provide faster, safer and more convenient ways to pay and transfer funds.

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Talent and Culture. Our success is driven by the skills, experience, integrity and mindset of the talent we hire. We attract and retain top talent from diverse backgrounds and industries by building a world-class culture based on decency, respect and inclusion in which people have opportunities to do purpose-driven work that impacts customers, communities and co-workers on a global scale. The diversity and skill sets of our people underpin everything we do.

Recent Business and Legal/Regulatory Developments

recentbusinessa04.jpg

Digital Payments. Technology is increasingly changing the way people get information, interact with each other, shop and make purchases. As a result of these changes, digital commerce is growing significantly. In this digital environment, consumers continue to seek a seamless experience where their payment is simple, secure and familiar. These consumer demands are driving us to think and act differently. Our teams are innovating to create solutions that meet the needs of our consumers and merchants, and applying emerging technologies to maximize our opportunities from those needs. In 2018, we:

- supported the development and implementation of EMVCo's global standards for a simple and unified digital experience for consumers, issuers and merchants in the form of a common checkout button. This button is designed to provide consumers the same convenience and security in a digital environment that they have when shopping and paying in a store, make it easier for merchants to implement secure digital payments and provide issuers with improved fraud detection and prevention capability.

- announced plans to enable token services on all cards, removing the primary account number from the transaction flow. Enabling these services will help make the payment process simpler, more seamless and more secure, while supporting our merchant partners in their card on file activities.

- reinforced our support for contactless payments across all markets, including in Europe, where we are working with issuers, acquirers and merchants to ensure availability and support of contactless payments across the continent by 2020.

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New payment flows. In order to help grow our business and offer more electronic payment options to consumers, businesses and governments, Mastercard has developed and enhanced solutions beyond the principal switching capabilities available on our core network. We believe this will allow us to capture more payment flows, including B2B, P2P, B2C and government disbursements. In 2018, we:

- advanced business development efforts around the world with our real-time account-based payments capabilities that we acquired with Vocalink in 2017. These efforts include the launch of a real-time payment service in the U.S. in conjunction with The Clearing House that enables consumers and businesses to send and receive immediate payments.

-

combined our proprietary Mastercard Send assets with Vocalink strategic partnerships to enable financial institutions, financial technology companies (or fintechs), digital customers and other businesses to send real-time payments to U.K. bank accounts. Mastercard Send will connect to Faster Payments, enabling a variety of use cases such as P2P payments and B2C disbursements. This effort is part of our continued expansion of Mastercard Send's capabilities, connecting more people, businesses and governments to facilitate the transfer of funds quickly and securely both domestically and cross-border.

- expanded the reach of Vocalink's Pay by Bank application in the United Kingdom, enabling real-time payments directly from a consumer's bank account using a mobile banking app, with real-time clearing and without the need for a card.

- continued to invest in and test proprietary permission-based Blockchain, with an initial focus on the cross-border B2B payments space.

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safetyandsecurity.jpg ***Safety and Security.*** As new technologies and cyber-security threats evolve, including organized cyber-crime and nation state attacks, there is a growing need to protect the security and resilience of the payments ecosystem for every stakeholder. It is critical to protect all transactional and personal data that is stored, processed or transmitted regardless of the device or channel used to make a purchase, while at the same time continuing to improve the payment experience for all stakeholders. We focus on security across networks, and it is embedded in our policies, products, systems and analytics to prevent fraud. In 2018, we:

- implemented EMVCo's 3D Secure 2.0 specification as part of a new solution (launched with issuer and merchant partners globally) that supports app-based authentication, integration with digital wallets and browser-based e-commerce. This is complemented by biometrics, machine learning and artificial intelligence solutions, alongside incremental transaction data, to help merchants seamlessly verify a consumer's identity. At the same time, the solution reduces friction during the checkout process, as well as reduces fraud while increasing payment approvals.

- continued to extend our investments in Artificial Intelligence ("AI") by:

  - introducing AI Express, a new accelerated technology implementation service to help issuers, acquirers and merchants develop AI models to solve priority problems, including anti-money laundering, fraud, risk management and cybersecurity.

  - scaling Decision Intelligence™, our fraud scoring technology, to score billions of transactions in real time every day while increasing approvals and reducing false declines.

- piloted biometric cards in multiple markets, placing fingerprint readers directly onto a card to authenticate a cardholder's identity (as an alternative to a PIN or signature) using existing chip and contactless acceptance terminals.

- modified our rules so that signatures will no longer be required on either cards or receipts and merchants no longer need to capture or compare a signature at the point of sale, helping to provide a faster checkout and more advanced authentication methods.

financialinclusion.jpg ***Inclusive Growth.*** We are dedicated to increasing the opportunity for individuals and micro and small merchants to achieve financial security and greater prosperity, with the benefits of economic growth shared among all segments of society. Together with our partners, we are more than two-thirds of the way toward an important initial step towards that goal by providing access to 500 million people previously excluded from financial services by 2020. We also help communities build the ecosystems that support usage. In 2018, we worked with governments and private sector partners across several geographies to develop and roll out electronic payments solutions, social payment distribution mechanisms and digital identity solutions. We organized a global network of cities to help city leaders address the challenges of urbanization and co-develop solutions to improve life for residents and visitors and promote economic growth. We also deployed our services, partnerships and

technologies to develop platforms that help small business owners accept electronic payments, manage their records, access market information, build a financial footprint and use digital communications channels to receive training and business advice.

In 2018, we made an initial $100 million contribution to the Mastercard Impact Fund (formerly referred to as Mastercard's Center for Inclusive Growth Fund), a non-profit charitable organization. This contribution is part of a $500 million commitment to support initiatives that focus on inclusive growth, such as financial inclusion, economic development, the future of work and data science for social impact.

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Legal and Regulatory. We operate in a dynamic and rapidly evolving legal and regulatory environment, with heightened regulatory and legislative scrutiny, expansion of local regulatory schemes and other legal challenges, particularly with respect to interchange fees (as discussed below under "Our Operations and Network"). These challenges create both risks and opportunities for our industry. Our recent legal and regulatory developments include:

- **Payments Regulation**

  - In December 2018, we announced the anticipated resolution of an investigation by the European Commission ("EC") related to the interregional interchange rates we set and our central acquiring rule within the European Economic Area (the "EEA"). With respect to interregional interchange fees, the proposed settlement included changes to those fees that, if accepted by the EC following market testing, would avoid prolonged litigation and gain certainty concerning our business practices. With respect to our historic central acquiring rule, the EC issued a negative decision in January 2019. The EC's negative decision covers a period of time of less than two years before the rule's modification in 2015. The decision does not require any modification of our current business practices but includes a fine of €571 million. We recorded a charge of $654 million in the fourth quarter of 2018 in relation to this matter. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

  - Several jurisdictions have implemented payments regulation or initiated payments reviews in 2018. In the U.K., the Payment Systems Regulator (the "PSR") published draft terms of reference for a formal review of card-acquiring services provided by Mastercard, Visa and other card scheme operators that could lead to future regulation. The European Commission expects to issue proposals in 2020 to revise the E.U. Interchange Fee Regulation. In Australia, the Productivity Commission released a report recommending, among other things, that regulators ban interchange fees by the end of 2019 and consider regulating merchant service fees. In Brazil, the Central Bank implemented a weighted average and cap for domestic debit interchange.

  - Jurisdictions around the globe continue to implement or consider open banking initiatives. Initiatives such as the EEA's revised Payment Services Directive (commonly referred to as "PSD2") which went into effect in 2018, require financial institutions to provide third-party payment processors access to consumer payment accounts, as well as requiring additional verification information from consumers to complete transactions. Other jurisdictions considering open banking initiatives include Australia, Canada, Hong Kong, Japan, Singapore and the United States.

  -

The U.K. Treasury has extended the U.K. payment systems oversight to include our Vocalink business due to its role as a payment service provider.

- **Privacy and Data Protection**

  - In 2018, the European Union General Data Protection Regulation (the "GDPR") became effective. The GDPR is a data protection regulation that has increased our compliance burden for collecting, using and processing personal and sensitive data of EEA residents. We have reviewed our products, services and processes involving EEA personal data to ensure privacy and data protection requirements are embedded into their design. We have also launched online data portals to allow EEA residents to request a copy of their personal data, and to ask for their data to be updated, corrected or deleted as appropriate. In addition, we have taken steps to assist our customers with their compliance efforts. As part of our implementation approach, we co-founded with IBM a data trust called Truata to provide anonymization and analytics services in a GDPR-compliant manner.

  - Some jurisdictions are currently considering adopting "data localization" requirements, which mandate the collection, processing, and/or storage of data within their borders, including India, Kenya and Vietnam.

- **Litigation -** In September 2018, we entered into an amended class settlement agreement with the merchant damages class plaintiffs to settle their monetary damages claims in a U.S. antitrust litigation that was brought against Mastercard, Visa and a number of financial institutions. Visa and the financial institutions are also parties to the agreement, which is subject to court approval. In addition to the monetary amounts that constituted the financial settlement under the original agreement, the agreement requires an additional

payment from the defendants. We took a charge during 2018 to reflect our share of this payment. Under the agreement, Mastercard and its customer financial institutions will receive a release of all damages claims that were alleged, or could have been alleged by the merchant class members concerning our interchange and fee structure and merchant acceptance rules. This release covers all retrospective claims, as well as prospective claims for a period of five years after the resolution of all appeals relating to court approval of the agreement. In January 2019, the district court issued an order granting preliminary approval of the settlement. The agreement does not relate to the merchants' claims seeking changes to business practices. Separate settlement negotiations for those claims are ongoing. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Our Business

Our Operations and Network

We operate a unique and proprietary global payments network, our core network, that links issuers and acquirers around the globe to facilitate the switching of transactions, permitting account holders to use a Mastercard product at millions of acceptance locations worldwide. Our core network facilitates an efficient and secure means for receiving payments, a convenient, quick and secure payment method for consumers to access their funds and a channel for businesses to receive insight through information that is derived from our network. We authorize, clear and settle transactions through our core network for our issuer customers in more than 150 currencies and in more than 210 countries and territories. Vocalink expands our range of payment capabilities beyond our core network into real-time account-based payments.

***Typical Transaction*.** Our core network supports what is often referred to as a “four-party” payments network. The following diagram depicts a typical transaction on our core network, and our role in that transaction:

networkprocessorv5.jpg

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In a typical transaction, an account holder purchases goods or services from a merchant using one of our payment products. After the transaction is authorized by the issuer, the issuer pays the acquirer an amount equal to the value of the transaction, minus the interchange fee (described below), and then posts the transaction to the account holder's account. The acquirer pays the amount of the purchase, net of a discount (referred to as the "merchant discount" rate), to the merchant.

- ***Interchange Fees.*** Interchange fees reflect the value merchants receive from accepting our products and play a key role in balancing the costs consumers and merchants incur. We do not earn revenues from interchange fees. Generally, interchange fees are collected from acquirers and paid to issuers to reimburse the issuers for a portion of the costs incurred. These costs are incurred by issuers in providing services that benefit all participants in the system, including acquirers and merchants, whose participation in the network enables increased sales to their existing and new customers, efficiencies in the delivery of existing and new products, guaranteed payments and improved experience for their customers. We (or, alternatively, financial institutions) establish "default interchange fees" that apply when there are no other established settlement terms in place between an issuer and an acquirer. We administer the collection and remittance of interchange fees through the settlement process.

- ***Additional Four-Party System Fees.*** The merchant discount rate is established by the acquirer to cover its costs of both participating in the four-party system and providing services to merchants. The rate takes into consideration the amount of the interchange fee which the acquirer generally pays to the issuer. Additionally, acquirers may charge merchants processing and related fees in addition to the merchant discount rate, and issuers may also charge account holders fees for the transaction, including, for example, fees for extending revolving credit.

Switched Transactions

- ***Authorization, Clearing and Settlement.*** Through our core network, we enable the routing of a transaction to the issuer for its approval, facilitate the exchange of financial transaction information between issuers and acquirers after a successfully conducted transaction, and help to settle the transaction by facilitating the determination and exchange of funds between parties via settlement banks chosen by us and our customers.

- ***Cross-Border and Domestic.*** Our core network switches transactions throughout the world when the acquirer country and issuer country are different ("cross-border transactions"), providing account holders with the ability to use, and merchants to accept, our products and services across country borders. We also provide switched transaction services to customers where the acquirer country and the issuer country are the same ("domestic transactions"). We switch more than half of all transactions for Mastercard and Maestro-branded cards, including nearly all cross-border transactions. We switch the majority of Mastercard and Maestro-branded domestic transactions in the United States, United Kingdom, Canada, Brazil and a select number of other countries. Outside of these countries, most domestic transactions on our products are switched without our involvement.

Core Network Architecture. Our core network features a globally integrated structure that provides scale for our issuers, enabling them to expand into regional and global markets. It is based largely on a distributed (peer-to-peer) architecture with an intelligent edge that enables the network to adapt to the needs of each transaction. Our core network accomplishes this by performing intelligent routing and applying multiple value-added

services (such as fraud scoring or rewards at the point of sale) to appropriate transactions in real time. Our core network's architecture enables us to connect all parties regardless of where or how the transaction is occurring. It has 24-hour a day availability and world-class response time.

Real-time Account-based Payment Systems. Augmenting our core network, we now offer real-time account-based payment capabilities through our acquisition of Vocalink, which enables payments between bank accounts in near real-time in countries in which it has been deployed.

Payments System Security. Our payment solutions and products are designed to ensure safety and security for the global payments system. The core network and additional platforms incorporate multiple layers of protection, both for continuity purposes and to provide best-in-class security protection. We engage in many efforts to mitigate information security challenges, including maintaining an information security program, a business continuity program and insurance coverage, as well as regularly testing our systems to address potential vulnerabilities.

As part of our multi-layered approach to protect the global payments system, we also work with issuers, acquirers, merchants, governments and payments industry associations to help develop and put in place standards (e.g., EMV) for safe and secure transactions.

Digital Payments. Our networks support and enable our digital payment platforms, products and solutions, reflecting the growing digital economy where consumers are increasingly seeking to use their payment accounts to pay when, where and how they want.

Customer Risk. We guarantee the settlement of many of the transactions from issuers to acquirers to ensure the integrity of our core network. We refer to the amount of this guarantee as our settlement exposure. We do not, however, guarantee payments to merchants by their acquirers, or the availability of unspent prepaid account holder account balances.

Our Products and Services

We provide a wide variety of integrated products and services that support payment products that customers can offer to their account holders. These offerings facilitate transactions on our core network among account holders, merchants, financial institutions, businesses, governments and other organizations in markets globally.

productsandservicesgraphicr4.jpg

Core Products

Consumer Credit. We offer a number of programs that enable issuers to provide consumers with credit that allow them to defer payment. These programs are designed to meet the needs of our customers around the world and address standard, premium and affluent consumer segments.

Debit. We support a range of payment products and solutions that allow our customers to provide consumers with convenient access to funds in deposit and other accounts. Our debit and deposit access programs can be used to make purchases and to obtain cash in bank branches, at ATMs and, in some cases, at the point of sale. Our branded debit programs consist of Mastercard (including standard, premium and affluent offerings), Maestro (the only PIN-based solution that operates globally) and Cirrus (our primary global cash access solution).

Prepaid. Prepaid programs involve a balance that is funded prior to use and can be accessed via one of our payment products. We offer prepaid payment programs using any of our brands, which we support with processing products and services. Segments on which we focus include government programs such as Social Security payments, unemployment benefits and others; commercial programs such as payroll, health savings accounts, employee benefits and others; and reloadable programs for consumers without formal banking relationships and non-traditional users of electronic payments.

We also provide prepaid program management services, primarily outside of the United States, that manage and enable switching and issuer processing for consumer and commercial prepaid travel cards for business partners such as financial institutions, retailers, telecommunications companies, travel agents, foreign exchange bureaus, colleges and universities, airlines and governments.

Commercial. We offer commercial payment products and solutions that help large corporations, midsize companies, small businesses and government entities. Our solutions streamline procurement and payment processes, manage information and expenses (such as travel and entertainment) and reduce administrative costs. Our card offerings include travel, small business (debit and credit), purchasing and fleet cards. Our SmartData platform provides expense management and reporting capabilities. Our Mastercard In Control™ platform generates virtual account numbers which provide businesses with enhanced controls, more security and better data.
The following chart provides GDV and number of cards featuring our brands in 2018 for select programs and solutions:

	Year Ended December 31, 2018			As of December 31, 2018	
	GDV			Cards	
	(in billions)	Growth (Local)	% of Total GDV	(in millions)	Percentage Increase from December 31, 2017
Mastercard Branded Programs[1,2]					
Consumer Credit	$ 2,520	11 %	43 %	824	8 %
Consumer Debit and Prepaid	2,724	17 %	46 %	1,126	15 %
Commercial Credit and Debit	657	13 %	11 %	73	11 %

1 Excludes Maestro and Cirrus cards and volume generated by those cards.

2 Prepaid includes both consumer and commercial prepaid.

Additional Platforms. In addition to the switching capabilities of our core network, we offer additional platforms with payment capabilities that extend to new payment flows:

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We offer commercial payment products and solutions, such as the Mastercard B2B Hub, which enables small and midsized businesses to optimize their invoice and payment processes.

- With Vocalink, we offer real-time account-based payments for ACH transactions. This platform enables payments between bank accounts in real-time and provides enhanced data and messaging capabilities, making them particularly well-suited for B2B and bill payment flows.

Value-Added Products and Services

We provide additional integrated products and services to our customers and stakeholders, including financial institutions, retailers and governments that enhance the value proposition of our products and solutions.

Safety and Security. We offer integrated products and services to prevent, detect and respond to fraud and cyber-attacks and to ensure the safety of transactions made using Mastercard products. We do this using a multi-layered safety and security strategy:

- The "Prevent" layer protects infrastructure, devices and data from attacks. We have continued to grow global usage of EMV chip and contactless security technology, helping to reduce fraud. Greater usage of this technology has increased

the number of EMV cards issued and the transaction volume on EMV cards. While this technology is prevalent in Europe, the U.S. market has been adopting this technology in recent years.

- The "Identify" layer allows us to help banks and merchants verify genuine consumers during the payment process. Examples of solutions under this layer include Mastercard Identity Check™, a fingerprint, face and iris scanning biometric technology to verify online purchases on mobile devices, and our recently launched Biometric Card which has a fingerprint scanner built in to the card and is compatible with existing EMV payment terminals.

- The "Detect" layer spots fraudulent behavior and cyber-attacks and takes action to stop these activities once detected. Examples of our capabilities under this layer include our Early Detection System, Decision Intelligence and Safety Net™ services and technologies.

- The "Experience" layer improves the security experience for our stakeholders in areas from the speed of transactions, enhancing approvals for online and card-on-file payments, to the ability to differentiate legitimate consumers from fraudulent ones. Our offerings in this space include Mastercard In Control, for consumer alerts and controls and our suite of digital token services available through our Mastercard Digital Enablement Service ("MDES").

We have also worked with our financial institution customers to provide products to consumers globally with increased confidence through the benefit of "zero liability", or no responsibility for counterfeit or lost card losses in the event of fraud.

Loyalty and Rewards. We have built a scalable rewards platform that enables financial institutions to provide consumers with a variety of benefits and services, such as personalized offers and rewards, access to a global airline lounge network, concierge services, insurance services, emergency card replacement, emergency cash advances and a 24-hour account holder service center. For merchants, we provide campaigns with targeted offers and rewards, management services for publishing offers, and accelerated points programs for co-brand and rewards program members.

Processing. We extend our processing capabilities in the payments value chain in various regions and across the globe with an expanded suite of offerings, including:

- Issuer solutions designed to provide customers with a complete processing solution to help them create differentiated products and services and allow quick deployment of payments portfolios across banking channels.

- Payment gateways that offer a single interface to provide e-commerce merchants with the ability to process secure online and in-app payments and offer value-added solutions, including outsourced electronic payments, fraud prevention and alternative payment options.

- Mobile gateways that facilitate transaction routing and processing for mobile-initiated transactions.

Analytics Insights and Consulting. We provide proprietary analysis, data-driven consulting and marketing services solutions to help clients optimize, streamline and grow their businesses, as well as deliver value to consumers.

Our capabilities incorporate payments expertise and analytical and executional skills to create end-to-end solutions which are increasingly delivered via platforms embedded in our customers' day-to-day operations. By observing patterns of payments behavior based on billions of transactions switched globally, we leverage anonymized and aggregated information and a consultative approach to help our customers make better business decisions. Our executional skills such as marketing, digital implementation and staff augmentation allow us to assist clients implement actions based on these insights.

Increasingly, we have been helping financial institutions, retailers and governments innovate. Drawing on rapid prototyping methodologies from our global innovation and development arm, Mastercard Labs, we offer "Launchpad," a five day app prototyping workshop. Through our Applied Predictive Technology business, a software as a service platform, we can help our customers conduct disciplined business experiments for in-market tests.

Digital Enablement

Leveraging our global innovations capability, we work to digitize payment services across all channels and devices:

- ***Delivering better digital experiences everywhere.*** We are using our technologies and security protocols to develop solutions to make digital shopping and selling experiences, such as on smartphones and other connected devices, simpler, faster and safer for both consumers and merchants. We also offer products that make it easier for merchants to accept payments and expand their customer base and are developing products and practices to facilitate acceptance

via mobile devices. The successful implementation of our loyalty and reward programs is an important part of enabling these digital purchasing experiences.

- ***Securing more transactions.*** We are leveraging tokenization, biometrics and machine learning technologies in our push to secure every transaction. These efforts include driving EMV-level security and benefits through all our payment channels.

- ***Digitizing personal and business payments.*** We provide solutions that enable our customers to offer consumers the ability to send and receive money quickly and securely domestically and around the world. These solutions allow our customers to address new payment flows from any funding source, such as cash, card, bank account or mobile money account, to any destination globally, securely and in real time.

- ***Simplifying access to, and integration of, our digital assets.*** Our Mastercard Developer platform makes it easy for customers and partners to leverage our many digital assets and services. By providing a single access point with tools and capabilities to find what we believe are some of the best-in-class Application Program Interfaces ("APIs") across a broad range of Mastercard services, we enable easy integration of our services into new and existing solutions.

- ***Identifying and experimenting with future technologies, start-ups and trends.*** Through Mastercard Labs, our global innovation and development arm, we continue to bring customers and partners access to thought leadership, innovation methodologies, new technologies and relevant early-stage fintech players.

Brand

malogo2.jpg

Our family of well-known brands includes Mastercard, Maestro and Cirrus. We manage and promote our brands through advertising, promotions and sponsorships, as well as digital, mobile and social media initiatives, in order to increase people's preference for our brands and usage of our products. We sponsor a variety of sporting, entertainment and charity-related marketing properties to align with consumer segments important to us and our customers. Our advertising plays an important role in building brand visibility, usage and overall preference among account holders globally. Our "Priceless®" advertising campaign, which has run in 52 languages in 120 countries worldwide, promotes Mastercard usage benefits and acceptance, markets Mastercard payment products and solutions and provides Mastercard with a consistent, recognizable message that supports our brand around the globe.

Revenue Sources

We generate revenues primarily from assessing our customers based on GDV on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services. Our net revenues are classified into five categories: domestic assessments, cross-border volume fees, transaction processing, other revenues and rebates and incentives (contra-revenue).

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Revenue" in Part II, Item 7 for more detail about our revenue, GDV, processed transactions and our other payment-related products and services.

Intellectual Property

We own a number of valuable trademarks that are essential to our business, including Mastercard, Maestro and Cirrus, through one or more affiliates. We also own numerous other trademarks covering various brands, programs and services offered by us to support our payment programs. Trademark and service mark registrations are generally valid indefinitely as long as they are used and/or properly maintained. Through license agreements with our customers, we authorize the use of our trademarks on a royalty-free basis in connection with our customers' issuing and merchant acquiring businesses. In addition, we own a number of patents and patent applications relating to payment solutions, transaction processing, smart cards, contactless, mobile, biometrics, AI, security systems, blockchain and other matters, many of which are important to our business operations. Patents are of varying duration depending on the jurisdiction and filing date.

Competition

We compete in the global payments industry against all forms of payment including:

- cash and checks
- card-based payments, including credit, charge, debit, ATM and prepaid products, as well as limited-use products such as private label
- contactless, mobile and e-commerce payments, as well as cryptocurrency
- other electronic payments, including ACH payments, wire transfers, electronic benefits transfers and bill payments

We face a number of competitors both within and outside of the global payments industry:

- ***Cash, Check and Legacy ACH*.** Cash and checks continue to represent one of the most widely used forms of payment. However, an even larger share of payments on a U.S. dollar volume basis are made via legacy, or "slow," ACH platforms.
- ***General Purpose Payment Networks*.** We compete worldwide with payment networks such as Visa, American Express, JCB, China UnionPay and Discover, among others. Some competitors have more market share than we do in certain jurisdictions. Some also have different business models that may provide an advantage in pricing, regulatory compliance burdens or otherwise. In addition, several governments are promoting, or considering promoting, local networks for domestic switching. See "Risk Factors" in Part I, Item 1A for a more detailed discussion of the risks related to payments system regulation and government actions that may prevent us from competing effectively.
- ***Debit and Local Networks.*** We compete with ATM and point-of-sale debit networks in various countries. In addition, in many countries outside of the United States, local debit brands serve as the main domestic brands, while our brands are used mostly to enable cross-border transactions (typically representing a small portion of overall transaction volume). Certain jurisdictions have also created domestic card schemes focused mostly on debit (e.g., MIR in Russia).
- ***Competition for Customer Business*.** We compete intensely with other payments companies for customer business. Globally, financial institutions typically issue both Mastercard and Visa-branded payment products, and we compete with Visa for business on the basis of individual portfolios or programs. In addition, a number of our customers issue American Express and/or Discover-branded payment cards in a manner consistent with a four-party system. We continue to face intense competitive pressure on the prices we charge our issuers and acquirers, and we seek to enter into business agreements with them through which we offer incentives and other support to issue and promote our payment products. We also compete for merchants, governments and mobile providers.
- ***Real-time Account-based Payment Systems.*** Through Vocalink, we face competition in the real-time account-based payment space from other companies that provide these payment solutions. In addition, real-time account-based payments face competition from other payment methods, such as cash and checks,

cards, electronic, mobile and e-commerce payment platforms, cryptocurrencies and other payments networks.

- ***Alternative Payments Systems and New Entrants*.** As the global payments industry becomes more complex, we face increasing competition from alternative payment systems and emerging payment providers. Many of these providers have developed payments systems focused on online activity in e-commerce and mobile channels (in some cases, expanding to other channels), and may process payments using in-house account transfers, real-time account-based payment networks or global or local networks. Examples include digital wallet providers (such as Paytm, PayPal, Alipay and Amazon), mobile operator services, mobile phone-based money transfer and microfinancing services (such as mPesa), handset manufacturers and cryptocurrencies. In some circumstances, these providers can be a partner or customer, as well as a competitor.

- ***Value-Added Products and Services.*** We face competition from companies that provide alternatives to our value-added products and services, including information services and consulting firms that provide consulting services and insights to financial institutions, as well as companies that compete against us as providers of loyalty and program management solutions. In addition, our integrated products and services offerings face competition and potential displacement from transaction processors throughout the world, which are seeking to enhance their networks that link issuers directly with point-of-sale devices for payment transaction authorization and processing services. Regulatory initiatives could also lead to increased competition in this space.

Our competitive advantages include our:

- globally recognized brands
- highly adaptable global acceptance network built over 50 years which can reach a variety of parties enabling payments
- global payments network with world-class operating performance
- expertise in real-time account-based payments through our Vocalink business
- adoption of innovative products and digital solutions
- safety and security solutions embedded in our networks
- analytics insights and consulting services dedicated solely to the payments industry
- ability to serve a broad array of participants in global payments due to our expanded on-soil presence in individual markets and a heightened focus on working with governments
- world class talent

Government Regulation

General. Government regulation impacts key aspects of our business. We are subject to regulations that affect the payments industry in the many countries in which our integrated products and services are used. See "Risk Factors" in Part I, Item 1A for more detail and examples.

***Payments Oversight*.** Several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry. Actions by these organizations could influence other organizations around the world to adopt or consider adopting similar oversight. As a result, Mastercard could be subject to new regulation, supervisions and examination requirements. For example, in the U.K., the Bank of England has expanded its oversight of systemically important payment systems to include service providers, as well. Also, in the EEA, the implementation of PSD2 will require financial institutions to provide third party payment processors access to consumer payment accounts, which may enable these processors to route transactions away from Mastercard products by offering certain services directly to people who currently use our products. PSD2 will also require a new standard for authentication of transactions, which necessitates additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

Interchange Fees. Interchange fees associated with four-party payments systems like ours are being reviewed or challenged in various jurisdictions around the world via legislation to regulate interchange fees, competition-related regulatory proceedings, central bank regulation and litigation. Examples include statutes in the United States that cap debit interchange for certain regulated activities and European Union legislation capping consumer credit and debit interchange fees on payments issued and acquired within the EEA. For more detail, see our risk factors in "Risk Factors-Regulations Related to Our Participation in the

Payments Industry" in Part I, Item 1A. Also see Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Preferential or Protective Government Actions. Some governments have taken action to provide resources, preferential treatment or other protection to selected domestic payments and processing providers, as well as to create their own national providers. For example, governments in some countries mandate switching of domestic payments either entirely in that country or by only domestic companies. In China, we are currently excluded from domestic switching and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval. We are in active discussions to explore different solutions.

***Payment Systems Regulation*.** Regulators in several countries around the world either have, or are seeking to establish, authority to regulate certain aspects of the payment systems in their countries. Such authority has resulted in regulation of various aspects of our business. In the European Union, legislation requires us to separate our scheme activities (brand, products, franchise and licensing) from our switched transactions and other processing in terms of how we go to market, make decisions and organize our structure. Additionally, several jurisdictions have created or granted authority to create new regulatory bodies that either have or would have the authority to regulate payment systems, including the United Kingdom's PSR (Vocalink and Mastercard are both participants in the payments system and are therefore subject to the PSR's duties and powers), India (which has also

designated us as a payments system subject to regulation), the National Bank of Belgium and regulators in Brazil, Hong Kong, Mexico and Russia.

Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption. We are subject to anti-money laundering ("AML") and counter terrorist financing ("CTF") laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by the U.S. Office of Foreign Assets Control ("OFAC"). We have implemented a comprehensive AML/CTF program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payment network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including its list of Specially Designated Nationals and Blocked Persons (the "SDN List"). We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-sponsoring states, and we have no offices, subsidiaries or affiliated entities located in any of these countries or geographies and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk.

Financial Sector Oversight. We are or may be subject to regulations related to our role in the financial industry and our relationship with our financial institution customers. In addition, we are or may be subject to regulation by a number of agencies charged with oversight of, among other things, consumer protection, financial and banking matters. The regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products.

Issuer Practice Legislation and Regulation. Our customers are subject to numerous regulations and investigations applicable to banks and other financial institutions in their capacity as issuers and otherwise, impacting us as a consequence. Such regulations and investigations have been related to payment card add-on products, campus cards, bank overdraft practices, fees issuers charge to account holders and the transparency of terms and conditions. Additionally, regulations such as PSD2 in the EEA require financial institutions to provide third-party payment-processors access to consumer payment accounts, enabling them to provide payment initiation and account information services directly to consumers.

***Regulation of Internet and Digital Transactions*.** Various jurisdictions have enacted or have proposed regulation related to internet transactions. The legislation applies to payments system participants, including us and our U.S. customers, and is implemented through a federal regulation. We may also be impacted by evolving laws surrounding gambling, including fantasy sports. Certain jurisdictions are also considering regulatory

initiatives in digital-related areas that could impact us, such as cyber-security and copyright and trademark infringement.

Privacy, Data Protection and Information Security. Aspects of our operations or business are subject to increasingly complex privacy and data protection laws in the United States, the European Union and elsewhere around the world. For example, in the United States, we and our customers are respectively subject to Federal Trade Commission and federal banking agency information safeguarding requirements under the Gramm-Leach-Bliley Act that require the maintenance of a written, comprehensive information security program. In the European Union, we are subject to the GDPR, which requires a comprehensive privacy and data protection program to protect the personal and sensitive data of EEA residents. A number of regulators and policymakers around the globe are using the GDPR as a reference to adopt new or updated privacy and data protection laws, including in the U.S. (California), Argentina, Brazil, Chile, India, Indonesia and Kenya. Some jurisdictions are currently considering adopting "data localization" requirements, which mandate the collection, processing, and/or storage of data within their borders, including India, Kenya and Vietnam. Due to constant changes to the nature of data and the use of emerging technologies such as artificial intelligence, regulations in this area are constantly evolving with regulatory and legislative authorities in numerous parts of the world adopting proposals to protect information. In addition, the interpretation and application of these privacy and data protection laws are often uncertain and in a state of flux, thus requiring constant monitoring for compliance.

Additional Regulatory Developments. Various regulatory agencies also continue to examine a wide variety of issues that could impact us, including evolving laws surrounding marijuana, prepaid payroll cards, virtual currencies, identity theft, account management guidelines, disclosure rules, security and marketing that would impact our customers directly.

Seasonality

We do not experience meaningful seasonality.

Employees

As of December 31, 2018, we employed approximately 14,800 persons, of whom approximately 8,800 were employed outside of the United States.

Additional Information

Mastercard Incorporated was incorporated as a Delaware corporation in May 2001. We conduct our business principally through our principal operating subsidiary, Mastercard International Incorporated, a Delaware non-stock (or membership) corporation that was formed in November 1966. For more information about our capital structure, including our Class A common stock (our voting stock) and Class B common stock (our non-voting stock), see Note 15 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8.

Website and SEC Reports

Our internet address is www.mastercard.com. From time to time, we may use our corporate website as a channel of distribution of material company information. Financial and other material information is routinely posted and accessible on the investor relations section of our corporate website. You can also visit "Investor Alerts" in the investor relations section to enroll your email address to automatically receive email alerts and other information about Mastercard.

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available for review, without charge, on the investor relations section of our corporate website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission (the "SEC"). The information contained on our corporate website is not incorporated by reference into this Report. Our filings are also available electronically from the SEC at www.sec.gov.

ITEM 1A. RISK FACTORS

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Legal and Regulatory

Payments Industry Regulation

Global regulatory and legislative activity directly related to the payments industry may have a material adverse impact on our overall business and results of operations.

Regulators increasingly seek to regulate certain aspects of payments systems such as ours, or establish or expand their authority to do so. Many jurisdictions have enacted such regulations. These regulations have established, and could further expand, obligations or restrictions with respect to the types of products and services that we may offer to financial institutions for consumers, the countries in which our integrated products and services may be used, the way we structure and operate our business and the types of consumers and merchants who can obtain or accept our products or services. New regulations and oversight could also relate to our clearing and settlement activities (including risk management policies and procedures, collateral requirements, participant default policies and procedures, the ability to complete timely switching of financial transactions, and capital and financial resource requirements). In addition, several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry and, in some cases, are considering designating certain payments networks as “systemically important payment systems” or “critical infrastructure.”

These obligations, designations and restrictions may further expand and could conflict with each other as more jurisdictions impose oversight of payment systems.

Some enacted regulations require financial institutions to provide third party payment processors access to consumer payment accounts. This may enable these third party payment processors to route transactions away from Mastercard products by offering account information or payment initiation services directly to people who currently use our products. This may also allow these processors to commoditize the data that are included in the transactions. New authentication standards have been enacted requiring additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience. An increase in the rate of abandoned transactions could adversely impact our volumes or other operational metrics.

Increased regulation and oversight of payment systems may result in costly compliance burdens or otherwise increase our costs. Such laws or compliance burdens could result in issuers and acquirers being less willing to participate in our payments system, reduce the benefits offered in connection with the use of our products (making our products less desirable to consumers), reduce the volume of domestic and cross-border transactions or other operational metrics, disintermediate us, impact our profitability and limit our ability to innovate or offer differentiated products and services, all of which could materially and adversely impact our financial performance. Regulators could also require us to obtain prior approval for changes to its system rules, procedures or operations, or could require customization with regard to such changes, which could impact market participant risk and therefore risk to us. Such regulatory changes could lead to new or different criteria for participation in and access to our payments system by financial institutions or other customers. Moreover, failure to comply with the laws and regulations to which we are subject could result in fines, sanctions, civil damages or other penalties, which could materially and adversely affect our overall business and results of operations, as well as have an impact on our brand and reputation.

Increased regulatory, legislative and litigation activity with respect to interchange rates could have an adverse impact on our business.

Interchange rates are a significant component of the costs that merchants pay in connection with the acceptance of our products. Although we do not earn revenues from interchange, interchange rates can impact the volume of transactions we see on our payment products. If interchange rates are too high, merchants may stop accepting our products or route debit transactions away from our network. If interchange rates are too low, issuers may stop promoting our integrated products and services, eliminate or reduce loyalty rewards programs or other account holder benefits (e.g., free checking or low interest rates on balances), or charge fees to account holders (e.g., annual fees or late payment fees).

Governments and merchant groups in a number of countries have implemented or are seeking interchange rate reductions through legislation, competition law, central bank regulation and litigation. See "Government Regulation" and Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details.

If issuers cannot collect or we are forced to reduce interchange rates, issuers may be less willing to participate in our four-party payments system, or may reduce the benefits offered in connection with the use of our products, reducing the attractiveness of our products to consumers. In particular, potential changes to interregional interchange fees as a result of the proposed resolution of the European Commission's investigation could impact our cross-border transaction activity disproportionately versus competitors that are not subject to similar reductions. These and other impacts could lower transaction volumes, and/or make

proprietary three-party networks or other forms of payment more attractive. Issuers could reduce the benefits associated with our products or choose to charge higher fees to consumers to attempt to recoup a portion of the costs incurred for their services. In addition, issuers could seek to decrease the expense of their payment programs by seeking a reduction in the fees that we charge to them, particularly if regulation has a disproportionate impact on us as compared to our competitors in terms of the fees we can charge. This could make our products less desirable to consumers, reduce the volume of transactions and our profitability, and limit our ability to innovate or offer differentiated products.

We are devoting substantial resources to defending our right to establish interchange rates in regulatory proceedings, litigation and legislative activity. The potential outcome of any of these activities could have a more positive or negative impact on us relative to our competitors. If we are ultimately unsuccessful in defending our ability to establish interchange rates, any resulting legislation, regulation and/or litigation may have a material adverse impact on our overall business and results of operations. In addition, regulatory proceedings and litigation could result (and in some cases has resulted) in us being fined and/or having to pay civil damages, the amount of which could be material.

Current regulatory activity could be extended to additional jurisdictions or products, which could materially and adversely affect our overall business and results of operations.

Regulators around the world increasingly replicate other regulators' approaches with regard to the regulation of payments and other industries. Consequently, regulation in any one country, state or region may influence regulatory approaches in other countries, states or regions. Similarly, new laws and regulations within a country, state or region involving one product may lead to regulation of similar or related products. For example, regulations affecting debit transactions could lead to regulation of other products (such as credit).

As a result, the risks to our business created by any one new law or regulation are magnified by the potential it has to be replicated in other jurisdictions or involve other products within any particular jurisdiction. These include matters like interchange rates, potential direct regulation of our network fees and pricing, network standards and network exclusivity and routing agreements. Conversely, if widely varying regulations come into existence worldwide, we may have difficulty adjusting our products, services, fees and other important aspects of our business to meet the varying requirements. Either of these outcomes could materially and adversely affect our overall business and results of operations.

Limitations on our ability to restrict merchant surcharging could materially and adversely impact our results of operations.

We have historically implemented policies, referred to as no-surcharge rules, in certain jurisdictions, including the United States, that prohibit merchants from charging higher prices to consumers who pay using our products instead of other means. Authorities in several jurisdictions have acted to end or limit the application of these no-surcharge rules (or indicated interest in doing so). Additionally, we have modified our no-surcharge rules to permit U.S. merchants to surcharge credit cards, subject to certain limitations. It is possible that over time merchants in some or all merchant categories in these jurisdictions may choose to surcharge as permitted by the rule change. This could result in consumers viewing our products less favorably and/or using alternative means of payment instead of electronic products, which could result in a decrease in our overall transaction volumes, and which in turn could materially and adversely impact our results of operations.

Preferential or Protective Government Actions

Preferential and protective government actions related to domestic payment services could adversely affect our ability to maintain or increase our revenues.

Governments in some countries have acted, or in the future may act, to provide resources, preferential treatment or other protection to selected national payment and switching providers, or have created, or may in the future create, their own national provider. This action may displace us from, prevent us from entering into, or substantially restrict us from participating in, particular geographies, and may prevent us from competing effectively against those providers. For example:

- Governments in some countries are considering, or may consider, regulatory requirements that mandate switching of domestic payments either entirely in that country or by only domestic companies.

- Some jurisdictions are considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications.

- Geopolitical events and resulting OFAC sanctions, adverse trade policies or other types of government actions could lead jurisdictions affected by those sanctions to take actions in response that could adversely affect our business.

- Regional groups of countries are considering, or may consider, efforts to restrict our participation in the switching of regional transactions.

Such developments prevent us from utilizing our global switching capabilities for domestic or regional customers. Our efforts to effect change in, or work with, these countries may not succeed. This could adversely affect our ability to maintain or increase our revenues and extend our global brand.

Privacy, Data Protection and Security

Regulation of privacy, data protection, security and the digital economy could increase our costs, as well as negatively impact our growth.

We are subject to increasingly complex regulations related to privacy, data protection and information security in the jurisdictions in which we do business. These regulations could result in negative impacts to our business. As we continue to develop integrated

products and services to meet the needs of a changing marketplace, as well as acquire new companies, we may expand our information profile through the collection of additional data from additional sources and across multiple channels. This expansion could amplify the impact of these regulations on our business. Regulation of privacy and data protection and information security often times require monitoring of and changes to our data practices in regard to the collection, use, disclosure, storage, transfer and/or security of personal and sensitive information. We are also subject to enhanced compliance and operational requirements in the European Union, and policymakers around the globe are using these requirements as a reference to adopt new or updated privacy laws that could result in similar or stricter requirements in other jurisdictions. Some jurisdictions are also considering requirements to collect, process and/or store data within their borders, as well as prohibitions on the transfer of data abroad, leading to technological and operational implications. Other jurisdictions are considering adopting sector-specific regulations for the payments industry, including forced data sharing requirements or additional verification requirements that overlap or conflict with, or diverge from, general privacy rules. Failure to comply with these laws, regulations and requirements could result in fines, sanctions or other penalties, which could materially and adversely affect our results of operations and overall business, as well as have an impact on our reputation.

New requirements or reinterpretations of existing requirements in these areas, or the development of new regulatory schemes related to the digital economy in general, may also increase our costs and could impact the products and services we offer and other aspects of our business, such as fraud monitoring, the development of information-based products and solutions and technology operations. In addition, these requirements may increase the costs to our customers of issuing payment products, which may, in turn, decrease the number of our payment products that they issue. Moreover, due to account data compromise events and privacy abuses by other companies, as well as the disclosure of monitoring activities by certain governmental agencies in combination with the use of artificial intelligence and new technologies, there has been heightened legislative and regulatory scrutiny around the world that could lead to further regulation and requirements and/or future enforcement. Those developments have also raised public attention on companies' data practices and have changed consumer and societal expectations for enhanced privacy and data protection. Any of these developments could materially and adversely affect our overall business and results of operations.

In addition, fraudulent activity could encourage regulatory intervention, which could damage our reputation and reduce the use and acceptance of our integrated products and services or increase our compliance costs. Criminals are using increasingly sophisticated methods to capture consumer account information to engage in illegal activities such as counterfeiting or other fraud. As outsourcing and specialization become common in the payments industry, there are more third parties involved in processing transactions using our payment products. While we are taking measures to make card and digital payments more secure, increased fraud levels involving our integrated products and services, or misconduct or negligence by third parties switching or otherwise servicing our integrated products and services, could lead to regulatory intervention, such as enhanced security requirements, as well as damage to our reputation.

Other Regulation

Regulations that directly or indirectly apply to Mastercard as a result of our participation in the global payments industry may materially and adversely affect our overall business and results of operations.

We are subject to regulations that affect the payments industry in the many jurisdictions in which our integrated products and services are used. Many of our customers are also subject to regulations applicable to banks and other financial institutions that, at times,

consequently affect us. Regulation of the payments industry, including regulations applicable to us and our customers, has increased significantly in the last several years. See "Business - Government Regulation" in Part I, Item 1 for a detailed description of such regulation and related legislation. Examples include:

- ***Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption*** - We are subject to AML and CTF laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by OFAC. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including the SDN List. Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-sponsoring states. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. A violation and subsequent judgment or settlement against us, or those with whom we may be associated, under these laws could subject us to substantial monetary penalties, damages, and/or have a significant reputational impact.

- ***Account-based Payment Systems*** – In the U.K., the Treasury has expanded the Bank of England's oversight of certain payment system providers that are systemically important to U.K.'s payment network. As a result of these changes, aspects of our Vocalink business are now subject to the U.K. payment system oversight regime and are directly overseen by the Bank of England.

- ***Issuer Practice Legislation and Regulation*** - Our financial institution customers are subject to numerous regulations, which impact us as a consequence. In addition, certain regulations (such as PSD2 in the EEA) may disintermediate issuers. If our customers are disintermediated in their business, we could face diminished demand for our integrated products and services. In addition, existing or new regulations in these or other areas may diminish the attractiveness of our products to our customers.

- ***Regulation of Internet and Digital Transactions*** - Proposed legislation in various jurisdictions relating to Internet gambling and other digital areas such as cyber-security and copyright and trademark infringement could impose additional compliance burdens on us and/or our customers, including requiring us or our customers to monitor, filter, restrict, or otherwise oversee various categories of payment transactions.

Increased regulatory focus on us, such as in connection with the matters discussed above, may result in costly compliance burdens and/or may otherwise increase our costs. Similarly, increased regulatory focus on our customers may cause such customers to reduce the volume of transactions processed through our systems, or may otherwise impact the competitiveness of our products. Actions by regulators could influence other organizations around the world to enact or consider adopting similar measures, amplifying any potential compliance burden. Finally, failure to comply with the laws and regulations discussed above to which we are subject could result in fines, sanctions or other penalties. Each may individually or collectively materially and adversely affect our financial performance and/or our overall business and results of operations, as well as have an impact on our reputation.

We could be subject to adverse changes in tax laws, regulations and interpretations or challenges to our tax positions.

We are subject to tax laws and regulations of the U.S. federal, state and local governments as well as various non-U.S. jurisdictions. Potential changes in existing tax laws, including future regulatory guidance, may impact our effective tax rate and tax payments. There can be no assurance that changes in tax laws or regulations, both within the U.S. and the other jurisdictions in which we operate, will not materially and adversely affect our effective tax rate, tax payments, financial condition and results of operations. Similarly, changes in tax laws and regulations that impact our customers and counterparties or the economy generally may also impact our financial condition and results of operations.

In addition, tax laws and regulations are complex and subject to varying interpretations, and any significant failure to comply with applicable tax laws and regulations in all relevant jurisdictions could give rise to substantial penalties and liabilities. Any changes in enacted tax laws, rules or regulatory or judicial interpretations; any adverse outcome in connection with tax audits in any jurisdiction; or any change in the pronouncements relating to accounting for income taxes could materially and adversely impact our effective tax rate, tax payments, financial condition and results of operations.

Litigation

Liabilities we may incur or limitations on our business related to any litigation or litigation settlements could materially and adversely affect our results of operations.

We are a defendant on a number of civil litigations and regulatory proceedings and investigations, including among others, those alleging violations of competition and antitrust law and those involving intellectual property claims. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details regarding the allegations contained in these complaints and the status of these proceedings. In the event we are found liable in any material litigations or proceedings, particularly in the event we may be found liable in a large class-action lawsuit or on the basis of an antitrust claim entitling the plaintiff to treble damages or under which we were jointly and severally liable, we could be subject to significant damages, which could have a material adverse impact on our overall business and results of operations.

Certain limitations have been placed on our business in recent years because of litigation and litigation settlements, such as changes to our no-surcharge rule in the United States. Any future limitations on our business resulting from litigation or litigation settlements could impact our relationships with our customers, including reducing the volume of business that we do with them, which may materially and adversely affect our overall business and results of operations.

Business and Operations

Competition and Technology

Substantial and intense competition worldwide in the global payments industry may materially and adversely affect our overall business and results of operations.

The global payments industry is highly competitive. Our payment programs compete against all forms of payment, including cash and checks; electronic, mobile and e-commerce payment platforms; cryptocurrencies; ACH payment services; and other payments networks, which can have several competitive impacts on our business:

- Some of our traditional competitors, as well as alternative payment service providers, may have substantially greater financial and other resources than we have, may offer a wider range of programs and services than we offer or may use more effective advertising and marketing strategies to achieve broader brand recognition or merchant acceptance than we have.

- Our ability to compete may also be affected by the outcomes of litigation, competition-related regulatory proceedings, central bank activity and legislative activity.

Certain of our competitors operate three-party payments systems with direct connections to both merchants and consumers and these competitors may derive competitive advantages from their business models. If we continue to attract more regulatory scrutiny than these competitors because we operate a four-party system, or we are regulated because of the system we operate in a way in which our competitors are not, we could lose business to these competitors. See "Business-Competition" in Part I, Item 1.

If we are not able to differentiate ourselves from our competitors, drive value for our customers and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively against these threats. Our competitors may also more effectively introduce their own innovative programs and services that adversely impact our growth. We also compete against new entrants that have developed alternative payments systems, e-commerce payments systems and payments systems for mobile devices, as well as physical store locations. A number of these new entrants rely principally on the Internet to support their services and may enjoy lower costs than we do, which could put us at a competitive disadvantage. Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Disintermediation from stakeholders both within and outside of the payments value chain could harm our business.

As the payments industry continues to develop and change, we face disintermediation and related risks, including:

- Parties that process our transactions in certain countries may try to eliminate our position as an intermediary in the payment process. For example, merchants could switch (and in some cases are switching) transactions directly with issuers. Additionally, processors could process transactions directly between issuers and acquirers. Large scale consolidation within processors could result in these processors developing bilateral agreements or in some cases switching the entire transaction on their own network, thereby disintermediating us.

- Regulation in the EEA may disintermediate us by enabling third-party providers opportunities to route payment transactions away from our networks and towards other forms of payment.

- Although we partner with technology companies (such as digital players and mobile providers) that leverage our technology, platforms and networks to deliver their products, they could develop platforms or networks that disintermediate us from digital payments and impact our ability to compete in the digital economy. This risk is heightened when we have relationships with these entities where we share Mastercard data. While we share this data in a controlled manner subject to applicable anonymization and privacy and data protection standards, without proper oversight we could inadvertently share too much data which could give the partner a competitive advantage.

- Competitors, customers, technology companies, governments and other industry participants may develop products that compete with or replace value-added products and services we currently provide to support our switched transaction and payment offerings. These products could replace our own switching and payments offerings or could force us to change our pricing or practices for these offerings. In addition, governments that develop national payment platforms may promote their platforms in such a way that could put us at a competitive disadvantage in those markets.

- Participants in the payments industry may merge, create joint ventures or form other business combinations that may strengthen their existing business services or create new payment products and services that compete with our services.

Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Continued intense pricing pressure may materially and adversely affect our overall business and results of operations.

In order to increase transaction volumes, enter new markets and expand our Mastercard-branded cards and enabled products and services, we seek to enter into business agreements with customers through which we offer incentives, pricing discounts and other support that promote our products. In order to stay competitive, we may have to increase the amount of these incentives and pricing discounts. Over the past several years, we have experienced continued pricing pressure. The demand from our customers for better pricing arrangements and greater rebates and incentives moderates our growth. We may not be able to continue our expansion strategy to switch additional transaction volumes or to provide additional services to our customers at levels sufficient to compensate for such lower fees or increased costs in the future, which could materially and adversely affect our overall business and results of operations. In addition, increased pressure on prices increases the importance of cost containment and productivity initiatives in areas other than those relating to customer incentives.

In the future, we may not be able to enter into agreements with our customers if they require terms that we are unable or unwilling to offer, and we may be required to modify existing agreements in order to maintain relationships and to compete with others in the industry. Some of our competitors are larger and have greater financial resources than we do and accordingly may be able to charge lower prices to our customers. In addition, to the extent that we offer discounts or incentives under such agreements, we will need to further increase transaction volumes or the amount of services provided thereunder in order to benefit incrementally from such agreements and to increase revenue and profit, and we may not be successful in doing so, particularly in the current regulatory environment. Our customers also may implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability. These factors could have a material adverse impact on our overall business and results of operations.

Rapid and significant technological developments and changes could negatively impact our overall business and results of operations or limit our future growth.

The payments industry is subject to rapid and significant technological changes, which can impact our business in several ways:

- Technological changes, including continuing developments of technologies in the areas of smart cards and devices, contactless and mobile payments, e-commerce, cryptocurrency and block chain technology, machine learning and AI, could result in new technologies that may be superior to, or render obsolete, the technologies we currently use in our programs and services. Moreover, these changes could result in new and innovative payment methods and products that could place us at a competitive disadvantage and that could reduce the use of our products.

- We rely in part on third parties, including some of our competitors and potential competitors, for the development of and access to new technologies. The inability of these companies to keep pace with technological developments, or the

acquisition of these companies by competitors, could negatively impact our offerings.

- Our ability to develop and adopt new services and technologies may be inhibited by industry-wide solutions and standards (such as those related to EMV, tokenization or other safety and security technologies), and by resistance from customers or merchants to such changes.

- Our ability to develop evolving systems and products may be inhibited by any difficulty we may experience in attracting and retaining technology experts.

- Our ability to adopt these technologies can also be inhibited by intellectual property rights of third parties. We have received, and we may in the future receive, notices or inquiries from patent holders (for example, other operating companies or non-practicing entities) suggesting that we may be infringing certain patents or that we need to license the use of their patents to avoid infringement. Such notices may, among other things, threaten litigation against us or our customers or demand significant license fees.

- Our ability to develop new technologies and reflect technological changes in our payments offerings will require resources, which may result in additional expenses.

- We work with technology companies (such as digital players and mobile providers) that use our technology to enhance payment safety and security and to deliver their payment-related products and services quickly and efficiently to consumers. Our inability to keep pace technologically could negatively impact the willingness of these customers to work with us, and could encourage them to use their own technology and compete against us.

We cannot predict the effect of technological changes on our business, and our future success will depend, in part, on our ability to anticipate, develop or adapt to technological changes and evolving industry standards. Failure to keep pace with these technological developments or otherwise bring to market products that reflect these technologies could lead to a decline in the use of our products, which could have a material adverse impact on our overall business and results of operations.

Operating a real-time account-based payment network presents risks that could materially affect our business.

Our acquisition of Vocalink in 2017 added real-time account-based payment technology to the suite of capabilities we offer. While expansion into this space presents business opportunities, there are also regulatory and operational risks associated with administering a real-time account-based payment network.

British regulators have designated this platform to be "critical national infrastructure" and regulators in other countries may in the future expand their regulatory oversight of real-time account-based payment systems in similar ways. In addition, any prolonged service outage on this network could result in quickly escalating impacts, including potential intervention by the Bank of England and significant reputational risk to Vocalink and us. For a discussion of the regulatory risks related to our real-time account-based payment platform, see our risk factor in "Risk Factors - Payments Industry Regulation" in this Part I, Item 1A. Furthermore, the complexity of this payment technology requires careful management to address security vulnerabilities that are different from those faced on our core network. Operational difficulties, such as the temporary unavailability of our services or products, or security breaches on our real-time account-based payment network could cause a loss of business for these products and services, result in potential liability for us and adversely affect our reputation.

Working with new customers and end users as we expand our integrated products and services can present operational challenges, be costly and result in reputational damage if the new products or services do not perform as intended.

The payments markets in which we compete are characterized by rapid technological change, new product introductions, evolving industry standards and changing customer and consumer needs. In order to remain competitive and meet the needs of the payments market, we are continually involved in diversifying our integrated products and services. These efforts carry the risks associated with any diversification initiative, including cost overruns, delays in delivery and performance problems. These projects also carry risks associated with working with different types of customers, for example organizations such as corporations that are not financial institutions and non-governmental organizations ("NGOs"), and end users than those we have traditionally worked with. These differences may present new operational challenges in the development and implementation of our new products or services.

Our failure to render these integrated products and services could make our other integrated products and services less desirable to customers, or put us at a competitive disadvantage. In addition, if there is a delay in the implementation of our products or services or if our products or services do not perform as anticipated, we could face additional regulatory

scrutiny, fines, sanctions or other penalties, which could materially and adversely affect our overall business and results of operations, as well as negatively impact our brand and reputation.

Information Security and Service Disruptions

Information security incidents or account data compromise events could disrupt our business, damage our reputation, increase our costs and cause losses.

Information security risks for payments and technology companies such as ours have significantly increased in recent years in part because of the proliferation of new technologies, the use of the Internet and telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties. These threats may derive from fraud or malice on the part of our employees or third parties, or may result from human error or accidental technological failure. These threats include cyber-attacks such as computer viruses, malicious code, phishing attacks or information security breaches and could lead to the misappropriation of consumer account and other information and identity theft.

Our operations rely on the secure processing, transmission and storage of confidential, proprietary and other information in our computer systems and networks. Our customers and other parties in the payments value chain, as well as account holders, rely on our digital technologies, computer systems, software and networks to conduct their operations. In addition, to access our

integrated products and services, our customers and account holders increasingly use personal smartphones, tablet PCs and other mobile devices that may be beyond our control. We, like other financial technology organizations, routinely are subject to cyber-threats and our technologies, systems and networks have been subject to attempted cyber-attacks. Because of our position in the payments value chain, we believe that we are likely to continue to be a target of such threats and attacks. Additionally, geopolitical events and resulting government activity could also lead to information security threats and attacks by affected jurisdictions and their sympathizers.

To date, we have not experienced any material impact relating to cyber-attacks or other information security breaches. However, future attacks or breaches could lead to security breaches of the networks, systems or devices that our customers use to access our integrated products and services, which in turn could result in the unauthorized disclosure, release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information (including account data information) or data security compromises. Such attacks or breaches could also cause service interruptions, malfunctions or other failures in the physical infrastructure or operations systems that support our businesses and customers (such as the lack of availability of our value-added services), as well as the operations of our customers or other third parties. In addition, they could lead to damage to our reputation with our customers and other parties and the market, additional costs to us (such as repairing systems, adding new personnel or protection technologies or compliance costs), regulatory penalties, financial losses to both us and our customers and partners and the loss of customers and business opportunities. If such attacks are not detected immediately, their effect could be compounded.

Despite various mitigation efforts that we undertake, there can be no assurance that we will be immune to these risks and not suffer material breaches and resulting losses in the future, or that our insurance coverage would be sufficient to cover all losses. Our risk and exposure to these matters remain heightened because of, among other things, the evolving nature of these threats, our prominent size and scale and our role in the global payments and technology industries, our plans to continue to implement our digital and mobile channel strategies and develop additional remote connectivity solutions to serve our customers and account holders when and how they want to be served, our global presence, our extensive use of third-party vendors and future joint venture and merger and acquisition opportunities. As a result, information security and the continued development and enhancement of our controls, processes and practices designed to protect our systems, computers, software, data and networks from attack, damage or unauthorized access remain a priority for us. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Any of the risks described above could materially adversely affect our overall business and results of operations.

In addition to information security risks for our systems, we also routinely encounter account data compromise events involving merchants and third-party payment processors that process, store or transmit payment transaction data, which affect millions of Mastercard, Visa, Discover, American Express and other types of account holders. Further events of this type may subject us to reputational damage and/or lawsuits involving payment products carrying our brands. Damage to our reputation or that of our brands resulting from an account data breach of either our systems or the systems of our customers, merchants and other third parties could decrease the use and acceptance of our integrated products and services. Such events could also slow or reverse the trend toward electronic payments. In addition to reputational concerns, the cumulative impact of multiple account data compromise events could increase the impact of the fraud resulting from such events by, among other things, making it more difficult to identify consumers. Moreover, while most of the lawsuits resulting from account data breaches do not involve direct claims against us and while we have releases from many issuers and acquirers, we could still face damage claims,

which, if upheld, could materially and adversely affect our results of operations. Such events could have a material adverse impact on our transaction volumes, results of operations and prospects for future growth, or increase our costs by leading to additional regulatory burdens being imposed on us.

Service disruptions that cause us to be unable to process transactions or service our customers could materially affect our overall business and results of operations.

Our transaction switching systems and other offerings may experience interruptions as a result of technology malfunctions, fire, weather events, power outages, telecommunications disruptions, terrorism, workplace violence, accidents or other catastrophic events. Our visibility in the global payments industry may also put us at greater risk of attack by terrorists, activists, or hackers who intend to disrupt our facilities and/or systems. Additionally, we rely on third-party service providers for the timely transmission of information across our global data network. Inadequate infrastructure in lesser-developed markets could also result in service disruptions, which could impact our ability to do business in those markets. If one of our service providers fails to provide the communications capacity or services we require, as a result of natural disaster, operational disruptions, terrorism, hacking or any other reason, the failure could interrupt our services. Although we maintain a business continuity program to analyze risk, assess potential impacts, and develop effective response strategies, we cannot ensure that our business would be immune to these risks, because of the intrinsic importance of our switching systems to our business, any interruption or

degradation could adversely affect the perception of the reliability of products carrying our brands and materially adversely affect our overall business and our results of operations.

Financial Institution Customers and Other Stakeholder Relationships

Losing a significant portion of business from one or more of our largest financial institution customers could lead to significant revenue decreases in the longer term, which could have a material adverse impact on our business and our results of operations.

Most of our financial institution customer relationships are not exclusive and may be terminated by our customers. Our customers can reassess their commitments to us at any time in the future and/or develop their own competitive services. Accordingly, our business agreements with these customers may not reduce the risk inherent in our business that customers may terminate their relationships with us in favor of relationships with our competitors, or for other reasons, or might not meet their contractual obligations to us.

In addition, a significant portion of our revenue is concentrated among our five largest financial institution customers. Loss of business from any of our large customers could have a material adverse impact on our overall business and results of operations.

Exclusive/near exclusive relationships certain customers have with our competitors may have a material adverse impact on our business.

Certain customers have exclusive, or nearly-exclusive, relationships with our competitors to issue payment products, and these relationships may make it difficult or cost-prohibitive for us to do significant amounts of business with them to increase our revenues. In addition, these customers may be more successful and may grow faster than the customers that primarily issue our payment products, which could put us at a competitive disadvantage. Furthermore, we earn substantial revenue from customers with nearly-exclusive relationships with our competitors. Such relationships could provide advantages to the customers to shift business from us to the competitors with which they are principally aligned. A significant loss of our existing revenue or transaction volumes from these customers could have a material adverse impact on our business.

Consolidation in the banking industry could materially and adversely affect our overall business and results of operations.

The banking industry has undergone substantial, accelerated consolidation in the past. Consolidations have included customers with a substantial Mastercard portfolio being acquired by institutions with a strong relationship with a competitor. If significant consolidation among customers were to continue, it could result in the substantial loss of business for us, which could have a material adverse impact on our business and prospects. In addition, one or more of our customers could seek to merge with, or acquire, one of our competitors, and any such transaction could also have a material adverse impact on our overall business. Consolidation could also produce a smaller number of large customers, which could increase their bargaining power and lead to lower prices and/or more favorable terms for our customers. These developments could materially and adversely affect our results of operations.

Our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and, in many jurisdictions, their ability to effectively manage or help manage our brands.

While we work directly with many stakeholders in the payments system, including merchants, governments and large digital companies and other technology companies, we are, and will continue to be, significantly dependent on our relationships with our issuers and acquirers and their respective relationships with account holders and merchants to support our programs and services. Furthermore, we depend on our issuing partners and acquirers to continue to innovate to maintain competitiveness in the market. We do not issue cards or other payment devices, extend credit to account holders or determine the interest rates or other fees charged to account holders. Each issuer determines these and most other competitive payment program features. In addition, we do not establish the discount rate that merchants are charged for acceptance, which is the responsibility of our acquiring customers. As a result, our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and the strength of our relationships with them. In turn, our customers' success depends on a variety of factors over which we have little or no influence, including economic conditions in global financial markets or their disintermediation by competitors or emerging technologies, as well as regulation. If our customers become financially unstable, we may lose revenue or we may be exposed to settlement risk. See our risk factor in "Risk Factors - Settlement and Third-Party Obligations" in this Part I, Item 1A with respect to how we guarantee certain third-party obligations for further discussion.

With the exception of the United States and a select number of other jurisdictions, most in-country (as opposed to cross-border) transactions conducted using Mastercard, Maestro and Cirrus cards are authorized, cleared and settled by our customers or other processors. Because we do not provide domestic switching services in these countries and do not, as described above, have direct relationships with account holders, we depend on our close working relationships with our customers to effectively

manage our brands, and the perception of our payments system, among consumers in these countries. We also rely on these customers to help manage our brands and perception among regulators and merchants in these countries, alongside our own relationships with them. From time to time, our customers may take actions that we do not believe to be in the best interests of our payments system overall, which may materially and adversely impact our business.

Merchants' continued focus on acceptance costs may lead to additional litigation and regulatory proceedings and increase our incentive program costs, which could materially and adversely affect our profitability.

Merchants are important constituents in our payments system. We rely on both our relationships with them, as well as their relationships with our issuer and acquirer customers, to continue to expand the acceptance of our integrated products and services. We also work with merchants to help them enable new sales channels, create better purchase experiences, improve efficiencies, increase revenues and fight fraud. In the retail industry, there is a set of larger merchants with increasingly global scope and influence. We believe that these merchants are having a significant impact on all participants in the global payments industry, including Mastercard. Some large merchants have supported the legal, regulatory and legislative challenges to interchange fees that Mastercard has been defending, including the U.S. merchant litigations. See our risk factor in "Risk Factors – Risks Related to Our Participation in the Payments Industry" in this Part I, Item 1A with respect to payments industry regulation, including interchange fees. The continued focus of merchants on the costs of accepting various forms of payment, including in connection with the growth of digital payments, may lead to additional litigation and regulatory proceedings.

Certain larger merchants are also able to negotiate incentives from us and pricing concessions from our issuer and acquirer customers as a condition to accepting our products. We also make payments to certain merchants to incentivize them to create co-branded payment programs with us. As merchants consolidate and become even larger, we may have to increase the amount of incentives that we provide to certain merchants, which could materially and adversely affect our results of operations. Competitive and regulatory pressures on pricing could make it difficult to offset the costs of these incentives. Additionally, if the rate of merchant acceptance growth slows our business could suffer.

Our work with governments exposes us to unique risks that could have a material impact on our business and results of operations.

As we increase our work with national, state and local governments, both indirectly through financial institutions and with them directly as our customers, we may face various risks inherent in associating or contracting directly with governments. These risks include, but are not limited to, the following:

- Governmental entities typically fund projects through appropriated monies. Changes in governmental priorities or other political developments, including disruptions in governmental operations, could impact approved funding and result in changes in the scope, or lead to the termination of, the arrangements or contracts we or financial institutions enter into with respect to our payment products and services.

- Our work with governments subjects us to U.S. and international anti-corruption laws, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation and subsequent judgment or settlement under these laws could subject us to substantial monetary penalties and damages and have a significant reputational impact.

- Working or contracting with governments, either directly or via our financial institution customers, can subject us to heightened reputational risks, including extensive scrutiny and publicity, as well as a potential association with the policies of a government as a result of a business arrangement with that government. Any negative publicity or negative association with a government entity, regardless of its accuracy, may adversely affect our reputation.

Settlement and Third-Party Obligations

Our role as guarantor, as well as other contractual obligations, expose us to risk of loss or illiquidity.

We are a guarantor of certain third-party obligations, including those of certain of our customers. In this capacity, we are exposed to credit and liquidity risk from these customers and certain service providers. We may incur significant losses in connection with transaction settlements if a customer fails to fund its daily settlement obligations due to technical problems, liquidity shortfalls, insolvency or other reasons. Concurrent settlement failures of more than one of our larger customers or of several of our smaller customers either on a given day or over a condensed period of time may exceed our available resources and could materially and adversely affect our results of operations.

We have significant contractual indemnification obligations with certain customers. Should an event occur that triggers these obligations, such an event could materially and adversely affect our overall business and result of operations.

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Global Economic and Political Environment

Global economic, political, financial and societal events or conditions could result in a material and adverse impact on our overall business and results of operations.

Adverse economic trends in key countries in which we operate may adversely affect our financial performance. Such impact may include, but is not limited to, the following:

- Customers mitigating their economic exposure by limiting the issuance of new Mastercard products and requesting greater incentive or greater cost stability from us.

- Consumers and businesses lowering spending, which could impact cross-border travel patterns (on which a significant portion of our revenues is dependent).

- Government intervention (including the effect of laws, regulations and/or government investments on or in our financial institution customers), as well as uncertainty due to changing political regimes in executive, legislative and/or judicial branches of government, that may have potential negative effects on our business and our relationships with customers or otherwise alter their strategic direction away from our products.

- Tightening of credit availability that could impact the ability of participating financial institutions to lend to us under the terms of our credit facility.

Additionally, we switch substantially all cross-border transactions using Mastercard, Maestro and Cirrus-branded cards and generate a significant amount of revenue from cross-border volume fees and fees related to switched transactions. Revenue from switching cross-border and currency conversion transactions for our customers fluctuates with the levels and destinations of cross-border travel and our customers' need for transactions to be converted into their base currency. Cross-border activity may be adversely affected by world geopolitical, economic, weather and other conditions. These include the threat of terrorism and outbreaks of flu, viruses and other diseases, as well as major environmental events. The uncertainty that could result from such events could decrease cross-border activity. Additionally, any regulation of interregional interchange fees could also negatively impact our cross-border activity. In each case, decreased cross-border activity could decrease the revenue we receive.

Any of these developments could have a material adverse impact on our overall business and results of operations.

Adverse currency fluctuations and foreign exchange controls could negatively impact our results of operations.

During 2018, approximately 67% of our revenue was generated from activities outside the United States. This revenue (and the related expense) could be transacted in a non-functional currency or valued based on a currency other than the functional currency of the entity generating the revenues. Resulting exchange gains and losses are included in our net income. Our risk management activities provide protection with respect to adverse changes in the value of only a limited number of currencies and are based on estimates of exposures to these currencies.

In addition, some of the revenue we generate outside the United States is subject to unpredictable currency fluctuations including devaluation of currencies where the values of other currencies change relative to the U.S. dollar. If the U.S. dollar strengthens compared

to currencies in which we generate revenue, this revenue may be translated at a materially lower amount than expected. Furthermore, we may become subject to exchange control regulations that might restrict or prohibit the conversion of our other revenue currencies into U.S. dollars, such as what we have experienced in Venezuela.

The occurrence of currency fluctuations or exchange controls could have a material adverse impact on our results of operations.

The United Kingdom's proposed withdrawal from the European Union could harm our business and financial results.

In June 2016, voters in the United Kingdom approved the withdrawal of the U.K. from the E.U. (commonly referred to as "Brexit"). The U.K. government triggered Article 50 of the Lisbon Treaty on March 29, 2017, which commenced the official E.U. withdrawal process. Uncertainty over the terms of the U.K.'s departure from the E.U. could cause political and economic uncertainty in the U.K. and the rest of Europe, which could harm our business and financial results.

Brexit could lead to legal uncertainty and potentially divergent national laws and regulations in the U.K. and E.U. We, as well as our clients who have significant operations in the U.K., may incur additional costs and expenses as we adapt to potentially divergent regulatory frameworks from the rest of the E.U. We may also face additional complexity with regard to immigration and travel rights for our employees located in the U.K. and the E.U. These factors may impact our ability to operate in the E.U. and U.K. seamlessly. Any of these effects of Brexit, among others, could harm our business and financial results.

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Brand and Reputational Impact

Negative brand perception may materially and adversely affect our overall business.

Our brands and their attributes are key assets of our business. The ability to attract consumers to our branded products and retain them depends upon the external perception of us and our industry. Our business may be affected by actions taken by our customers, merchants or other organizations that impact the perception of our brands or the payments industry in general. From time to time, our customers may take actions that we do not believe to be in the best interests of our brands, such as creditor practices that may be viewed as "predatory". Moreover, adverse developments with respect to our industry or the industries of our customers may also, by association, impair our reputation, or result in greater regulatory or legislative scrutiny. We have also been pursuing the use of social media channels at an increasingly rapid pace. Under some circumstances, our use of social media, or the use of social media by others as a channel for criticism or other purposes, could also cause rapid, widespread reputational harm to our brands by disseminating rapidly and globally actual or perceived damaging information about us, our products or merchants or other end users who utilize our products. Also, as we are headquartered in the United States, a negative perception of the United States could impact the perception of our company, which could adversely affect our business. Such perception and damage to our reputation could have a material and adverse effect to our overall business.

Lack of visibility of our brand in our products and services, or in the products and services of our partners who use our technology, may materially and adversely affect our business.

As more players enter the global payments system, the layers between our brand and consumers and merchants increase. In order to compete with other powerful consumer brands that are also becoming part of the consumer payment experience, we often partner with those brands on payment solutions. These brands include large digital companies and other technology companies who are our customers and use our networks to build their own acceptance brands. In some cases, our brand may not be featured in the payment solution or may be secondary to other brands. Additionally, as part of our relationships with some issuers, our payment brand is only included on the back of the card. As a result, our brand may either be invisible to consumers or may not be the primary brand with which consumers associate the payment experience. This brand invisibility, or any consumer confusion as to our role in the consumer payment experience, could decrease the value of our brand, which could adversely affect our business.

Talent and Culture

We may not be able to attract, hire and retain a highly qualified and diverse workforce, or maintain our corporate culture, which could impact our ability to grow effectively.

Our performance largely depends on the talents and efforts of our employees, particularly our key personnel and senior management. We may be unable to retain or to attract highly qualified employees. The market for key personnel is highly competitive, particularly in technology and other skill areas significant to our business. Additionally, changes in immigration and work permit laws and regulations and related enforcement have made it difficult for employees to work in, or transfer among, jurisdictions in which we have operations and could impair our ability to attract and retain qualified employees. Failure to attract, hire, develop, motivate and retain highly qualified and diverse employee talent, or to

maintain a corporate culture that fosters innovation, creativity and teamwork could harm our overall business and results of operations.

We rely on key personnel to lead with integrity. To the extent our leaders behave in a manner that is not consistent with our values, we could experience significant impact to our brand and reputation, as well as to our corporate culture.

Acquisitions

Acquisitions, strategic investments or entry into new businesses could disrupt our business and harm our results of operations or reputation.

Although we may continue to evaluate and/or make strategic acquisitions of, or acquire interests in joint ventures or other entities related to, complementary businesses, products or technologies, we may not be able to successfully partner with or integrate them, despite original intentions and focused efforts. In addition, such an integration may divert management's time and resources from our core business and disrupt our operations. Moreover, we may spend time and money on acquisitions or projects that do not meet our expectations or increase our revenue. To the extent we pay the purchase price of any acquisition in cash, it would reduce our cash reserves available to us for other uses, and to the extent the purchase price is paid with our stock, it could be dilutive to our stockholders. Furthermore, we may not be able to successfully finance the business following the acquisition as a result of costs of operations, including any litigation risk which may be inherited from the acquisition.

Any acquisition or entry into a new business could subject us to new regulations with which we would need to comply. This compliance could increase our costs, and we could be subject to liability or reputational harm to the extent we cannot meet any such compliance requirements. Our expansion into new businesses could also result in unanticipated issues which may be difficult to manage.

Class A Common Stock and Governance Structure

Provisions in our organizational documents and Delaware law could be considered anti-takeover provisions and have an impact on change-in-control.

Provisions contained in our amended and restated certificate of incorporation and bylaws and Delaware law could be considered anti-takeover provisions, including provisions that could delay or prevent entirely a merger or acquisition that our stockholders consider favorable. These provisions may also discourage acquisition proposals or have the effect of delaying or preventing entirely a change in control, which could harm our stock price. For example, subject to limited exceptions, our amended and restated certificate of incorporation prohibits any person from beneficially owning more than 15% of any of the Class A common stock or any other class or series of our stock with general voting power, or more than 15% of our total voting power. In addition:

- our stockholders are not entitled to the right to cumulate votes in the election of directors
- our stockholders are not entitled to act by written consent
- a vote of 80% or more of all of the outstanding shares of our stock then entitled to vote is required for stockholders to amend any provision of our bylaws
- any representative of a competitor of Mastercard or of Mastercard Foundation is disqualified from service on our board of directors

Mastercard Foundation's substantial stock ownership, and restrictions on its sales, may impact corporate actions or acquisition proposals favorable to, or favored by, the other public stockholders.

As of February 8, 2019, Mastercard Foundation owned 112,181,762 shares of Class A common stock, representing approximately 11.1% of our general voting power. Mastercard Foundation may not sell or otherwise transfer its shares of Class A common stock prior to May 1, 2027, except to the extent necessary to satisfy its charitable disbursement requirements, for which purpose earlier sales are permitted. Mastercard Foundation is permitted to sell all of its remaining shares after May 1, 2027, subject to certain conditions. The directors of Mastercard Foundation are required to be independent of us and our customers. The ownership of Class A common stock by Mastercard Foundation, together with the restrictions on transfer, could discourage or make more difficult acquisition proposals favored by the other holders of the Class A common stock. In addition, because Mastercard Foundation is restricted from selling its shares for an extended period of time, it may not have the same interest in short or medium-term movements in our stock price as, or incentive to approve a corporate action that may be favorable to, our other stockholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

As of December 31, 2018, Mastercard and its subsidiaries owned or leased 169 commercial properties. We own our corporate headquarters, located in Purchase, New York. The building is approximately 500,000 square feet. There is no outstanding debt on this building. Our principal technology and operations center, a leased facility located in O'Fallon, Missouri, is also approximately 500,000 square feet. Our leased properties in the United States are located in nine states and in the District of Columbia. We also lease and own properties in 74 other countries. These facilities primarily consist of corporate and regional offices, as well as our operations centers.

We believe that our facilities are suitable and adequate for the business that we currently conduct. However, we periodically review our space requirements and may acquire or lease new space to meet the needs of our business, or consolidate and dispose of facilities that are no longer required.

ITEM 3. LEGAL PROCEEDINGS

Refer to Note 12 (Accrued Expenses and Accrued Litigation) and Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". At February 8, 2019, we had 73 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Class A common stock is held in "street name" by brokers.

There is currently no established public trading market for our Class B common stock. There were approximately 287 holders of record of our non-voting Class B common stock as of February 8, 2019, constituting approximately 1.1% of our total outstanding equity.

Stock Performance Graph

The graph and table below compare the cumulative total stockholder return of Mastercard's Class A common stock, the S&P 500 Financials and the S&P 500 Index for the five-year period ended December 31, 2018. The graph assumes a $100 investment in our Class A common stock and both of the indices and the reinvestment of dividends. Mastercard's Class B common stock is not publicly traded or listed on any exchange or dealer quotation system.

a5yearcomparisonv6.jpg

Total returns to stockholders for each of the years presented were as follows:

		Indexed Returns				
	Base period	For the Years Ended December 31,				
Company/Index	2013	2014	2015	2016	2017	2018
Mastercard	$ 100.00	$ 103.73	$ 118.05	$ 126.20	$ 186.37	$ 233.56
S&P 500 Financials	100.00	115.20	113.44	139.31	170.21	148.03
S&P 500 Index	100.00	113.69	115.26	129.05	157.22	150.33

Dividend Declaration and Policy

During the years ended December 31, 2018 and 2017, we paid the following quarterly cash dividends per share on our Class A common stock and Class B common stock:

	Dividend per Share	
	2018	2017
First Quarter	$ 0.25	$ 0.22
Second Quarter	0.25	0.22
Third Quarter	0.25	0.22
Fourth Quarter	0.25	0.22

On December 4, 2018, our Board of Directors declared a quarterly cash dividend of $0.33 per share paid on February 8, 2019 to holders of record on January 9, 2019 of our Class A common stock and Class B common stock. On February 5, 2019, our Board of Directors declared a quarterly cash dividend of $0.33 per share payable on May 9, 2019 to holders of record on April 9, 2019 of our Class A common stock and Class B common stock.

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Class A common stock and Class B common stock. However, 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.

Issuer Purchases of Equity Securities

On December 4, 2017, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $4 billion of our Class A common stock (the "2017 Share Repurchase Program"). This program became effective in 2018. On December 4, 2018, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $6.5 billion of our Class A common stock (the "2018 Share Repurchase Program"). This program became effective in January 2019.

During the fourth quarter of 2018, we repurchased a total of approximately 4.4 million shares for $888 million at an average price of $201.20 per share of Class A common stock. Our repurchase activity during the fourth quarter of 2018 consisted of open market share repurchases and is summarized in the following table:

Period	Total Number of Shares Purchased	Average Price Paid per Share (including commission cost)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that may yet be Purchased under the Plans or Programs [1]
October 1 – 31	2,390,996	$ 206.39	2,390,996	$695,528,134
November 1 – 30	1,027,633	197.12	1,027,633	492,962,254
December 1 – 31	996,945	192.94	996,945	6,800,613,788
Total	4,415,574	201.20	4,415,574	

1 Dollar value of shares that may yet be purchased under the 2017 Share Repurchase Program and the 2018 Share Repurchase Program are as of the end of each period presented.

ITEM 6. SELECTED FINANCIAL DATA

The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2018, 2017 and 2016, and the balance sheet data as of December 31, 2018 and 2017, were derived from the audited consolidated financial statements of Mastercard Incorporated included in Part II, Item 8. The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2015 and 2014, and the balance sheet data as of December 31, 2016, 2015 and 2014, were derived from audited consolidated financial statements not included in this Report. The data set forth below should be read in conjunction with, and are qualified by reference to, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 and our consolidated financial statements and notes thereto included in Part II, Item 8.

	Years Ended December 31,				
	2018	2017	2016	2015	2014
	(in millions, except per share data)				
Statement of Operations Data:					
Net revenue	$14,950	$12,497	$10,776	$ 9,667	$ 9,441
Total operating expenses	7,668	5,875	5,015	4,589	4,335
Operating income	7,282	6,622	5,761	5,078	5,106
Net income	5,859	3,915	4,059	3,808	3,617
Basic earnings per share	5.63	3.67	3.70	3.36	3.11
Diluted earnings per share	5.60	3.65	3.69	3.35	3.10
Balance Sheet Data:					
Total assets	$24,860	$21,329	$18,675	$16,250	$15,329
Long-term debt	5,834	5,424	5,180	3,268	1,494
Total equity	5,418	5,497	5,684	6,062	6,824
Cash dividends declared per share	$ 1.08	$ 0.91	$ 0.79	$ 0.67	$ 0.49

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the consolidated financial statements and notes of Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International") (together, "Mastercard" or the "Company"), included elsewhere in this Report. Certain prior period amounts have been reclassified to conform to the 2018 presentation. For 2017 and 2016, $127 million and $113 million, respectively, of expenses were reclassified from advertising and marketing expenses to general and administrative expenses. The reclassification had no impact on total operating expenses, operating income or net income. Percentage changes provided throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" were calculated on amounts rounded to the nearest thousand.

Business Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. We make payments easier and more efficient by creating a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro® and Cirrus®. We are a multi-rail network. Through our core global payments processing network, we facilitate the switching (authorization, clearing and settlement) of payment transactions and deliver related products and services. With additional payment capabilities that include real-time account based payments (including automated clearing house ("ACH") transactions), we offer customers one partner to turn to for their payment needs for both domestic and cross-border transactions across multiple payment flows. We also provide value-added offerings such as safety and security products, information and analytics services, consulting, loyalty and reward programs and issuer and acquirer processing. Our payment solutions are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a consumer who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our branded products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

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Financial Results Overview

The following tables provide a summary of our operating results:

	Year ended December 31,		Increase/ (Decrease)	Year ended December 31,		Increase/ (Decrease)
	2018	2017		2017	2016	
	($ in millions, except per share data)					
Net revenue	$14,950	$12,497	20%	$12,497	$10,776	16%
Operating expenses	$ 7,668	$ 5,875	31%	$ 5,875	$ 5,015	17%
Operating income	$ 7,282	$ 6,622	10%	$ 6,622	$ 5,761	15%
Operating margin	48.7%	53.0%	(4.3) ppt	53.0%	53.5%	(0.5) ppt
Income tax expense	$ 1,345	$ 2,607	(48)%	$ 2,607	$ 1,587	64%
Effective income tax rate	18.7%	40.0%	(21.3) ppt	40.0%	28.1%	11.9 ppt
Net income	$ 5,859	$ 3,915	50%	$ 3,915	$ 4,059	(4)%
Diluted earnings per share	$ 5.60	$ 3.65	53%	$ 3.65	$ 3.69	(1)%
Diluted weighted-average shares outstanding	1,047	1,072	(2)%	1,072	1,101	(3)%

Summary of Non-GAAP Results [1]:

	Year ended December 31,		Increase/ (Decrease)		Year ended December 31,		Increase/ (Decrease)	
	2018	2017	As adjusted	Currency-neutral	2017	2016	As adjusted	Currency-neutral
	($ in millions, except per share data)							
Net revenue	$14,950	$12,497	20%	20%	$12,497	$10,776	16%	15%
Adjusted operating expenses	$ 6,540	$ 5,693	15%	15%	$ 5,693	$ 4,898	16%	16%
Adjusted operating margin	56.2%	54.4%	1.8 ppt	1.8 ppt	54.4%	54.5%	(0.1) ppt	(0.2) ppt
Adjusted effective income tax rate	18.5%	26.8%	(8.3) ppt	(8.2) ppt	26.8%	28.1%	(1.3) ppt	(1.3) ppt
	$ 6,792	$ 4,906	38%	38%	$ 4,906	$ 4,144	18%	17%

Adjusted net income								
Adjusted diluted earnings per share	$ 6.49	$ 4.58	42%	41%	$ 4.58	$ 3.77	21%	21%

Note: Tables may not sum due to rounding.

1 The Summary of Non-GAAP Results excludes the impact of Special Items (subsequently defined) and/or foreign currency. See "Non-GAAP Financial Information" for further information on the Special Items, the impact of foreign currency and the reconciliation to GAAP reported amounts.

Key highlights for 2018 were as follows:

- Net revenue increased 20% both as reported and on a currency-neutral basis, in 2018 versus 2017. Current year results include growth of 4 percentage points from the impact of the adoption of the new revenue standard and an additional 0.5 percentage points from our prior year acquisitions. The remaining 15 percentage points of growth was primarily driven by:

  - Switched transaction growth of 17%, adjusted for the impact of the Venezuela deconsolidation[1]

  - Cross-border growth of 18% on a local currency basis[1]

1 Adjusted to normalize for the effects of differing switching days between periods.

- Gross dollar volume growth of 14% on a local currency basis
- These increases were partially offset by higher rebates and incentives, which increased 18% both as reported and on a currency-neutral basis.

- Operating expenses increased 31% in 2018 versus 2017. Excluding the impact of Special Items (defined below), operating expenses increased 15% both as adjusted and on a currency-neutral basis, primarily driven by:
  - 3 percentage point increase from the adoption of the new revenue guidance
  - 2 percentage point increase from acquisitions
  - 2 percentage point increase from the $100 million contribution to the Mastercard Impact Fund (formerly referred to as Mastercard's Center for Inclusive Growth Fund), a non-profit charitable organization.

  The remaining 8 percentage points of growth was primarily related to our continued investment in strategic initiatives and higher operating costs.

- The effective income tax rate was 18.7% in 2018 versus 40.0% in 2017. The lower effective tax rate for the period was primarily due to additional tax expense in 2017 attributable to comprehensive U.S. tax legislation ("U.S. Tax Reform") passed on December 22, 2017, a lower enacted statutory tax rate in the U.S. and Belgium and a more favorable geographic mix of earnings. The lower effective tax rate for the period was also attributable to discrete tax benefits, relating primarily to the carryback of foreign tax credits due to transition rules, along with provisions for legal matters in the United States. These benefits were partially offset by the non-deductible fine issued by the European Commission.

Other financial highlights for 2018 were as follows:

- We generated net cash flows from operations of $6.2 billion.
- We completed a debt offering for an aggregate principal amount of $1.0 billion.
- We repurchased 26 million shares of our common stock for $4.9 billion and paid dividends of $1.0 billion.
- We recorded litigation provision charges of $1.1 billion. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Non-GAAP Financial Information

Non-GAAP financial information is defined as a numerical measure of a company's performance that excludes or includes amounts so as to be different than the most comparable measure calculated and presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Our non-GAAP financial measures exclude the impact of the following special items ("Special Items").

Litigation provisions

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During 2018, we recorded pre-tax charges of $1,128 million ($1,008 million after tax, or $0.96 per diluted share) related to litigation provisions which included pre-tax charges of:

- $654 million related to a fine issued by the European Commission
- $237 million related to both the U.S. merchant class litigation and the filed and anticipated opt-out U.S. merchant cases
- $237 million related to litigation settlements with U.K. and Pan-European merchants.

- During 2017, we recorded pre-tax charges of $15 million ($10 million after tax, or $0.01 per diluted share) related to a litigation settlement with Canadian merchants.

- During 2016, we recorded pre-tax charges of $117 million ($85 million after tax, or $0.08 per diluted share) related to litigation settlements with U.K. merchants.

Tax act

- During 2018, we recorded a $75 million net tax benefit ($0.07 per diluted share) which included a $90 million benefit ($0.09 per diluted share) related to the carryback of foreign tax credits due to transition rules, offset by a net $15 million expense ($0.01 per diluted share) primarily related to the true-up to our 2017 mandatory deemed repatriation tax on accumulated foreign earnings.

- During 2017, we recorded additional tax expense of $873 million ($0.81 per diluted share) which includes $825 million of provisional charges attributable to a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax"), the remeasurement of our net deferred tax asset in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding reinvestment of foreign earnings, as well as $48 million additional tax expense related to a foregone foreign tax credit benefit on 2017 repatriations.

Venezuela charge

- During 2017, we recorded a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) in general and administrative expenses related to the deconsolidation of our Venezuelan subsidiaries.

See Note 1 (Summary of Significant Accounting Policies), Note 19 (Income Taxes) and Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

We excluded these Special Items as management evaluates the underlying operations and performance of the Company separately from litigation judgments and settlements related to interchange and other one-time items, as well as the related tax impacts.

In addition, we present growth rates adjusted for the impact of foreign currency, which is a non-GAAP financial measure. Currency-neutral growth rates are calculated by remeasuring the prior period's results using the current period's exchange rates for both the translational and transactional impacts on operating results. The impact of foreign currency translation represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency. The impact of the transactional foreign currency represents the effect of converting revenue and expenses occurring in a currency other than the functional currency. We believe the presentation of the impact of foreign currency provides relevant information.

We believe that the non-GAAP financial measures presented facilitate an understanding of our operating performance and provide a meaningful comparison of our results between periods. We use non-GAAP financial measures to, among other things, evaluate our ongoing operations in relation to historical results, for internal planning and forecasting purposes and in the calculation of performance-based compensation.

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Operating expenses, operating margin, effective income tax rate, net income and diluted earnings per share, adjusted for Special Items, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP. The following tables reconcile our as-reported financial measures calculated in accordance with GAAP to the respective non-GAAP adjusted financial measures:

	Year ended December 31, 2018				
	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 7,668	48.7%	18.7 %	$ 5,859	$ 5.60
Litigation provisions	(1,128)	7.5%	(1.1 %)	1,008	0.96
Tax act	**	**	0.9 %	(75)	(0.07)
Non-GAAP	$ 6,540	56.2%	18.5 %	$ 6,792	$ 6.49

	Year ended December 31, 2017				
	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 5,875	53.0%	40.0 %	$ 3,915	$ 3.65
Tax act	**	**	(13.4 %)	873	0.81
Venezuela charge	(167)	1.3%	0.2 %	108	0.10
Litigation provisions	(15)	0.1%	— %	10	0.01
Non-GAAP	$ 5,693	54.4%	26.8 %	$ 4,906	$ 4.58

	Year ended December 31, 2016				
	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 5,015	53.5%	28.1%	$ 4,059	$ 3.69
Litigation provisions	(117)	1.0%	— %	85	0.08
Non-GAAP	$ 4,898	54.5%	28.1%	$ 4,144	$ 3.77

Note: Tables may not sum due to rounding.

** Not applicable

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Net revenue, operating expenses, operating margin, effective income tax rate, net income and diluted earnings per share, adjusted for Special Items and/or the impact of foreign currency, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP. The following tables represent the reconciliation of our growth rates reported under GAAP to our Non-GAAP growth rates:

	Year Ended December 31, 2018 as compared to the Year Ended December 31, 2017					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	20 %	31 %	(4.3) ppt	(21.3) ppt	50 %	53 %
Litigation provisions	**	(19 %	7.4 ppt	(1.0) ppt	25 %	26 %
Tax act	**	**	**	14.2 ppt	(33 %	(34 %
Venezuela charge	**	3 %	(1.3) ppt	(0.2) ppt	(3 %	(3 %
Non-GAAP	20 %	15 %	1.8 ppt	(8.3) ppt	38 %	42 %
Foreign currency [1]	— %	— %	– ppt	0.1 ppt	— %	— %
Non-GAAP - currency-neutral	20 %	15 %	1.8 ppt	(8.2) ppt	38 %	41 %

	Year Ended December 31, 2017 as compared to the Year Ended December 31, 2016					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	16 %	17 %	(0.5) ppt	11.9 ppt	(4 %	(1 %
Tax act	**	**	**	(13.4) ppt	21 %	22 %
Venezuela charge	**	(3 %	1.3 ppt	0.2 ppt	3 %	3 %
Litigation provisions	**	3 %	(1.0) ppt	– ppt	(2 %	(3 %
Non-GAAP	16 %	16 %	(0.1) ppt	(1.3) ppt	18 %	21 %
Foreign currency [1]	(1 %	(1 %	(0.1) ppt	– ppt	(1 %	1 %
Non-GAAP - currency-neutral	15 %	16 %	(0.2) ppt	(1.3) ppt	17 %	21 %

Note: Tables may not sum due to rounding.

** Not applicable

[1] Represents the foreign currency translational and transactional impact.

Impact of Foreign Currency Rates

Our primary revenue functional currencies are the U.S. dollar, euro, Brazilian real and the British pound. Our overall operating results are impacted by foreign currency translation,

which represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency.

Our operating results can also be impacted by transactional foreign currency. The impact of the transactional foreign currency represents the effect of converting revenue and expense transactions occurring in a currency other than the functional currency. Changes in foreign currency exchange rates directly impact the calculation of gross dollar volume ("GDV") and gross euro volume ("GEV"), which are used in the calculation of our domestic assessments, cross-border volume fees and volume-related rebates and incentives. In most non-European regions, GDV is calculated based on local currency spending volume converted to U.S. dollars using average exchange rates for the period. In Europe, GEV is calculated based on local currency spending volume converted to euros using average exchange rates for the period. As a result, our domestic assessments, cross-border volume fees and volume-related rebates and incentives are impacted by the strengthening or weakening of the U.S. dollar versus non-European local currencies and the strengthening or weakening of the euro versus other European local currencies. For example, our billing in Australia is in the U.S. dollar, however, consumer spend in Australia is in the Australian dollar. The foreign currency transactional impact of converting Australian dollars to our U.S. dollar billing currency will have an impact on the revenue generated. The strengthening or weakening of the U.S. dollar is evident when GDV growth on a U.S. dollar-converted basis is compared to GDV growth on a local currency basis. In 2018, GDV on a U.S. dollar-converted basis increased 13.0%, while GDV

on a local currency basis increased 14.0% versus 2017. In 2017, GDV on a U.S. dollar-converted basis increased 8.5%, while GDV on a local currency basis increased 8.4% versus 2016. Further, the impact from transactional foreign currency occurs in transaction processing revenue, other revenue and operating expenses when the local currency of these items are different than the functional currency.

We incur foreign currency gains and losses from remeasuring monetary assets and liabilities that are in a currency other than the functional currency and from remeasuring foreign exchange derivative contracts ("Foreign Exchange Activity"). The impact of Foreign Exchange Activity has not been eliminated in our currency-neutral results (see "Non-GAAP Financial Information") and is recorded in general and administrative expenses. We manage foreign currency balance sheet remeasurement and cash flow risk through our foreign exchange risk management activities, which are discussed further in Note 22 (Foreign Exchange Risk Management) to the consolidated financial statements included in Part II, Item 8. Since we do not designate foreign currency derivatives as hedging instruments pursuant to the accounting standards for derivative instruments and hedging activities, we record gains and losses on foreign exchange derivatives immediately in current-period earnings, with the related hedged item being recognized as the exposures materialize.

We are exposed to currency devaluation in certain countries. In addition, we are subject to exchange control regulations that restrict the conversion of financial assets into U.S. dollars. While these revenues and assets are not material to us on a consolidated basis, we can be negatively impacted should there be a continued and sustained devaluation of local currencies relative to the U.S. dollar and/or a continued and sustained deterioration of economic conditions in these countries. Specifically, in 2017, due to foreign exchange regulations which were restricting access to U.S. dollars in Venezuela, an other-than-temporary lack of exchangeability between the Venezuela bolivar and the U.S. dollar impacted our ability to manage risk, process cross-border transactions and satisfy U.S. dollar denominated liabilities related to our Venezuelan operations. As a result of these factors, we concluded that, effective December 31, 2017, we did not meet the accounting criteria for consolidation of these subsidiaries, and therefore we transitioned to the cost method of accounting. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) in 2017. We continue to operate and serve our Venezuelan issuers, acquirers, merchants and account holders with our products and services. See Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Financial Results

Revenue

Gross revenue increased 19% and 18%, or 19% and 17% on a currency-neutral basis, in 2018 and 2017, respectively, versus the prior year. The increase in both 2018 and 2017 was primarily driven by an increase in transactions, dollar volume of activity on cards carrying our brands for both domestic and cross-border transactions and other payment-related products and services.

Rebates and incentives increased 18% and 22% in 2018 and 2017, respectively, versus the prior year, both as reported and on a currency-neutral basis. The increases in rebates and incentives in 2018 and 2017 were primarily due to the impact from new and renewed agreements and increased volumes.

Our net revenue increased 20% and 16%, or 20% and 15% on a currency-neutral basis, in 2018 and 2017, respectively, versus the prior year. Current year results include growth of 4 percentage points from the impact of the adoption of the new revenue standard and an additional 0.5 percentage points from our prior year acquisitions.

See Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8 for a further discussion of the new revenue guidance. Additionally, see Note 3 (Revenue) to the consolidated financial statements included in Part II, Item 8 for a further discussion of how we recognize revenue.

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The significant components of our net revenue were as follows:

	For the Years Ended December 31,			Percent Increase (Decrease)	
	2018	2017	2016	2018	2017
	($ in millions)				
Domestic assessments	$ 6,138	$ 5,130	$ 4,411	20%	16%
Cross-border volume fees	4,954	4,174	3,568	19%	17%
Transaction processing	7,391	6,188	5,143	19%	20%
Other revenues	3,348	2,853	2,431	17%	17%
Gross revenue	21,831	18,345	15,553	19%	18%
Rebates and incentives (contra-revenue)	(6,881)	(5,848)	(4,777)	18%	22%
Net revenue	$ 14,950	$ 12,497	$ 10,776	20%	16%

The following table summarizes the primary drivers of net revenue growth:

	For the Years Ended December 31,											
	Volume		Acquisitions		Revenue Standard [1]		Foreign Currency [2]		Other [3]		Total	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Domestic assessments	14%	10%	— %	— %	6 %	— %	(1 %	1 %	2 % [4]	6 % [4]	20 %	16 %
Cross-border volume fees	17%	14%	— %	— %	1 %	— %	1 %	— %	— %	3 %	19 %	17 %
Transaction processing	14%	15%	— %	1 %	— %	— %	— %	1 %	5 %	4 %	19 %	20 %
Other revenues	**	**	2 %	7 %	— %	— %	(1 %	1 %	16 % [5]	9 % [5]	17 %	17 %
Rebates and incentives	10%	10%	— %	— %	(2 %	— %	(1 %	1 %	11 % [6]	11 % [6]	18 %	22 %
Net revenue	14%	11%	0.5 %	2 %	4 %	— %	— %	1 %	2 %	2 %	20 %	16 %

Note: Table may not sum due to rounding
** Not applicable
1 Represents the impact of our adoption of the new revenue guidance. For a more detailed discussion on the impact of the new revenue guidance, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.
2 Represents the foreign currency translational and transactional impact versus the prior year.
3 Includes impact from pricing and other non-volume based fees.
4 Includes impact of the allocation of revenue to service deliverables, which are recorded in other revenue when services are performed.
5 Includes impacts from Advisors fees, safety and security fees, loyalty and reward solution fees and other payment-related products and services.
6 Includes the impact from timing of new, renewed and expired agreements.

The following table provides a summary of the trend in volume and transaction growth:

	Years Ended December 31,			
	2018		2017	
	Growth (USD)	Growth (Local)	Growth (USD)	Growth (Local)
Mastercard-branded GDV [1]	13%	14%	8%	8%

Asia Pacific/Middle East/Africa	13 %	13 %	8 %	9 %
Canada	10 %	10 %	13 %	10 %
Europe	18 %	19 %	10 %	10 %
Latin America	8 %	17 %	17 %	15 %
United States	10 %	10 %	5 %	5 %
Cross-border volume [1]		19 %		15 %
Switched transactions		13 %		17 %

[1] Excludes volume generated by Maestro and Cirrus cards.

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In 2016, our GDV was impacted by the EU Interchange Fee Regulation related to card payments which became effective in June 2016. The regulation requires that we no longer collect fees on domestic European Economic Area payment transactions that do not use our network brand. Prior to that, we collected a de minimis assessment fee in a few countries, particularly France, on transactions with Mastercard co-badged cards if the brands of domestic networks (as opposed to Mastercard) were used. As a result, the non Mastercard co-badged volume is no longer being included.

The following table reflects GDV growth rates for Europe and Worldwide Mastercard. For comparability purposes, we adjusted growth rates for the impact of Article 8 of the EU Interchange Fee Regulation related to card payments, to exclude the prior period co-badged volume processed by other networks.

	For the Years Ended December 31,	
	2018	2017
	Growth (Local)	
GDV [1]		
Worldwide as reported	14%	8%
Worldwide as adjusted for EU Regulation	14%	10%
Europe as reported	19%	10%
Europe as adjusted for EU Regulation	19%	16%

[1] Excludes volume generated by Maestro and Cirrus cards.

The following table reflects cross-border volume and switched transactions growth rates. For comparability purposes, we normalized the growth rates for the effects of differing switching days between periods. Additionally, we adjusted the switched transactions growth rate for the deconsolidation of our Venezuelan subsidiaries in 2017. For a more detailed discussion of the deconsolidation of our Venezuelan subsidiaries, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

	For the Years Ended December 31,	
	2018	2017
	Growth (Local)	
Cross-border volume as reported	19%	15%
Cross-border volume, normalized	18%	15%
Switched transactions as reported	13%	17%
Switched transactions, normalized[1]	17%	16%

[1] Adjusted for the deconsolidation of Venezuela subsidiaries.

No individual country, other than the United States, generated more than 10% of total net revenue in any such period. A significant portion of our revenue is concentrated among our five largest customers. In 2018, the net revenue from these customers was approximately

$3.1 billion, or 21%, of total net revenue. The loss of any of these customers or their significant card programs could adversely impact our revenue.

Operating Expenses

Operating expenses increased 31% and 17% in 2018 and 2017, respectively, versus the prior year. Excluding the impact of the Special Items, adjusted operating expenses increased 15% and 16% in 2018 and 2017, respectively, versus the prior year, both as adjusted and on a currency-neutral basis. Acquisitions contributed 2 percentage points of growth in 2018.

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The components of operating expenses were as follows:

	Year ended December 31,			Increase (Decrease)	
	2018	2017	2016	2018	2017
	($ in millions)				
General and administrative	$ 5,174	$ 4,653	$ 3,827	11 %	22 %
Advertising and marketing	907	771	698	18 %	11 %
Depreciation and amortization	459	436	373	5 %	17 %
Provision for litigation	1,128	15	117	**	**
Total operating expenses	7,668	5,875	5,015	31 %	17 %
Special Items1	(1,128)	(182)	(117)	**	**
Adjusted total operating expenses (excluding Special Items1)	$ 6,540	$ 5,693	$ 4,898	15 %	16 %

Note: Table may not sum due to rounding.
** Not meaningful
1 See "Non-GAAP Financial Information" for further information on Special Items.

The following table summarizes the primary drivers of changes in operating expenses in 2018 and 2017:

	For the Years Ended December 31,													
	Operational		Special Items 1		Acquisitions		Revenue Standard 2		Mastercard Impact Fund 3		Foreign Currency 4		Total	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	20
General and administrative	11 %	11 %	(4 %)	5 %	1 %	6 %	— %	— %	2 %	— %	— %	1 %	11 %	22
Advertising and marketing	(4 %)	9 %	— %	— %	— %	1 %	21 %	— %	— %	— %	— %	1 %	18 %	11
Depreciation and amortization	(5 %)	— %	— %	— %	10 %	17 %	— %	— %	— %	— %	— %	— %	5 %	17
Provision for litigation	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Total operating expenses	8 %	10 %	16 %	1 %	2 %	6 %	3 %	— %	2 %	— %	— %	1 %	31 %	17

Note: Table may not sum due to rounding.
** Not meaningful
1 See "Non-GAAP Financial Information" for further information on Special Items.
2 Represents the impact of our adoption of the new revenue guidance. For a more detailed discussion on the impact of the new revenue guidance, refer to Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.
3 Represents contribution to a non-profit entity.
4 Represents the foreign currency translational and transactional impact versus the prior year.

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General and Administrative

The significant components of our general and administrative expenses were as follows:

	For the Years Ended December 31,			Percent Increase (Decrease)	
	2018	2017	2016	2018	2017
	($ in millions)				
Personnel	$ 3,214	$ 2,687	$ 2,225	20%	21%
Professional fees	377	355	337	6%	5%
Data processing and telecommunications	600	504	420	19%	20%
Foreign exchange activity [1]	(36)	106	34	**	**
Other	1,019	1,001	811	2%	23%
General and administrative expenses	5,174	4,653	3,827	11%	22%
Special Item [2]	—	(167)	—	**	**
Adjusted general and administrative expenses (excluding Special Item) [2]	$ 5,174	$ 4,486	$ 3,827	15%	17%

Note: Table may not sum due to rounding.
** Not meaningful
1 Foreign exchange activity includes gains and losses on foreign exchange derivative contracts and the impact of remeasurement of assets and liabilities denominated in foreign currencies. See Note 22 (Foreign Exchange Risk Management) to the consolidated financial statements included in Part II, Item 8 for further discussion.
2 See "Non-GAAP Financial Information" for further information on Special Items.

The primary drivers of general and administrative expenses in 2018 and 2017, versus the prior year, were as follows:

- Personnel expenses increased 20% and 21%, or 19% and 20% on a currency-neutral basis, respectively. The 2018 and 2017 increases were driven by a higher number of employees to support our continued investment in the areas of real-time account-based payments, digital, services, data analytics and geographic expansion. The impact of acquisitions contributed 2 and 6 percentage points of growth for 2018 and 2017, respectively.

- Data processing and telecommunication expenses increased 19% and 20%, respectively, both as reported and on a currency-neutral basis, due to capacity growth of our business. Acquisitions contributed 3 and 8 percentage points, respectively.

- Foreign exchange activity contributed a benefit of 3 percentage points in 2018 related to gains from our foreign exchange activity for derivative contracts primarily due to the strengthening of the U.S. dollar, partially offset by balance sheet remeasurement losses. In 2017, foreign exchange activity had a negative impact of 2 percentage points due to greater losses from foreign exchange derivative contracts.

- Other expenses increased 2% and 23%, or 2% and 25% on a currency-neutral basis, respectively. In 2018, other expenses increased primarily

due to the $100 million contribution to the Mastercard Impact Fund. The remaining increase was due to costs to support our strategic development efforts. These increases were primarily offset by the non-recurring Venezuela charge of $167 million recorded in 2017 which was the primary driver of growth for that period. Other expenses include costs to provide loyalty and rewards solutions, travel and meeting expenses and rental expense for our facilities and other costs associated with our business.

Advertising and Marketing

In 2018, advertising and marketing expenses increased 18% both as reported and on a currency-neutral basis versus 2017, primarily due to a change in accounting for certain marketing fund arrangements as a result of our adoption of the new revenue guidance, partially offset by a net decrease in spending on certain marketing campaigns. For a more detailed discussion on the impact of the new revenue guidance, refer to Note 1 (Summary of Significant Accounting Policies). In 2017, advertising and marketing expenses increased 11%, or 10% on a currency-neutral basis versus 2016, mainly due to higher marketing spend primarily related to certain marketing campaigns.

Depreciation and Amortization

Depreciation and amortization expenses increased 5% and 17% in 2018 and 2017, respectively, versus the prior year, both as reported and on a currency-neutral basis. The increase in 2018 was primarily due to the impact of acquisitions partially offset by the full amortization of certain intangible assets. In 2017, the increase was primarily due to the impact of acquisitions.

Provision for Litigation

In 2018, we recorded pre-tax charges of $1,128 million which includes $654 million related to a fine issued by the European Commission, $237 million related to both the U.S. merchant class litigation and the filed and anticipated opt-out U.S. merchant cases and $237 million related to litigation settlements with U.K. and Pan-European merchants. During 2017 and 2016, we recorded pre-tax charges of $15 million and $117 million related to litigations with merchants in Canada and the U.K., respectively. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Other Income (Expense)

Other income (expense) is comprised primarily of investment income, interest expense, our share of income (losses) from equity method investments and other gains and losses. Total other expense decreased $22 million to $78 million in 2018 versus $100 million in 2017 due to higher investment income partially offset by higher interest expense related to our debt issuance in February 2018 and higher equity losses in the current year. Total other expense decreased $15 million to $100 million in 2017 versus $115 million in 2016 due to lower impairment charges taken on certain investments last year and a gain on an investment recorded in 2017, partially offset by higher interest expense from debt issued in the fourth quarter of 2017.

Income Taxes

On December 22, 2017, U.S. Tax Reform was enacted into law with the effective date for most provisions being January 1, 2018. U.S. Tax Reform represents significant changes to the U.S. internal revenue code and, among other things:

- lowered the corporate income tax rate from 35% to 21%
- imposed a one-time deemed repatriation tax on accumulated foreign earnings
- provides for a 100% dividends received deduction on dividends from foreign affiliates
- requires a current inclusion in U.S. federal taxable income of earnings of foreign affiliates that are determined to be global intangible low taxed income or “GILTI”
- creates the base erosion anti-abuse tax, or “BEAT”
- provides for an effective tax rate of 13.125% for certain income derived from outside of the U.S. (referred to as foreign derived intangible income or “FDII”)
- introduced further limitations on the deductibility of executive compensation

- permits 100% expensing of qualifying fixed assets acquired after September 27, 2017
- limits the deductibility of interest expense in certain situations and
- eliminates the domestic production activities deduction.

While the effective date of the law for most provisions was January 1, 2018, GAAP requires the effects of changes in tax rates be accounted for in the reporting period of enactment, which was the 2017 reporting period.

The effective tax rates for the years ended December 31, 2018, 2017 and 2016 were 18.7%, 40.0% and 28.1%, respectively. The effective income tax rate for 2018 was lower than the effective income tax rate for 2017 primarily due to additional tax expense of $873 million attributable to U.S. Tax Reform in 2017, a lower 2018 statutory tax rate in the U.S. and Belgium and a more favorable geographic mix of earnings. The lower effective tax rate is also attributable to discrete tax benefits, relating primarily to $90 million of foreign tax credits generated in 2018, which can be carried back and utilized in 2017 under transition rules in the proposed foreign tax credit regulations issued on November 28, 2018, along with provisions for legal matters in the United States. These benefits were partially offset by the nondeductible nature of the fine issued by the European Commission. Excluding the impact of Special Items, the 2018 adjusted effective income tax rate improved by 8.3 percentage points to 18.5% from 26.8% in 2017 primarily due to the lower tax rate in the U.S. and a more favorable geographical mix of earnings.

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The effective income tax rate for 2017 was higher than the effective income tax rate for 2016 primarily due to additional tax expense of $873 million attributable to U.S. Tax reform, which included provisional amounts of $825 million related to the Transition Tax, the remeasurement of our net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding the indefinite reinvestment of a substantial amount of our foreign earnings, as well as $48 million due to a foregone foreign tax credit benefit on current year repatriations. Excluding the impact of U.S. Tax Reform and other Special Items, the 2017 adjusted effective income tax rate improved by 1.3 percentage points to 26.8% from 28.1% in 2016 primarily due to a more favorable geographical mix of earnings, partially offset by a lower U.S. foreign tax credit benefit.

The provision for income taxes differs from the amount of income tax determined by applying the U.S. federal statutory income tax rate of 21% for 2018 and 35.0% for 2017 and 2016 to pretax income for the years ended December 31, as a result of the following:

	For the Years Ended December 31,					
	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
	($ in millions)					
Income before income taxes	$ 7,204		$ 6,522		$ 5,646	
Federal statutory tax	1,513	21.0 %	2,283	35.0 %	1,976	35.0 %
State tax effect, net of federal benefit	46	0.6 %	43	0.7 %	22	0.4 %
Foreign tax effect	(92)	(1.3%)	(380)	(5.8%)	(188)	(3.3%)
European Commission fine	194	2.7 %	—	— %	—	— %
Foreign tax credits[1]	(110)	(1.5%)	(27)	(0.4%)	(141)	(2.5%)
Transition Tax	22	0.3 %	629	9.6 %	—	— %
Remeasurement of deferred taxes	(7)	(0.1%)	157	2.4 %	—	— %
Windfall benefit	(72)	(1.0%)	(43)	(0.7%)	—	— %
Other, net	(149)	(2.0%)	(55)	(0.8%)	(82)	(1.5%)
Income tax expense	$ 1,345	18.7 %	$ 2,607	40.0 %	$ 1,587	28.1 %

[1] Included within the impact of the 2018 foreign tax credits is a $90 million tax benefit relating to the carry back of certain foreign tax credits. Additionally, included in 2016 is a $116 million benefit associated with the repatriation of 2016 foreign earnings. There was no benefit associated with the repatriation of foreign earnings in 2018 and 2017 due to the enactment of U.S. Tax Reform.

Our GAAP effective income tax rates for 2018, 2017 and 2016 were affected by the tax benefits related to the Special Items as previously discussed.

Our unrecognized tax benefits related to positions taken during the current and prior periods were $164 million and $183 million, as of December 31, 2018 and 2017, respectively, all of which would reduce our effective tax rate if recognized. Within the next twelve months, we believe that the resolution of certain federal, foreign and state and local tax examinations is reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may

occur. It is not possible to provide a range of the potential change until the examinations progress further or the related statute of limitations expire.

In 2010, in connection with the expansion of our operations in the Asia Pacific, Middle East and Africa region, our subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL"), received an incentive grant from the Singapore Ministry of Finance.

See Note 19 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

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Liquidity and Capital Resources

We rely on existing liquidity, cash generated from operations and access to capital to fund our global operations, credit and settlement exposure, capital expenditures, investments in our business and current and potential obligations. The following table summarizes the cash, cash equivalents, investments and credit available to us at December 31:

	2018	2017
	(in billions)	
Cash, cash equivalents and investments [1]	$ 8.4	$ 7.8
Unused line of credit	4.5	3.8

[1] Investments include available-for-sale securities and short-term held-to-maturity securities. At December 31, 2018 and 2017, this amount excludes restricted cash related to the U.S. merchant class litigation settlement of $553 million and $546 million, respectively. This amount also excludes restricted security deposits held for customers of $1.1 billion at both December 31, 2018 and 2017.

In 2017, as a result of U.S. Tax Reform, among other things, we changed our assertion regarding the indefinite reinvestment of foreign earnings outside the U.S. for certain of our foreign affiliates and recognized a provisional deferred tax liability of $36 million. In 2018, we completed our analysis of global working capital and cash needs. It is our present intention to indefinitely reinvest approximately $0.9 billion of our historic undistributed accumulated earnings associated with certain foreign subsidiaries outside of the U.S. See Note 19 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Our liquidity and access to capital could be negatively impacted by global credit market conditions. We guarantee the settlement of many of the transactions between our customers. See Note 21 (Settlement and Other Risk Management) to the consolidated financial statements in Part II, Item 8 for a description of these guarantees. Historically, payments under these guarantees have not been significant; however, historical trends may not be an indication of potential future losses. The risk of loss on these guarantees is specific to individual customers, but may also be driven significantly by regional or global economic conditions, including, but not limited to the health of the financial institutions in a country or region.

Our liquidity and access to capital could also be negatively impacted by the outcome of any of the legal or regulatory proceedings to which we are a party. For additional discussion of these and other risks facing our business, see our risk factor in "Risk Factors - Legal and Regulatory Risks" in Part I, Item 1A and Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8; and Part II, Item 7 (Business Environment).

Cash Flow

The table below shows a summary of the cash flows from operating, investing and financing activities for the years ended December 31:

	2018	2017	2016
		(in millions)	
Cash Flow Data:			
Net cash provided by operating activities	$ 6,223	$ 5,664	$ 4,637
Net cash used in investing activities	(506)	(1,781)	(1,163)
Net cash used in financing activities	(4,966)	(4,764)	(2,344)

Net cash provided by operating activities increased $559 million in 2018 versus 2017, primarily due to higher net income as adjusted for non-cash items, partially offset by deferred payments associated with U.S. Tax Reform in the prior year and the timing of settlement with customers. Net cash provided by operating activities in 2017 versus 2016, increased by $1.0 billion, primarily due to higher net income as adjusted for non-cash items and deferred payments associated with U.S. Tax Reform.

Net cash used in investing activities decreased $1.3 billion in 2018 versus 2017, primarily due to 2017 acquisitions. Net cash used in investing activities increased $618 million in 2017 versus 2016, primarily due to 2017 acquisitions and investments in nonmarketable equity investments, partially offset by higher net proceeds of investment securities.

Net cash used in financing activities increased $202 million in 2018 versus 2017, primarily due to higher repurchases of our Class A common stock and dividends paid, partially offset by the proceeds from debt issued in the current year. Net cash used in financing activities increased $2.4 billion in 2017 versus 2016, primarily due to proceeds from debt issued in 2016, higher repurchases of our Class A common stock and dividends paid.

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The table below shows a summary of select balance sheet data at December 31:

	2018	2017
	(in millions)	
Balance Sheet Data:		
Current assets	$ 16,171	$ 13,797
Current liabilities	11,593	8,793
Long-term liabilities	7,778	6,968
Equity	5,418	5,497

We believe that our existing cash, cash equivalents and investment securities balances, our cash flow generating capabilities, our borrowing capacity and our access to capital resources are sufficient to satisfy our future operating cash needs, capital asset purchases, outstanding commitments and other liquidity requirements associated with our existing operations and potential obligations.

Debt and Credit Availability

In February 2018, we issued $500 million principal amount of notes due in 2028 and an additional $500 million principal amount of notes due in 2048. Our total debt outstanding (including the current portion) was $6.3 billion and $5.4 billion at December 31, 2018 and 2017, respectively, with the earliest maturity of $500 million of principal occurring in April 2019.

As of December 31, 2018, we have a commercial paper program (the "Commercial Paper Program"), under which we are authorized to issue up to $4.5 billion in outstanding notes, with maturities up to 397 days from the date of issuance. In conjunction with the Commercial Paper Program, we have a committed unsecured $4.5 billion revolving credit facility (the "Credit Facility") which expires in November 2023.

Borrowings under the Commercial Paper Program and the Credit Facility are to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. In addition, we may borrow and repay amounts under these facilities for business continuity purposes. We had no borrowings outstanding under the Commercial Paper Program or the Credit Facility at December 31, 2018 and 2017.

In March 2018, we filed a universal shelf registration statement (replacing a previously filed shelf registration statement that was set to expire) to provide additional access to capital, if needed. Pursuant to the shelf registration statement, we may from time to time offer to sell debt securities, guarantees of debt securities, preferred stock, Class A common stock, depository shares, purchase contracts, units or warrants in one or more offerings.

See Note 14 (Debt) to the consolidated financial statements included in Part II, Item 8 for further discussion on our debt, the Commercial Paper Program and the Credit Facility.

Dividends and Share Repurchases

We have historically paid quarterly dividends on our outstanding Class A common stock and Class B common stock. Subject to legally available funds, we intend to continue to pay a quarterly cash dividend. However, 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. The following table summarizes the annual, per share dividends paid in the years reflected:

	Years Ended December 31,		
	2018	2017	2016
	(in millions, except per share data)		
Cash dividend, per share	$ 1.00	$ 0.88	$ 0.76
Cash dividends paid	$ 1,044	$ 942	$ 837

On December 4, 2018, our Board of Directors declared a quarterly cash dividend of $0.33 per share paid on February 8, 2019 to holders of record on January 9, 2019 of our Class A common stock and Class B common stock. The aggregate amount of this dividend was $340 million.

On February 5, 2019, our Board of Directors declared a quarterly cash dividend of $0.33 per share payable on May 9, 2019 to holders of record on April 9, 2019 of our Class A common stock and Class B common stock. The aggregate amount of this dividend is estimated to be $339 million.

Repurchased shares of our common stock are considered treasury stock. The timing and actual number of additional shares repurchased will depend on a variety of factors, including the operating needs of the business, legal requirements, price and economic and market conditions. In December 2018, 2017 and 2016, our Board of Directors approved share repurchase programs authorizing us to repurchase up to $6.5 billion, $4 billion and $4 billion, respectively, of our Class A common stock. The program approved in 2018 became effective in January 2019 after completion of the share repurchase program authorized in 2017. The following table summarizes our share repurchase authorizations of our Class A common stock through December 31, 2018, under the plans approved in 2018, 2017 and 2016:

	(in millions, except per share data)	
Board authorization	$	14,500
Remaining authorization at December 31, 2017	$	5,234
Dollar-value of shares repurchased in 2018	$	4,933
Remaining authorization at December 31, 2018	$	6,801
Shares repurchased in 2018		26.2
Average price paid per share in 2018	$	188.26

See Note 15 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Off-Balance Sheet Arrangements

We have no off-balance sheet debt, other than lease arrangements and other commitments as presented in the Future Obligations table that follows.

Future Obligations

The following table summarizes our obligations as of December 31, 2018 that are expected to impact liquidity and cash flow in future periods. We believe we will be able to fund these obligations through cash generated from operations and our cash balances.

	Payments Due by Period				
	Total	2019	2020 - 2021	2022 - 2023	2024 and thereafter
	(in millions)				
Debt	$ 6,389	$ 500	$ 650	$ 801	$ 4,438
Interest on debt	2,072	166	323	288	1,295
Capital leases	8	4	4	—	—
Operating leases	676	72	151	126	327
Other obligations [1]					
Sponsorship, licensing and other [2]	691	350	279	62	—
Employee benefits [3]	273	72	49	46	106
Transition Tax [4]	509	—	47	156	306
Redeemable non-controlling interests [5]	73	—	73	—	—
Total [6]	$ 10,691	$ 1,164	$ 1,576	$ 1,479	$ 6,472

1 The table does not include the $1.6 billion provision as of December 31, 2018 related to litigation as the timing of payments is not fixed and determinable. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion. The table also does not include the $219 million accrual as of December 31, 2018 related to the contingent consideration attributable to acquisitions made in 2017, which is pending our final assessment in accordance with the terms of the purchase agreement. This payment is expected to be completed in 2019. See Note 7 (Fair Value and Investment Securities) to the consolidated financial statements included in Part II, Item 8 for further discussion.

2 Amounts primarily relate to sponsorships to promote the Mastercard brand. Future cash payments that will become due to our customers under agreements which provide pricing rebates on our standard fees and other incentives in exchange for transaction volumes are not included in the table because the amounts due are contingent on future performance. We have accrued $4.1 billion as of December 31, 2018 related to customer and merchant agreements.

3 Amounts relate to severance liabilities along with expected funding requirements for defined benefit pension and postretirement plans.

4 Amounts relate to the U.S. tax liability on the Transition Tax on accumulated non-U.S. earnings of U.S entities. See Note 19 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

5 Amount relates to the fixed-price put option for the Vocalink remaining shareholders to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter. See Note 2 (Acquisitions) to the consolidated financial statements included in Part II, Item 8 for further discussion.

6 We have recorded a liability for unrecognized tax benefits of $164 million at December 31, 2018. Within the next twelve months, we believe that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. It is not possible to provide a range of the potential change until the examinations progress further or the related statute of limitations expire. These amounts have been excluded from the table since the settlement period of this liability cannot be reasonably estimated. The timing of these payments will ultimately depend on the progress of tax examinations with the various authorities.

Seasonality

We do not experience meaningful seasonality. No individual quarter in 2018, 2017 or 2016 accounted for more than 30% of net revenue.

Critical Accounting Estimates

The application of GAAP requires us to make estimates and assumptions about certain items and future events that directly affect our reported financial condition. We have established detailed policies and control procedures to provide reasonable assurance that the methods used to make estimates and assumptions are well controlled and are applied consistently from period to period. The accounting estimates and assumptions discussed in this section are those that we consider to be the most critical to our financial statements. An accounting estimate is considered critical if both (a) the nature of the estimate or assumption is material due to the levels of subjectivity and judgment involved, and (b) the impact within a reasonable range of outcomes of the estimate and assumption is material to our financial condition. Senior management has discussed the development, selection and disclosure of these estimates with the Audit Committee of our Board of Directors. Our significant accounting policies, including recent accounting pronouncements, are described in Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

Revenue Recognition

Application of the various accounting principles in GAAP related to the measurement and recognition of revenue requires us to make judgments and estimates. Specifically, complex arrangements with nonstandard terms and conditions may require significant contract interpretation to determine the appropriate accounting. Domestic assessment revenue requires an estimate of our customers' performance in order to recognize this revenue. Rebates and incentives are recorded as a reduction to gross revenue based on these estimates. We consider various factors in estimating customer performance, including a review of specific transactions, historical experience with that customer and market and economic conditions. Differences between actual results and our estimates are adjusted in the period the customer reports actual performance. If our customers' actual performance is not consistent with our estimates of their performance, net revenue may be materially different.

Loss Contingencies

We are currently involved in various claims and legal proceedings. We regularly review the status of each significant matter and assess its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to pending claims and litigation and may revise our estimates. Due to the inherent uncertainties of the legal and regulatory process in the multiple jurisdictions in which we operate, our judgments may be materially different than the actual outcomes. See Note 20 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Income Taxes

In calculating our effective income tax rate, we need to make estimates regarding the timing and amount of taxable and deductible items which will adjust the pretax income earned in various tax jurisdictions. Through our interpretation of local tax regulations, adjustments to pretax income for income earned in various tax jurisdictions are reflected within various tax filings. Although we believe that our estimates and judgments discussed herein are reasonable, actual results may be materially different than the estimated amounts.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Significant judgment is required in determining the valuation allowance. We consider projected future taxable income and ongoing tax planning strategies in assessing the need for the valuation allowance. If it is determined that we are able to realize deferred tax assets in excess of the net carrying value or to the extent we are unable to realize a deferred tax asset, we would adjust the valuation allowance in the period in which such a determination is made, with a corresponding increase or decrease to earnings.

We record tax liabilities for uncertain tax positions taken, or expected to be taken, which may not be sustained or may only be partially sustained, upon examination by the relevant taxing authorities. We consider all relevant facts and current authorities in the tax law in assessing whether any benefit resulting from an uncertain tax position is more likely than not to be sustained

and, if so, how current law impacts the amount reflected within these financial statements. If upon examination, we realize a tax benefit which is not fully sustained or is more favorably sustained, this would decrease or increase earnings in the period. In certain situations, we will have offsetting tax credits or taxes in other jurisdictions.

Deferred taxes are established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. Ultimately, the working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

Valuation of Assets

The valuation of assets acquired in a business combination and asset impairment reviews require the use of significant estimates and assumptions. The acquisition method of accounting for business combinations requires us to estimate the fair value of assets acquired, liabilities assumed and any non-controlling interest in the acquiree to properly allocate purchase price consideration. Impairment testing for assets, other than goodwill and indefinite-lived intangible assets, requires the allocation of cash flows to those assets or group of assets and if required, an estimate of fair value for the assets or group of assets.

We evaluate goodwill and indefinite-lived intangible assets for impairment on an annual basis or sooner if indicators of impairment exist. Goodwill is tested for impairment at the reporting unit level utilizing a quantitative assessment. We use market capitalization for estimating the fair value of our reporting unit. If the fair value exceeds the carrying value, goodwill is not impaired. If the carrying value exceeds the fair value, then goodwill is impaired and the excess of the reporting unit’s carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate all relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. In performing these qualitative assessments, we consider relevant events and conditions, including but not limited to, macroeconomic trends, industry and market conditions, overall financial performance, cost factors, company-specific events, and legal and regulatory factors. If the qualitative assessments indicate that it is more likely than not that the fair value of the indefinite-lived intangible assets is less than their carrying amounts, we must perform a quantitative impairment test.

Our estimates in the valuation of these assets are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. These valuations require the use of management’s assumptions, which would not reflect unanticipated events and circumstances that may occur.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as interest rates and foreign currency exchange rates. Our exposure to market risk from changes in interest rates and foreign exchange rates is limited. Management establishes and oversees the implementation of policies governing our funding, investments and use of derivative financial instruments. We monitor risk exposures on an ongoing basis. The effect of a hypothetical 10% adverse change in foreign exchange rates could result in a fair value loss of approximately $113 million on our foreign currency derivative contracts outstanding at December 31, 2018 related to the hedging program. In addition, a 100 basis point adverse change in interest rates would not have a material impact on our investments at December 31, 2018 and 2017.

Foreign Exchange Risk

Our settlement activities are subject to foreign exchange risk resulting from foreign exchange rate fluctuations. This risk is typically limited to the one business day between setting the foreign exchange rates and clearing the financial transactions. We enter into foreign currency contracts to manage risk associated with anticipated receipts and disbursements which are either transacted in a non-functional currency or valued based on a currency other than the functional currencies of the entity.

We may also enter into foreign currency derivative contracts to offset possible changes in value due to foreign exchange fluctuations of earnings, assets and liabilities denominated in currencies other than the functional currency of the entity. The objective of these activities is to reduce our exposure to transaction gains and losses resulting from fluctuations of foreign currencies against our functional and reporting currencies, principally the U.S. dollar and euro.

Foreign currency exposures are managed together through our foreign exchange risk management activities, which are discussed further in Note 22 (Foreign Exchange Risk Management) to the consolidated financial statements included in Part II, Item 8. The terms of the forward contracts are generally less than 18 months.

As of December 31, 2018, the majority of derivative contracts to hedge foreign currency fluctuations had been entered into with our customers. Our derivative contracts are summarized below:

	December 31, 2018		December 31, 2017	
	Notional	Estimated Fair Value	Notional	Estimated Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 34	$ (1)	$ 27	$ —
Commitments to sell foreign currency	1,066	26	968	(26)
Options to sell foreign currency	25	4	27	2

We also use foreign currency denominated debt to hedge a portion of our net investment in foreign operations against adverse movements in exchange rates, with changes in the translated value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). We have designated our euro-denominated debt as a net investment hedge for a portion of our net investment in European foreign operations.

Our euro-denominated debt is vulnerable to changes in the euro to U.S. dollar exchange rates. The principal amounts of our euro-denominated debt as well as the effective interest rates and scheduled annual maturities of the principal is included in Note 14 (Debt) to the consolidated financial statements included in Part II, Item 8.

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Interest Rate Risk

Our interest rate sensitive assets are our investments in fixed income securities, which we generally hold as available-for-sale investments. Our policy is to invest in high quality securities, while providing adequate liquidity and maintaining diversification to avoid significant exposure. The fair value and maturity distribution of our available-for-sale investments for fixed income securities as of December 31 was as follows:

			Maturity					
Financial Instrument	Summary Terms	Fair Market Value at December 31, 2018	2019	2020	2021	2022	2023	2024 and there-after
			(in millions)					
Municipal securities	Fixed / Variable Interest	$ 15	$ 13	$ 2	$ —	$ —	$ —	$ —
Government and agency securities	Fixed / Variable Interest	157	84	28	45	—	—	—
Corporate securities	Fixed / Variable Interest	1,043	271	381	316	71	3	1
Asset-backed securities	Fixed / Variable Interest	217	8	77	93	33	6	—
Total		$ 1,432	$ 376	$ 488	$ 454	$ 104	$ 9	$ 1

			Maturity					
Financial Instrument	Summary Terms	Fair Market Value at December 31, 2017	2018	2019	2020	2021	2022	2023 and there-after
			(in millions)					
Municipal securities	Fixed / Variable Interest	$ 17	$ 12	$ 5	$ —	$ —	$ —	$ —
Government and agency securities	Fixed / Variable Interest	185	87	59	16	23	—	—
Corporate securities	Fixed / Variable Interest	876	212	277	287	76	23	1
Asset-backed securities	Fixed / Variable Interest	70	3	24	35	8	—	—
Total		$ 1,148	$ 314	$ 365	$ 338	$ 107	$ 23	$ 1

We also have time deposits that are classified as held-to-maturity securities. At December 31, 2018 and 2017, the cost which approximates fair value, of our short-term held-to-maturity securities was $264 million and $700 million, respectively.

At December 31, 2018, we have U.S. dollar-denominated and euro-denominated debt, which is subject to interest rate risk. The principal amounts of this debt as well as the effective interest rates and scheduled annual maturities of the principal is included in Note 14 (Debt) to the consolidated financial statements included in Part II, Item 8. See "Future Obligations" for estimated interest payments due by period relating to the U.S. dollar-denominated and euro-denominated debt.

At December 31, 2018, we have the Commercial Paper Program and the Credit Facility which provide liquidity for general corporate purposes, including providing liquidity in the event of

one or more settlement failures by our customers. Borrowing rates under the Commercial Paper Program are based on market conditions. Borrowing rates under the Credit Facility are variable rates, which are applied to the borrowing based on terms and conditions set forth in the agreement. See Note 14 (Debt) to the consolidated financial statements in Part II, Item 8 for additional information on the Credit Facility and the Commercial Paper Program. We had no borrowings under the Commercial Paper Program or the Credit Facility at December 31, 2018 and 2017.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MASTERCARD INCORPORATED

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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Mastercard Incorporated ("Mastercard") is responsible for establishing and maintaining adequate internal control over financial reporting. 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 reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. As required by Section 404 of the Sarbanes-Oxley Act of 2002, management has assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2018. In making its assessment, management has utilized the criteria set forth in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that, based on its assessment, Mastercard's internal control over financial reporting was effective as of December 31, 2018. The effectiveness of Mastercard's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on the next page.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Mastercard Incorporated:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Mastercard Incorporated and its subsidiaries (the "Company") as of December 31, 2018 and 2017 and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

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 the accompanying Management's Report on Internal Control over Financial Reporting. 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.

/s/ PricewaterhouseCoopers LLP

New York, New York
February 13, 2019

We have served as the Company's auditor since 1989.

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MASTERCARD INCORPORATED
CONSOLIDATED BALANCE SHEET

	December 31,	
	2018	2017
	(in millions, except per share data)	
ASSETS		
Cash and cash equivalents	$ 6,682	$ 5,933
Restricted cash for litigation settlement	553	546
Investments	1,696	1,849
Accounts receivable	2,276	1,969
Settlement due from customers	2,452	1,375
Restricted security deposits held for customers	1,080	1,085
Prepaid expenses and other current assets	1,432	1,040
Total Current Assets	16,171	13,797
Property, plant and equipment, net	921	829
Deferred income taxes	570	250
Goodwill	2,904	3,035
Other intangible assets, net	991	1,120
Other assets	3,303	2,298
Total Assets	$ 24,860	$ 21,329
LIABILITIES, REDEEMABLE NON-CONTROLLING INTERESTS AND EQUITY		
Accounts payable	$ 537	$ 933
Settlement due to customers	2,189	1,343
Restricted security deposits held for customers	1,080	1,085
Accrued litigation	1,591	709
Accrued expenses	4,747	3,931
Current portion of long-term debt	500	—
Other current liabilities	949	792
Total Current Liabilities	11,593	8,793
Long-term debt	5,834	5,424
Deferred income taxes	67	106
Other liabilities	1,877	1,438
Total Liabilities	19,371	15,761
Commitments and Contingencies		
Redeemable Non-controlling Interests	71	71
Stockholders' Equity		
Class A common stock, $0.0001 par value; authorized 3,000 shares, 1,387 and 1,382 shares issued and 1,019 and 1,040 outstanding, respectively	—	—
Class B common stock, $0.0001 par value; authorized 1,200 shares, 12 and 14 issued and outstanding, respectively	—	—
Additional paid-in-capital	4,580	4,365
Class A treasury stock, at cost, 368 and 342 shares, respectively	(25,750)	(20,764)

Retained earnings	27,283	22,364
Accumulated other comprehensive income (loss)	(718)	(497)
Total Stockholders' Equity	5,395	5,468
Non-controlling interests	23	29
Total Equity	5,418	5,497
Total Liabilities, Redeemable Non-controlling Interests and Equity	$ 24,860	$ 21,329

The accompanying notes are an integral part of these consolidated financial statements.

MASTERCARD INCORPORATED

CONSOLIDATED STATEMENT OF OPERATIONS

	For the Years Ended December 31,		
	2018	2017	2016
	(in millions, except per share data)		
Net Revenue	$ 14,950	$ 12,497	$ 10,776
Operating Expenses			
General and administrative	5,174	4,653	3,827
Advertising and marketing	907	771	698
Depreciation and amortization	459	436	373
Provision for litigation	1,128	15	117
Total operating expenses	7,668	5,875	5,015
Operating income	7,282	6,622	5,761
Other Income (Expense)			
Investment income	122	56	43
Interest expense	(186)	(154)	(95)
Other income (expense), net	(14)	(2)	(63)
Total other income (expense)	(78)	(100)	(115)
Income before income taxes	7,204	6,522	5,646
Income tax expense	1,345	2,607	1,587
Net Income	$ 5,859	$ 3,915	$ 4,059
Basic Earnings per Share	$ 5.63	$ 3.67	$ 3.70
Basic weighted-average shares outstanding	1,041	1,067	1,098
Diluted Earnings per Share	$ 5.60	$ 3.65	$ 3.69
Diluted weighted-average shares outstanding	1,047	1,072	1,101

The accompanying notes are an integral part of these consolidated financial statements.

MASTERCARD INCORPORATED
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
	2018	2017	2016
		(in millions)	
Net Income	$ 5,859	$ 3,915	$ 4,059
Other comprehensive income (loss):			
Foreign currency translation adjustments	(319)	565	(275)
Income tax effect	40	2	(11)
Foreign currency translation adjustments, net of income tax effect	(279)	567	(286)
Translation adjustments on net investment hedge	96	(236)	60
Income tax effect	(21)	83	(22)
Translation adjustments on net investment hedge, net of income tax effect	75	(153)	38
Defined benefit pension and other postretirement plans	(18)	15	(2)
Income tax effect	3	(1)	—
Defined benefit pension and other postretirement plans, net of income tax effect	(15)	14	(2)
Investment securities available-for-sale	(3)	(3)	3
Income tax effect	1	2	(1)
Investment securities available-for-sale, net of income tax effect	(2)	(1)	2
Other comprehensive income (loss), net of income tax effect	(221)	427	(248)
Comprehensive Income	$ 5,638	$ 4,342	$ 3,811

The accompanying notes are an integral part of these consolidated financial statements.

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MASTERCARD INCORPORATED
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Stockholders' Equity							
	Common Stock		Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non-Controlling Interests	Total Equity
	Class A	Class B						
	(in millions, except per share data)							
Balance at December 31, 2015	$ —	$ —	$4,004	$(13,522)	$16,222	$ (676)	$ 34	$6,062
Net income	—	—	—	—	4,059	—	—	4,059
Activity related to non-controlling interests	—	—	—	—	—	—	(6)	(6)
Other comprehensive income (loss), net of tax	—	—	—	—	—	(248)	—	(248)
Cash dividends declared on Class A and Class B common stock, $0.79 per share	—	—	—	—	(863)	—	—	(863)
Purchases of treasury stock	—	—	—	(3,503)	—	—	—	(3,503)
Share-based payments	—	—	179	4	—	—	—	183
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2016	—	—	4,183	(17,021)	19,418	(924)	28	5,684
Net income	—	—	—	—	3,915	—	—	3,915
Activity related to non-controlling interests	—	—	—	—	—	—	1	1
Other comprehensive income (loss), net of tax	—	—	—	—	—	427	—	427
Cash dividends declared on Class A and Class B common stock, $0.91 per share	—	—	—	—	(969)	—	—	(969)
Purchases of treasury stock	—	—	—	(3,747)	—	—	—	(3,747)
Share-based payments	—	—	182	4	—	—	—	186
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2017	—	—	4,365	(20,764)	22,364	(497)	29	5,497
Adoption of revenue standard	—	—	—	—	366	—	—	366

Adoption of intra-entity asset transfers standard	—	—	—	—	(183)	—	—	(183)
Net income	—	—	—	—	5,859	—	—	5,859
Activity related to non-controlling interests	—	—	—	—	—	—	(6)	(6)
Other comprehensive income (loss), net of tax	—	—	—	—	—	(221)	—	(221)
Cash dividends declared on Class A and Class B common stock, $1.08 per share	—	—	—	—	(1,123)	—	—	(1,123)
Purchases of treasury stock	—	—	—	(4,991)	—	—	—	(4,991)
Share-based payments	—	—	215	5	—	—	—	220
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2018	$ —	$ —	$4,580	$(25,750)	$27,283	$ (718)	$ 23	$5,418

The accompanying notes are an integral part of these consolidated financial statements.

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MASTERCARD INCORPORATED
CONSOLIDATED STATEMENT OF CASH FLOWS

	For the Years Ended December 31,		
	2018	2017	2016
		(in millions)	
Operating Activities			
Net income	$ 5,859	$ 3,915	$ 4,059
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of customer and merchant incentives	1,235	1,001	860
Depreciation and amortization	459	437	373
Share-based compensation	196	176	149
Tax benefit for share-based payments	—	—	(48)
Deferred income taxes	(244)	86	(20)
Venezuela charge	—	167	—
Other	31	59	29
Changes in operating assets and liabilities:			
Accounts receivable	(317)	(445)	(338)
Income taxes receivable	(120)	(8)	(1)
Settlement due from customers	(1,078)	(281)	(10)
Prepaid expenses	(1,769)	(1,402)	(1,073)
Accrued litigation and legal settlements	869	(12)	17
Restricted security deposits held for customers	(6)	94	96
Accounts payable	101	290	145
Settlement due to customers	849	394	66
Accrued expenses	439	589	520
Long-term taxes payable	(20)	577	—
Net change in other assets and liabilities	(261)	27	(187)
Net cash provided by operating activities	6,223	5,664	4,637
Investing Activities			
Purchases of investment securities available-for-sale	(1,300)	(714)	(957)
Purchases of investments held-to-maturity	(509)	(1,145)	(867)
Proceeds from sales of investment securities available-for-sale	604	304	277
Proceeds from maturities of investment securities available-for-sale	379	500	339
Proceeds from maturities of investments held-to-maturity	929	1,020	456
Purchases of property, plant and equipment	(330)	(300)	(215)
Capitalized software	(174)	(123)	(167)
Acquisition of businesses, net of cash acquired	—	(1,175)	—
Investment in nonmarketable equity investments	(91)	(147)	(31)
Other investing activities	(14)	(1)	2
Net cash used in investing activities	(506)	(1,781)	(1,163)
Financing Activities			
Purchases of treasury stock	(4,933)	(3,762)	(3,511)
Proceeds from debt	991	—	1,972
Payment of debt	—	(64)	—
Dividends paid	(1,044)	(942)	(837)
Tax benefit for share-based payments	—	—	48

Tax withholdings related to share-based payments	(80)	(47)	(51)
Cash proceeds from exercise of stock options	104	57	37
Other financing activities	(4)	(6)	(2)
Net cash used in financing activities	(4,966)	(4,764)	(2,344)
Effect of exchange rate changes on cash, cash equivalents, restricted cash and restricted cash equivalents	(6)	200	(50)
Net increase (decrease) in cash, cash equivalents, restricted cash and restricted cash equivalents	745	(681)	1,080
Cash, cash equivalents, restricted cash and restricted cash equivalents - beginning of period	7,592	8,273	7,193
Cash, cash equivalents, restricted cash and restricted cash equivalents - end of period	$ 8,337	$ 7,592	$ 8,273

The accompanying notes are an integral part of these consolidated financial statements.

MASTERCARD INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. *Summary of Significant Accounting Policies*

Organization

Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International" and together with Mastercard Incorporated, "Mastercard" or the "Company"), is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. The Company makes payments easier and more efficient by creating a wide range of payment solutions and services through a family of well-known brands, including Mastercard®, Maestro® and Cirrus®. The Company is a multi-rail network. Through its core global payments processing network, Mastercard facilitates the switching (authorization, clearing and settlement) of payment transactions, and delivers related products and services. With additional payment capabilities that include real-time account based payments (including automated clearing house ("ACH") transactions), Mastercard offers customers one partner to turn to for their payment needs for both domestic and cross-border transactions across multiple payment flows. The Company also provides value-added offerings such as safety and security products, information and analytics services, consulting, loyalty and reward programs and issuer and acquirer processing. The Company's payment solutions are designed to ensure safety and security for the global payments system.

A typical transaction on the Company's core network involves four participants in addition to the Company: account holder (a consumer who holds a card or uses another device enabled for payment), issuer (the account holder's financial institution), merchant and acquirer (the merchant's financial institution). The Company does not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of the Company's branded products. In most cases, account holder relationships belong to, and are managed by, the Company's financial institution customers.

Significant Accounting Policies

Consolidation and basis of presentation - The consolidated financial statements include the accounts of Mastercard and its majority-owned and controlled entities, including any variable interest entities ("VIEs") for which the Company is the primary beneficiary. Investments in VIEs for which the Company is not considered the primary beneficiary are not consolidated and are accounted for as equity method or cost method investments and recorded in other assets on the consolidated balance sheet. At December 31, 2018 and 2017, there were no significant VIEs which required consolidation and the investments were not considered material to the consolidated financial statements. Intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the 2018 presentation. For 2017 and 2016, $127 million and $113 million, respectively, of expenses were reclassified from advertising and marketing expenses to general and administrative expenses. The reclassification had no impact on total operating expenses, operating income or net income. The Company follows accounting principles generally accepted in the United States of America ("GAAP").

Prior to December 31, 2017, the Company included the financial results from its Venezuela subsidiaries in the consolidated financial statements using the consolidation method of accounting. In 2017, due to foreign exchange regulations restricting access to U.S. dollars in Venezuela, an other-than-temporary lack of exchangeability between the Venezuelan bolivar and U.S. dollar impacted the Company's ability to manage risk, process cross-border

transactions and satisfy U.S. dollar denominated liabilities related to operations in Venezuela. As a result of these factors, Mastercard concluded that effective December 31, 2017, it did not meet the accounting criteria for consolidation of these Venezuelan subsidiaries, and therefore would transition to the cost method of accounting as of December 31, 2017. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax or $0.10 per diluted share) that was recorded in general and administrative expenses on the consolidated statement of operations for the year ended December 31, 2017.

Non-controlling interests represent the equity interest not owned by the Company and are recorded for consolidated entities in which the Company owns less than 100% of the interests. Changes in a parent's ownership interest while the parent retains its controlling interest are accounted for as equity transactions, and upon loss of control, retained ownership interests are remeasured at fair value, with any gain or loss recognized in earnings. For 2018, 2017 and 2016, losses from non-controlling interests were de minimis and, as a result, amounts are included on the consolidated statement of operations within other income (expense).

The Company accounts for investments in common stock or in-substance common stock under the equity method of accounting when it has the ability to exercise significant influence over the investee, generally when it holds between 20% and 50% ownership

in the entity. In addition, investments in flow-through entities such as limited partnerships and limited liability companies are also accounted for under the equity method when the Company has the ability to exercise significant influence over the investee, generally when the investment ownership percentage is equal to or greater than 5% of the outstanding ownership interest. The excess of the cost over the underlying net equity of investments accounted for under the equity method is allocated to identifiable tangible and intangible assets and liabilities based on fair values at the date of acquisition. The amortization of the excess of the cost over the underlying net equity of investments and Mastercard's share of net earnings or losses of entities accounted for under the equity method of accounting is included in other income (expense) on the consolidated statement of operations.

The Company accounts for investments in common stock or in-substance common stock under the cost method of accounting when it does not exercise significant influence, generally when it holds less than 20% ownership in the entity or when the interest in a limited partnership or limited liability company is less than 5% and the Company has no significant influence over the operation of the investee. Investments in companies that Mastercard does not control, but that are not in the form of common stock or in-substance common stock, are also accounted for under the cost method of accounting. These investments for which there is no readily determinable fair value and the cost method of accounting is used are adjusted for changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer.

Investments for which the equity method or cost method of accounting is used are classified as nonmarketable equity investments and recorded in other assets on the consolidated balance sheet.

Use of estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Future events and their effects cannot be predicted with certainty; accordingly, accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of the Company's consolidated financial statements may change as new events occur, as more experience is acquired, as additional information is obtained and as the Company's operating environment changes. Actual results may differ from these estimates.

Revenue recognition - Revenue is recognized to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those goods or services. Revenue is generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by assessing customers based primarily on the dollar volume of activity, or gross dollar volume, on the cards and other devices that carry the Company's brands. Revenue is generally derived from transactional information accumulated by Mastercard's systems or reported by customers.

Volume-based revenue (domestic assessments and cross-border volume fees) is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards. Certain volume-based revenue is based upon information reported by customers. Transaction-based revenue is primarily based on the number and type of transactions and is recognized as revenue in the same period in which the related transactions occur. Other payment-related products and services are recognized as revenue in the period in which the related services are performed or transactions occur.

Mastercard has business agreements with certain customers that provide for rebates or other support when the customers meet certain volume hurdles as well as other support incentives such as marketing, which are tied to performance. Rebates and incentives are recorded as a reduction of revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. Rebates and incentives are calculated based upon estimated performance and the terms of the related business agreements. In addition, Mastercard may make payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

Contract assets include unbilled consideration typically resulting from executed consulting, data analytic and research services performed for customers in connection with Mastercard's payment network service arrangements. Collection for these services typically occurs over the contractual term. Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet.

The Company defers the recognition of revenue when consideration has been received prior to the satisfaction of performance obligations. As these performance obligations are satisfied, revenue is subsequently recognized. Deferred revenue is primarily derived from consulting, data analytic and research services. Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet.

Business combinations - The Company accounts for business combinations under the acquisition method of accounting. The Company measures the tangible and intangible identifiable assets acquired, liabilities assumed and any non-controlling interest

in the acquiree, at their fair values at the acquisition date. Acquisition-related costs are expensed as incurred and are included in general and administrative expenses. Any excess of purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill.

Goodwill and other intangible assets - Indefinite-lived intangible assets consist of goodwill, which represents the synergies expected to arise after the acquisition date and the assembled workforce, and customer relationships. Finite-lived intangible assets consist of capitalized software costs, trademarks, tradenames, customer relationships and other intangible assets. Intangible assets with finite useful lives are amortized over their estimated useful lives, on a straight-line basis, which range from one to twenty years. Capitalized software includes internal and external costs incurred directly related to the design, development and testing phases of each capitalized software project.

Impairment of assets - Goodwill and indefinite-lived intangible assets are not amortized but are tested annually for impairment in the fourth quarter, or sooner when circumstances indicate an impairment may exist. The impairment evaluation for goodwill utilizes a quantitative assessment. If the fair value of a reporting unit exceeds the carrying value, goodwill is not impaired. If the fair value of the reporting unit is less than its carrying value, then goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. If the qualitative assessment indicates that it is more likely than not that indefinite-lived intangible assets are impaired, then a quantitative assessment is required.

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are tested for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable. If the carrying value of the asset cannot be recovered from estimated future cash flows, undiscounted and without interest, the fair value of the asset is calculated using the present value of estimated net future cash flows. If the carrying amount of the asset exceeds its fair value, an impairment is recorded.

Impairment charges, if any, are recorded in general and administrative expenses on the consolidated statement of operations.

Litigation - The Company is a party to certain legal and regulatory proceedings with respect to a variety of matters. The Company evaluates the likelihood of an unfavorable outcome of all legal or regulatory proceedings to which it is a party and accrues a loss contingency when the loss is probable and reasonably estimable. These judgments are subjective based on the status of the legal or regulatory proceedings, the merits of its defenses and consultation with in-house and external legal counsel. Legal costs are expensed as incurred and recorded in general and administrative expenses on the consolidated statement of operations.

Settlement and other risk management - Mastercard's rules guarantee the settlement of many of the transactions between its customers. Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

The Company also enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable.

The Company accounts for each of its guarantees by recording the guarantee at its fair value at the inception or modification date through earnings.

Income taxes - The Company follows an asset and liability based approach in accounting for income taxes as required under GAAP. Deferred income tax assets and liabilities are recorded to reflect the tax consequences on future years of temporary differences between the financial statement carrying amounts and income tax bases of assets and liabilities. Deferred income taxes are displayed separately as noncurrent assets and liabilities on the consolidated balance sheet. Valuation allowances are provided against assets which are not more likely than not to be realized. The Company recognizes all material tax positions, including uncertain tax positions in which it is more likely than not that the position will be sustained based on its technical merits and if challenged by the relevant taxing authorities. At each balance sheet date, unresolved uncertain tax positions are reassessed to determine whether subsequent developments require a change in the amount of recognized tax benefit. The allowance for uncertain tax positions is recorded in other current and noncurrent liabilities on the consolidated balance sheet. The Company

records interest expense related to income tax matters as interest expense on the consolidated statement of operations. The Company includes penalties related to income tax matters in the income tax provision.

The Company will recognize earnings of foreign affiliates that are determined to be global intangible low taxed income ("GILTI") in the period it arises and it will not recognize deferred taxes for basis differences that may reverse as GILTI in future years.

Cash and cash equivalents - Cash and cash equivalents include certain investments with daily liquidity and with a maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Restricted cash - The Company classifies cash and cash equivalents as restricted when it is unavailable for withdrawal or use in its general operations. The Company has the following types of restricted cash and restricted cash equivalents:

- *Restricted cash for litigation settlement* - The Company has restricted cash for litigation within a qualified settlement fund related to a preliminary settlement agreement for the U.S. merchant class litigation. The funds continue to be restricted for payments until the litigation matter is resolved.

- *Restricted security deposits held for customers* - The Company requires collateral from certain customers for settlement of their transactions. The majority of collateral for settlement is in the form of standby letters of credit and bank guarantees which are not recorded on the consolidated balance sheet. Additionally, the Company holds cash deposits and certificates of deposit from certain customers as collateral for settlement of their transactions, which are recorded as assets on the consolidated balance sheet. These assets are fully offset by corresponding liabilities included on the consolidated balance sheet. These security deposits are typically held for the duration of the agreement with the customers.

- *Other restricted cash balances* - The Company has other restricted cash balances which include contractually restricted deposits, as well as cash balances that are restricted based on the Company's intention with regard to usage. These funds are classified on the consolidated balance sheet within prepaid expenses and other current assets and other assets.

Fair value - The Company measures certain financial assets and liabilities at fair value on a recurring basis by estimating the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. The Company classifies these recurring fair value measurements into a three-level hierarchy ("Valuation Hierarchy").

The Valuation Hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. A financial instrument's categorization within the Valuation Hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of the Valuation Hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.

- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets and inputs that are observable for the asset or liability.

- Level 3 - inputs to the valuation methodology are unobservable and cannot be directly corroborated by observable market data.

Certain assets are measured at fair value on a nonrecurring basis. The Company's non-financial assets measured at fair value on a nonrecurring basis include property, plant and equipment, goodwill and other intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment.

The valuation methods for goodwill and other intangible assets acquired in business combinations involve assumptions concerning comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. The Company uses various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty, and multi-period excess earnings for estimating the fair value of its intangible assets. The Company uses market capitalization for estimating the fair value of its reporting unit. As the assumptions employed to measure these assets are based on management's judgment using internal and external data, these fair value determinations are classified in Level 3 of the Valuation Hierarchy.

Contingent consideration - Certain business combinations involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones. These liabilities are classified within Level 3 of the Valuation Hierarchy as the inputs used to measure fair value are unobservable and require management's judgment. The fair value of the contingent consideration at the acquisition date and subsequent periods is determined utilizing an income approach based on a Monte Carlo technique and is recorded in other current liabilities and other liabilities on the consolidated balance sheet. Changes to projected performance milestones of the acquired businesses could result in a higher or lower contingent consideration liability. Measurement period adjustments, if any, to the preliminary estimated fair value of contingent consideration as of the acquisition date will be recorded to goodwill, however, changes in fair value as a result of updated assumptions will be recorded in general and administrative expenses on the consolidated statement of operations.

Investment securities - The Company classifies investments in debt securities as available-for-sale. Available-for-sale securities that are available to meet the Company's current operational needs are classified as current assets. Available-for-sale securities that are not available to meet the Company's current operational needs are classified as non-current assets on the consolidated balance sheet.

The investments in debt securities are carried at fair value, with unrealized gains and losses, net of applicable taxes, recorded as a separate component of accumulated other comprehensive income (loss) on the consolidated statement of comprehensive income. Net realized gains and losses on debt securities are recognized in investment income on the consolidated statement of operations. The specific identification method is used to determine realized gains and losses.

The Company evaluates its debt securities for other-than-temporary impairment on an ongoing basis. When there has been a decline in fair value of a debt security below the amortized cost basis, the Company recognizes an other-than-temporary impairment if: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery of the amortized cost basis; or (3) it does not expect to recover the entire amortized cost basis of the security. The credit loss component of the impairment would be recognized in other income (expense), net on the consolidated statement of operations while the non-credit loss would remain in accumulated other comprehensive income (loss) until realized from a sale or an other-than-temporary impairment.

The Company classifies time deposits with maturities greater than three months as held-to-maturity. Held-to-maturity securities that mature within one year are classified as current assets while held-to-maturity securities with maturities of greater than one year are classified as non-current assets. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity.

Derivative financial instruments - The Company's derivative financial instruments are recorded as either assets or liabilities on the balance sheet and measured at fair value. The Company's foreign exchange forward and option contracts are included in Level 2 of the Valuation Hierarchy as the fair value of these contracts are based on inputs, which are observable based on broker quotes for the same or similar instruments. As the Company does not elect hedge accounting for any derivative instruments, realized and unrealized gains and losses from the change in fair value of these contracts are recognized immediately in current-period earnings. The Company's derivative contracts hedge foreign exchange risk and are not entered into for trading or speculative purposes. The Company did not have any

derivative contracts accounted for under hedge accounting as of December 31, 2018 and 2017.

The Company has numerous investments in its foreign subsidiaries. The net assets of these subsidiaries are exposed to volatility in foreign currency exchange rates. The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. The effective portion of the foreign currency gains and losses related to the foreign currency denominated debt are reported in accumulated other comprehensive income (loss) on the consolidated balance sheet as part of the cumulative translation adjustment component of equity. The ineffective portion, if any, is recognized in earnings in the current period. The Company evaluates the effectiveness of the net investment hedge each quarter.

Settlement due from/due to customers - The Company operates systems for clearing and settling payment transactions among customers. Net settlements are generally cleared daily among customers through settlement cash accounts by wire transfer or other bank clearing means. However, some transactions may not settle until subsequent business days, resulting in amounts due from and due to customers.

Property, plant and equipment - Property, plant and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets.

Depreciation of leasehold improvements and amortization of capital leases is included in depreciation and amortization expense on the consolidated statement of operations.

The useful lives of the Company's assets are as follows:

Asset Category	Estimated Useful Life
Buildings	30 years
Building equipment	10 - 15 years
Furniture and fixtures and equipment	3 - 5 years
Leasehold improvements	Shorter of life of improvement or lease term
Capital leases	Shorter of life of the asset or lease term

Leases - The Company enters into operating and capital leases for the use of premises and equipment. Rent expense related to lease agreements that contain lease incentives is recorded on a straight-line basis over the term of the lease.

Pension and other postretirement plans - The Company recognizes the funded status of its single-employer defined benefit pension plans and postretirement plans as assets or liabilities on its consolidated balance sheet and recognizes changes in the funded status in the year in which the changes occur through accumulated other comprehensive income (loss). The funded status is measured as the difference between the fair value of plan assets and the projected benefit obligation at December 31, the measurement date. Overfunded plans, if any, are aggregated and recorded in other assets, while underfunded plans are aggregated and recorded as accrued expenses and other liabilities on the consolidated balance sheet.

Net periodic pension and postretirement benefit cost/(income), excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations. These costs include interest cost, expected return on plan assets, amortization of prior service costs or credits and gains or losses previously recognized as a component of accumulated other comprehensive income (loss). The service cost component is recognized in general and administrative expenses on the consolidated statement of operations.

Defined contribution plans - The Company's contributions to defined contribution plans are recorded when employees render service to the Company. The charge is recorded in general and administrative expenses on the consolidated statement of operations.

Advertising and marketing - Expenses incurred to promote Mastercard's products, services and brand are recognized in advertising and marketing on the consolidated statement of operations. The cost of media advertising is expensed when the advertising takes place. Advertising production costs are expensed as incurred. Promotional items are expensed at the time the promotional event occurs. Sponsorship costs are recognized over the period of benefit.

Foreign currency remeasurement and translation - Monetary assets and liabilities are remeasured to functional currencies using current exchange rates in effect at the balance sheet date. Non-monetary assets and liabilities are recorded at historical exchange rates. Revenue and expense accounts are remeasured at the weighted-average exchange rate for the period. Resulting exchange gains and losses related to remeasurement are included in general and administrative expenses on the consolidated statement of operations.

Where a non-U.S. currency is the functional currency, translation from that functional currency to U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using a weighted-average exchange rate for the period. Resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss).

Treasury stock - The Company records the repurchase of shares of its common stock at cost on the trade date of the transaction. These shares are considered treasury stock, which is a reduction to stockholders' equity. Treasury stock is included in authorized and issued shares but excluded from outstanding shares.

Share-based payments - The Company measures share-based compensation expense at the grant date, based on the estimated fair value of the award and uses the straight-line method of attribution, net of estimated forfeitures, for expensing awards over the requisite employee service period. The Company estimates the fair value of its non-qualified stock option awards ("Options") using a Black-Scholes valuation model. The fair value of restricted stock units ("RSUs") is determined and fixed on the grant date based on the Company's stock price, adjusted for the exclusion of dividend equivalents. The Monte Carlo simulation valuation

model is used to determine the grant date fair value of performance stock units ("PSUs") granted. All share-based compensation expenses are recorded in general and administrative expenses on the consolidated statement of operations.

Redeemable non-controlling interests - The Company's business combinations may include provisions allowing non-controlling equity owners the ability to require the Company to purchase additional interests in the subsidiary at their discretion. These interests are initially recorded at fair value and in subsequent reporting periods are accreted or adjusted to their estimated redemption value. These adjustments to the redemption value will impact retained earnings or additional paid-in capital on the consolidated balance sheet, but will not impact the consolidated statement of operations. The redeemable non-controlling interests are considered temporary and reported outside of permanent equity on the consolidated balance sheet at the greater of the carrying amount adjusted for the non-controlling interest's share of net income (loss) or its redemption value.

Earnings per share - The Company calculates basic earnings per share ("EPS") by dividing net income by the weighted-average number of common shares outstanding during the year. Diluted EPS is calculated by dividing net income by the weighted-average number of common shares outstanding during the year, adjusted for the potentially dilutive effect of stock options and unvested stock units using the treasury stock method. The Company may be required to calculate EPS using the two-class method as a result of its redeemable non-controlling interests. If redemption value exceeds the fair value of the redeemable non-controlling interests, the excess would be a reduction to net income for the EPS calculation. For 2018, 2017 and 2016, there was no impact to EPS for adjustments related to redeemable non-controlling interests.

Recently adopted accounting pronouncements

Disclosure requirements for defined benefit plans - In August 2018, the Financial Accounting Standards Board (the "FASB") issued accounting guidance which modifies disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans by removing, modifying and adding certain disclosures. This guidance is required to be applied retrospectively and is effective for periods ending after December 15, 2020, with early adoption permitted. The Company adopted this guidance effective December 31, 2018, which did not result in a material impact on the Company's current year consolidated financial statements.

Income taxes - In March 2018, the FASB incorporated the Securities and Exchange Commission's (the "SEC's") interpretive guidance from Staff Accounting Bulletin No. 118 ("SAB 118"), issued on December 22, 2017, into the income tax accounting codification under GAAP. The guidance allows for the recognition of provisional amounts related to 2017 U.S. tax reform ("U.S. Tax Reform") during a one year measurement period with changes recorded as a component of income tax expense. This guidance was effective upon issuance. Refer to Note 19 (Income Taxes) for further discussion.

Net periodic pension cost and net periodic postretirement benefit cost - In March 2017, the FASB issued accounting guidance to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost. Under this guidance, the service cost component is required to be reported in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of the net periodic benefit costs are required to be presented on the consolidated statement of operations separately from the service cost component and outside of operating income. This guidance is required to be applied retrospectively and is effective for periods beginning after

December 15, 2017. The Company adopted this guidance effective January 1, 2018, which did not result in a material impact on the Company's current year consolidated financial statements. The Company did not apply this guidance retrospectively, as the impact was de minimis to the prior year consolidated financial statements. Refer to Note 13 (Pension, Postretirement and Savings Plans) for the components of the Company's net periodic pension cost and net periodic postretirement benefit costs.

Restricted cash - In November 2016, the FASB issued accounting guidance to address diversity in the classification and presentation of changes in restricted cash on the consolidated statement of cash flows. Under this guidance, companies are required to present restricted cash and restricted cash equivalents with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows. This guidance is required to be applied retrospectively and is effective for periods beginning after December 15, 2017, with early adoption permitted. The Company adopted this guidance effective January 1, 2018. In accordance with the adoption of this standard, the Company includes restricted cash, which currently consists of restricted cash for litigation settlement, restricted security deposits held for customers and other restricted cash balances in its reconciliation of beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows. Refer to Note 5 (Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents) for related disclosures.

Intra-entity asset transfers - In October 2016, the FASB issued accounting guidance to simplify the accounting for income tax consequences of intra-entity transfers of assets other than inventory. Under this guidance, companies are required to recognize

the income tax consequences of an intra-entity asset transfer when the transfer occurs. This guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the period of adoption. The guidance is effective for periods beginning after December 15, 2017. The Company adopted this guidance effective January 1, 2018. Refer to Note 19 (Income Taxes) for further discussion. See the section in this note entitled Cumulative Effect of the Adopted Accounting Pronouncements for a summary of the cumulative impact of adopting this standard as of January 1, 2018.

Financial instruments - In January 2016, the FASB issued accounting guidance to amend certain aspects of recognition, measurement, presentation and disclosure of financial instruments, including the requirement to measure certain equity investments at fair value with changes in fair value recognized in income. This guidance is required to be applied by means of a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption. Amendments related to equity securities without readily determinable fair values should be applied prospectively to equity investments that exist as of the date of adoption. The guidance is effective for periods beginning after December 15, 2017. The Company adopted this guidance effective January 1, 2018. The cumulative effect of the adoption of the standard was de minimis to the Company's balance sheet upon adoption. For the year ended December 31, 2018, the Company recorded a gain on non-marketable equity investments, which resulted in a pre-tax increase of $12 million.

Revenue recognition - In May 2014, the FASB issued accounting guidance that provides a single, comprehensive revenue recognition model for all contracts with customers and supersedes most of the existing revenue recognition requirements. Under this guidance, an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company adopted this guidance effective January 1, 2018 under the modified retrospective transition method, applying the standard to contracts not completed as of January 1, 2018 and considered the aggregate amount of modifications. See the section in this note entitled Cumulative Effect of the Adopted Accounting Pronouncements for a summary of the cumulative impact of adopting this standard as of January 1, 2018.

This new revenue guidance impacts the timing of certain customer incentives recognized in the Company's consolidated statement of operations, as they are recognized over the life of the contract. Previously, such incentives were recognized when earned by the customer. The new revenue guidance also impacts the Company's accounting recognition for certain market development fund contributions and expenditures. Historically, these items were recorded on a net basis in net revenue and will now be recognized on a gross basis, resulting in an increase to both revenues and expenses.

The following tables summarize the impact of the revenue standard on the Company's consolidated statement of operations for the year ended December 31, 2018 and consolidated balance sheet as of December 31, 2018:

	Year Ended December 31, 2018		
	Balances excluding revenue standard	Impact of revenue standard	As reported
		(in millions)	
Net Revenue	$ 14,471	$ 479	$ 14,950
Operating Expenses			
Advertising and marketing	743	164	907
Income before income taxes	6,889	315	7,204
Income tax expense	1,278	67	1,345
Net Income	5,611	248	5,859

	December 31, 2018		
	Balances excluding revenue standard	Impact of revenue standard	As reported
		(in millions)	
Assets			
Accounts receivable	$ 2,214	$ 62	$ 2,276
Prepaid expenses and other current assets	1,176	256	1,432
Deferred income taxes	666	(96)	570
Other assets	2,388	915	3,303
Liabilities			
Accounts payable	959	(422)	537
Accrued expenses	4,375	372	4,747
Other current liabilities	1,085	(136)	949
Other liabilities	1,145	732	1,877
Equity			
Retained earnings	26,692	591	27,283

For a more detailed discussion on revenue recognition, refer to Note 3 (Revenue).

Cumulative Effect of the Adopted Accounting Pronouncements

The following table summarizes the cumulative impact of the changes made to the January 1, 2018 consolidated balance sheet for the adoption of the new accounting standards pertaining to revenue recognition and intra-entity asset transfers. The prior periods have not been restated and have been reported under the accounting standards in effect for those periods.

	Balance at December 31, 2017	Impact of revenue standard	Impact of intra-entity asset transfers standard	Balance at January 1, 2018
		(in millions)		
Assets				
Accounts receivable	$ 1,969	$ 44	$ —	$ 2,013
Prepaid expenses and other current assets	1,040	181	(17)	1,204
Deferred income taxes	250	(69)	186	367
Other assets	2,298	690	(352)	2,636
Liabilities				
Accounts payable	933	(495)	—	438
Accrued expenses	3,931	391	—	4,322
Other current liabilities	792	(44)	—	748
Other liabilities	1,438	628	—	2,066
Equity				
Retained earnings	22,364	366	(183)	22,547

Recent accounting pronouncements not yet adopted

Implementation costs incurred in a hosting arrangement that is a service contract - In August 2018, the FASB issued accounting guidance which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This guidance is effective for periods beginning after December 15, 2019 and early adoption is permitted. Companies are required to adopt this guidance either retrospectively or by prospectively applying the guidance to all implementation costs incurred after the date of adoption. The Company is in the process of evaluating when it will adopt this guidance and the potential effects this guidance will have on its consolidated financial statements.

Disclosure requirements for fair value measurement - In August 2018, the FASB issued accounting guidance which modifies disclosure requirements for fair value measurements by removing, modifying and adding certain disclosures. This guidance is effective for periods beginning after December 15, 2019. Companies are permitted to early adopt the removed or modified disclosures and delay adoption of added disclosures until the effective date. Companies are required to adopt the guidance for certain added disclosures prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption and all other amendments retrospectively to all periods presented upon their effective date.

The Company is in the process of evaluating when it will adopt this guidance and the potential effects this guidance will have on its disclosures.

Comprehensive income - In February 2018, the FASB issued accounting guidance that allows for a one-time reclassification from accumulated other comprehensive income (loss) to retained earnings for stranded tax effects resulting from U.S. Tax Reform. The guidance is effective for periods beginning after December 15, 2018, with early adoption permitted. The Company will adopt this guidance effective January 1, 2019 and does not expect the impacts of this standard to be material.

Derivatives and hedging - In August 2017, the FASB issued accounting guidance to improve and simplify existing guidance to allow companies to better reflect their risk management activities in the financial statements. The guidance expands the ability to hedge nonfinancial and financial risk components, eliminates the requirement to separately measure and recognize hedge ineffectiveness and eases requirements of an entity's assessment of hedge effectiveness. This guidance is effective for periods beginning after December 15, 2018 and early adoption is permitted. The Company currently does not account for its foreign currency derivative contracts under hedge accounting. The Company will adopt this guidance effective January 1, 2019 and does not expect the impacts of this standard to be material. For a more detailed discussion of the Company's foreign exchange risk management activities, refer to Note 22 (Foreign Exchange Risk Management).

Credit losses - In June 2016, the FASB issued accounting guidance to amend the measurement of credit losses for financial instruments. The guidance requires all expected credit losses for most financial assets held at the reporting date to be measured based on historical experience, current conditions, and reasonable and supportable forecasts, generally resulting in the earlier recognition of allowance for losses. The guidance is effective for periods beginning after December 15, 2019, with early adoption permitted. The Company is required to apply the provisions of this guidance as a cumulative effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. The Company will adopt this guidance effective January 1, 2020 and does not expect the impacts of this standard to be material.

Leases - In February 2016, the FASB issued accounting guidance that will change how companies account for and present lease arrangements. This guidance requires companies to recognize leased assets and liabilities for both financing and operating leases. This guidance is effective for periods beginning after December 15, 2018. The Company will adopt this guidance effective January 1, 2019 using the modified retrospective approach as of the date of adoption with the available practical expedients. Upon adoption of the standard, the estimated impact on the Company's consolidated financial statements is expected to be an increase in non-current assets with a corresponding increase in current and non-current liabilities. The Company estimates that the increase in assets and liabilities will represent approximately 2% of the Company's total assets and total liabilities as of December 31, 2018 and expects no significant impact to retained earnings.

Note 2. *Acquisitions*

In 2017, the Company acquired businesses for total consideration of $1.5 billion, representing both cash and contingent consideration. For the businesses acquired, Mastercard allocated the values associated with the assets, liabilities and redeemable non-controlling interests based on their respective fair values on the acquisition dates. Refer to Note 1 (Summary of Significant Accounting Policies), for the valuation techniques Mastercard utilizes to fair value the assets and liabilities acquired in business combinations. The residual value allocated to goodwill is not expected to be deductible for local tax purposes.

The Company has finalized the purchase accounting for businesses acquired during 2017. The final fair values of the purchase price allocations, as of the acquisition dates, are noted below:

	(in millions)
Cash consideration	$ 1,286
Contingent consideration	202
Redeemable non-controlling interests	69
Gain on previously held minority interest	14
Total fair value of businesses acquired	$ 1,571
Assets:	
Cash and cash equivalents	$ 111
Other current assets	110
Other intangible assets	488
Goodwill	1,135
Other assets	91

Total assets	1,935
Liabilities:	
Short-term debt[1]	64
Other current liabilities	170
Net pension liability	66
Other liabilities	64
Total liabilities	364
Net assets acquired	$ 1,571

[1] The short-term debt assumed through acquisitions was repaid during 2017.

The following table summarizes the identified intangible assets acquired:

	Acquisition Date Fair Value	Weighted-Average Useful Life
	(in millions)	(Years)
Developed technologies	$ 319	7.5
Customer relationships	166	9.9
Other	3	1.4
Other intangible assets	$ 488	8.3

For the businesses acquired in 2017, the largest acquisition relates to Vocalink, a payment systems and ATM switching platform operator, located principally in the U.K. On April 28, 2017, Mastercard acquired 92.4% controlling interest in Vocalink for cash consideration of £719 million ($929 million as of the acquisition date). In addition, the Vocalink sellers have the potential to earn additional contingent consideration of £169 million (approximately $214 million as of December 31, 2018), upon meeting 2018 revenue targets in accordance with terms of the purchase agreement. Refer to Note 7 (Fair Value and Investment Securities) for additional information related to the fair value of contingent consideration.

A majority of Vocalink's shareholders have retained a 7.6% ownership for at least three years, which is recorded as redeemable non-controlling interests on the consolidated balance sheet. These remaining shareholders have a put option to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter (the "Third Anniversary Option" and "Fifth Anniversary Option", respectively). The Third Anniversary Option is exercisable at a fixed price of £58 million (approximately $73 million as of December 31, 2018) ("Fixed Price"). The Fifth Anniversary Option is exercisable at the greater of the Fixed Price or fair value. Additionally, Mastercard has a call option to purchase the remaining interest from Vocalink's shareholders on the fifth anniversary of the transaction and quarterly thereafter, which is exercisable at the greater of the Fixed Price or fair value. The fair value of the redeemable non-controlling interests was determined utilizing a market approach, which extrapolated the consideration transferred that was discounted for lack of control and marketability.

The consolidated financial statements include the operating results of the acquired businesses from the dates of their respective acquisition. Pro forma information related to the acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

Note 3. *Revenue*

Mastercard's business model involves four participants in addition to the Company: account holders, issuers (the account holders' financial institutions), merchants and acquirers (the merchants' financial institutions). Revenue from contracts with customers is recognized when services are performed in an amount that reflects the consideration to which the Company expects to be entitled to in exchange for those services. Revenue recognized from domestic assessments, cross-border volume fees and transaction processing are derived from Mastercard's payment network services. Revenue is generated by charging fees to issuers, acquirers and other stakeholders for providing switching services, as well as by assessing customers based primarily on the dollar volume of activity, or gross dollar volume, on the cards and other devices that carry the Company's brands. Revenue is generally derived from transactional information accumulated by Mastercard's systems or reported by customers. In addition, the Company recognizes revenue from other payment-related products and services in the period in which the related transactions occur or services are performed.

The price structure for Mastercard's products and services is dependent on the nature of volumes, types of transactions and type of products and services offered to customers. Net revenue can be impacted by the following:

- domestic or cross-border transactions
- geographic region or country in which the transaction occurs
- volumes/transactions subject to tiered rates
- processed or not processed by the Company
- amount of usage of the Company's other products or services
- amount of rebates and incentives provided to customers

The Company classifies its net revenue into the following five categories:

Domestic assessments are fees charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry the Company's brands where the acquirer country and the issuer country are the same. Revenue from domestic assessments is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Cross-border volume fees are charged to issuers and acquirers based on the dollar volume of activity on cards and other devices that carry the Company's brands where the acquirer country and the issuer country are different. Revenue from cross-border volume is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards or other devices that carry the Company's brands.

Transaction processing revenue is recognized for both domestic and cross-border transactions in the period in which the related transactions occur. Transaction processing includes the following:

- *Switched transaction* revenue is generated from the following products and services:
    - Authorization is the process by which a transaction is routed to the issuer for approval. In certain circumstances, such as when the issuer's systems are unavailable or cannot be contacted, Mastercard or others approve such transactions on behalf of the issuer in accordance with either the issuer's instructions or applicable rules (also known as "stand-in").
    - Clearing is the determination and exchange of financial transaction information between issuers and acquirers after a transaction has been successfully conducted at the point of interaction. Transactions are cleared among customers through Mastercard's central and regional processing systems.
    - Settlement is facilitating the exchange of funds between parties.
- *Connectivity fees* are charged to issuers, acquirers and other financial institutions for network access, equipment and the transmission of authorization and settlement messages. These fees are based on the size of the data being transmitted and the number of connections to the Company's network.
- *Other processing fees* include issuer and acquirer processing solutions; payment gateways for e-commerce merchants; mobile gateways for mobile initiated transactions; and safety and security.

Other revenues consist of value added service offerings that are typically sold with the Company's payment service offerings and are recognized in the period in which the related services are performed or transactions occur. Other revenues include the following:

- Consulting, data analytic and research fees.
- Safety and security services fees are for products and services offered to prevent, detect and respond to fraud and to ensure the safety of transactions made primarily on Mastercard products.

- Loyalty and rewards solutions fees are charged to issuers for benefits provided directly to consumers with Mastercard-branded cards, such as access to a global airline lounge network, global and local concierge services, individual insurance coverages, emergency card replacement, emergency cash advance services and a 24-hour cardholder service center. Loyalty and reward solution fees also include rewards campaigns and management services.

- Program management services provided to prepaid card issuers consist of foreign exchange margin, commissions, load fees and ATM withdrawal fees paid by cardholders on the sale and encashment of prepaid cards.

- Bank account-based payment services relating to ACH transactions and other ACH related services.

- Other payment-related products and services, including account and transaction enhancement services, rules compliance and publications.

Rebates and incentives (contra-revenue) are provided to customers that meet certain volume targets and can be in the form of a rebate or other support incentives, which are tied to performance. Rebates and incentives are recorded as a reduction of revenue primarily when volume- and transaction-based revenues are recognized over the contractual term. In addition,

Mastercard may make incentive payments to a customer directly related to entering into an agreement, which are generally capitalized and amortized over the life of the agreement on a straight-line basis.

The following table disaggregates the Company's net revenue by source and geographic region for the year ended December 31, 2018:

	(in millions)
Revenue by source:	
Domestic assessments	$ 6,138
Cross-border volume fees	4,954
Transaction processing	7,391
Other revenues	3,348
Gross revenue	21,831
Rebates and incentives (contra-revenue)	(6,881)
Net revenue	$ 14,950
Net revenue by geographic region:	
North American Markets	$ 5,311
International Markets	9,441
Other [1]	198
Net revenue	$ 14,950

[1] Includes revenues managed by corporate functions.

Receivables from contracts with customers of $2.1 billion and $1.9 billion as of December 31, 2018 and 2017, respectively, are recorded within accounts receivable on the consolidated balance sheet. The Company's customers are billed quarterly or more frequently dependent upon the nature of the performance obligation and the underlying contractual terms. The Company does not offer extended payment terms to customers.

Contract assets are included in prepaid expenses and other current assets and other assets on the consolidated balance sheet at December 31, 2018 in the amounts of $40 million and $92 million, respectively. The Company did not have contract assets at December 31, 2017.

Deferred revenue is included in other current liabilities and other liabilities on the consolidated balance sheet at December 31, 2018 in the amounts of $218 million and $101 million, respectively. The comparable amounts included in other current liabilities and other liabilities at December 31, 2017 were $230 million and $17 million, respectively. Revenue recognized from such performance obligations satisfied during 2018 was $904 million.

The Company's remaining performance periods for its contracts with customers for its payment network services are typically long-term in nature (generally up to 10 years). As a payment network service provider, the Company provides its customers with continuous access to its global payment processing network and stands ready to provide transaction processing and related services over the contractual term. Consideration is variable based upon the number of transactions processed and volume activity on the cards and other devices that carry the Company's brands. The Company has elected the optional exemption to not disclose the remaining performance obligations related to its payment network services. The Company also earns revenues from other value added services comprised of bank account-based payment services, consulting and research fees, loyalty programs and other payment-related products and services. At December 31, 2018, the estimated aggregate consideration allocated to unsatisfied performance obligations for these other value added services is $1.0 billion, which is expected to be recognized through 2022. The

estimated remaining performance obligations related to these revenues are subject to change and are affected by several factors, including modifications and terminations and are not expected to be material to any future annual period.

Note 4. *Earnings Per Share*

The components of basic and diluted EPS for common shares for each of the years ended December 31 were as follows:

	2018	2017	2016
	(in millions, except per share data)		
Numerator			
Net income	$ 5,859	$ 3,915	$ 4,059
Denominator			
Basic weighted-average shares outstanding	1,041	1,067	1,098
Dilutive stock options and stock units	6	5	3
Diluted weighted-average shares outstanding [1]	1,047	1,072	1,101
Earnings per Share			
Basic	$ 5.63	$ 3.67	$ 3.70
Diluted	$ 5.60	$ 3.65	$ 3.69

Note: Table may not sum due to rounding.
1 For the years presented, the calculation of diluted EPS excluded a minimal amount of anti-dilutive share-based payment awards.

Note 5. *Cash, Cash Equivalents, Restricted Cash and Restricted Cash Equivalents*

The following table provides a reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents reported on the consolidated balance sheet that total to the amounts shown on the consolidated statement of cash flows.

	December 31,			
	2018	2017	2016	2015
	(in millions)			
Cash and cash equivalents	$6,682	$5,933	$6,721	$5,747
Restricted cash and restricted cash equivalents				
Restricted cash for litigation settlement	553	546	543	541
Restricted security deposits held for customers	1,080	1,085	991	895
Prepaid expenses and other current assets	22	28	3	—
Other assets	—	—	15	10
Cash, cash equivalents, restricted cash and restricted cash equivalents	$8,337	$7,592	$8,273	$7,193

Note 6. *Supplemental Cash Flows*

The following table includes supplemental cash flow disclosures for each of the years ended December 31:

	2018	2017	2016
	(in millions)		
Cash paid for income taxes, net of refunds	$ 1,790	$ 1,893	$ 1,579
Cash paid for interest	153	135	74

Cash paid for legal settlements	260	47	101
Non-cash investing and financing activities			
Dividends declared but not yet paid	340	263	238
Capital leases and other	10	30	3
Fair value of assets acquired, net of cash acquired	—	1,825	—
Fair value of liabilities assumed related to acquisitions	—	365	—

Note 7. *Fair Value and Investment Securities*

Financial Instruments - Recurring Measurements

The Company classifies its fair value measurements of financial instruments within the Valuation Hierarchy. There were no transfers made among the three levels in the Valuation Hierarchy for 2018.

The distribution of the Company's financial instruments measured at fair value on a recurring basis within the Valuation Hierarchy were as follows:

	December 31, 2018				December 31, 2017			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in millions)							
Assets								
Investment securities available for sale [1]:								
Municipal securities	$ —	$ 15	$ —	$ 15	$ —	$ 17	$ —	$ 17
Government and agency securities	65	92	—	157	81	104	—	185
Corporate securities	—	1,043	—	1,043	—	876	—	876
Asset-backed securities	—	217	—	217	—	70	—	70
Equity securities	—	—	—	—	1	—	—	1
Derivative instruments [2]:								
Foreign currency derivative assets	—	35	—	35	—	6	—	6
Deferred compensation plan [3]:								
Deferred compensation assets	54	—	—	54	55	—	—	55
Liabilities								
Derivative instruments [2]:								
Foreign currency derivative liabilities	$ —	$ (6)	$ —	$ (6)	$ —	$ (30)	$ —	$ (30)
Deferred compensation plan [4]:								
Deferred compensation liabilities	(54)	—	—	(54)	(54)	—	—	(54)

1 The Company's U.S. government securities and marketable equity securities are classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices for identical assets in active markets. The fair value of the Company's available-for-sale municipal securities, government and agency securities, corporate securities and asset-backed securities are based on observable inputs such as quoted prices, benchmark yields and issuer spreads for similar assets in active markets and are therefore included in Level 2 of the Valuation Hierarchy.

2 The Company's foreign currency derivative asset and liability contracts have been classified within Level 2 of the Valuation Hierarchy as the fair value is based on observable inputs such as broker quotes relating to foreign currency exchange rates for similar derivative instruments. See Note 22 (Foreign Exchange Risk Management) for further details.

3 The Company has a nonqualified deferred compensation plan where assets are invested primarily in mutual funds held in a rabbi trust, which is restricted for payments to participants of the plan. The Company has elected to use the fair value option for these mutual funds, which are measured using quoted prices of identical instruments in active markets and are included in prepaid expenses and other current assets on the consolidated balance sheet.

4 The deferred compensation liabilities are measured at fair value based on the quoted prices of identical instruments to the investment vehicles selected by the participants. These are included in other liabilities on the consolidated balance sheet.

Settlement and Other Guarantee Liabilities

The Company estimates the fair value of its settlement and other guarantees using market assumptions for relevant though not directly comparable undertakings, as the latter are not observable in the market given the proprietary nature of such guarantees. At December 31, 2018 and 2017, the carrying value and fair value of settlement and other guarantee liabilities were not material

and accordingly are not included in the Valuation Hierarchy table above. Settlement and other guarantee liabilities are classified within Level 3 of the Valuation Hierarchy as their valuation requires substantial judgment and estimation of factors that are not observable in the market. See Note 21 (Settlement and Other Risk Management) for additional information regarding the Company's settlement and other guarantee liabilities.

Financial Instruments - Non-Recurring Measurements

Held-to-Maturity Securities

Investments on the consolidated balance sheet include both available-for-sale and short-term held-to-maturity securities. Held-to-maturity securities are not measured at fair value on a recurring basis and are not included in the Valuation Hierarchy table above. At December 31, 2018 and 2017, the Company held $264 million and $700 million, respectively, of held-to-maturity securities due within one year. The cost of these securities approximates fair value.

Nonmarketable Equity Investments

The Company's nonmarketable equity investments are measured at fair value at initial recognition. In addition, nonmarketable equity investments accounted for under the cost method of accounting are adjusted for changes resulting from identifiable price changes in orderly transactions for the identical or similar investments of the same issuer. Nonmarketable equity investments are classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices, the inherent lack of liquidity, and the fact that inputs used to measure fair value are unobservable and require management's judgment. The Company uses discounted cash flows and market assumptions to estimate the fair value of its nonmarketable equity investments when certain events or circumstances indicate that impairment may exist. These investments are included in other assets on the consolidated balance sheet. See Note 8 (Prepaid Expenses and Other Assets) for further details.

Debt

The Company estimates the fair value of its long-term debt based on market quotes. These debt instruments are not traded in active markets and are classified as Level 2 of the Valuation Hierarchy. At December 31, 2018, the carrying value and fair value of total long-term debt (including the current portion) was $6.3 billion and $6.5 billion, respectively. At December 31, 2017, the carrying value and fair value of long-term debt was $5.4 billion and $5.7 billion, respectively.

Other Financial Instruments

Certain financial instruments are carried on the consolidated balance sheet at cost, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, restricted cash, accounts receivable, settlement due from customers, restricted security deposits held for customers, accounts payable, settlement due to customers and other accrued liabilities.

Contingent Consideration

The contingent consideration attributable to acquisitions made in 2017 is primarily based on the achievement of 2018 revenue targets and is measured at fair value on a recurring basis. This contingent consideration liability is included in other current liabilities on the consolidated balance sheet and is classified within Level 3 of the Valuation Hierarchy due to

the absence of quoted market prices. The activity of the Company's contingent consideration liability for 2018 was as follows:

	(in millions)
Balance at December 31, 2017	$ 219
Net change in valuation	19
Payments	(5)
Foreign currency translation	(14)
Balance at December 31, 2018	$ 219

Amortized Costs and Fair Values – Available-for-Sale Investment Securities

The major classes of the Company's available-for-sale investment securities, for which unrealized gains and losses are recorded as a separate component of other comprehensive income (loss) on the consolidated statement of comprehensive income, and their respective amortized cost basis and fair values as of December 31, 2018 and 2017 were as follows:

	December 31, 2018				December 31, 2017			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
	(in millions)							
Municipal securities	$ 15	$ —	$ —	$ 15	$ 17	$ —	$ —	$ 17
Government and agency securities	157	—	—	157	185	—	—	185
Corporate securities	1,044	1	(2)	1,043	875	2	(1)	876
Asset-backed securities	217	—	—	217	70	—	—	70
Equity securities	—	—	—	—	—	1	—	1
Total	$1,433	$ 1	$ (2)	$1,432	$1,147	$ 3	$ (1)	$1,149

The Company's available-for-sale investment securities held at December 31, 2018 and 2017, primarily carried a credit rating of A-, or better. The municipal securities are primarily comprised of tax-exempt bonds and are diversified across states and sectors. Government and agency securities include U.S. government bonds, U.S. government sponsored agency bonds and foreign government bonds with similar credit quality to that of the U.S. government bonds. Corporate securities are comprised of commercial paper and corporate bonds. The asset-backed securities are investments in bonds which are collateralized primarily by automobile loan receivables.

Investment Maturities:

The maturity distribution based on the contractual terms of the Company's investment securities at December 31, 2018 was as follows:

	Available-For-Sale	
	Amortized Cost	Fair Value
	(in millions)	
Due within 1 year	$ 376	$ 376
Due after 1 year through 5 years	1,056	1,055
Due after 5 years through 10 years	1	1
Total	$ 1,433	$ 1,432

Investment Income

Investment income primarily consists of interest income generated from cash, cash equivalents and investments. Gross realized gains and losses are recorded within investment income on the Company's consolidated statement of operations. The gross realized gains

and losses from the sales of available-for-sale securities for 2018, 2017 and 2016 were not significant.

Note 8. *Prepaid Expenses and Other Assets*

Prepaid expenses and other current assets consisted of the following at December 31:

	2018	2017
	(in millions)	
Customer and merchant incentives	$ 778	$ 464
Prepaid income taxes	51	77
Other	603	499
Total prepaid expenses and other current assets	$ 1,432	$ 1,040

Other assets consisted of the following at December 31:

	2018	2017
	(in millions)	
Customer and merchant incentives	$ 2,458	$ 1,434
Nonmarketable equity investments	337	249
Prepaid income taxes	—	352
Income taxes receivable	298	178
Other	210	85
Total other assets	$ 3,303	$ 2,298

Customer and merchant incentives represent payments made to customers and merchants under business agreements. Costs directly related to entering into such an agreement are generally deferred and amortized over the life of the agreement. The increase in customer and merchant incentives and the decrease in prepaid income taxes at December 31, 2018 from December 31, 2017 are primarily due to the impact from the adoption of the new accounting standards pertaining to revenue recognition and intra-entity asset transfers, respectively. See Note 1 (Summary of Significant Accounting Policies) for additional information on the cumulative impact of the adoption of these accounting pronouncements.

Note 9. *Property, Plant and Equipment*

Property, plant and equipment consisted of the following at December 31:

	2018	2017
	(in millions)	
Building, building equipment and land	$ 481	$ 455
Equipment	987	841
Furniture and fixtures	85	81
Leasehold improvements	215	166
Property, plant and equipment	1,768	1,543
Less: accumulated depreciation and amortization	(847)	(714)
Property, plant and equipment, net	$ 921	$ 829

As of December 31, 2018 and 2017, capital leases of $33 million and $32 million, respectively, were included in equipment. Accumulated amortization of these capital leases was $24 million and $18 million as of December 31, 2018 and 2017, respectively.

Depreciation and amortization expense for the above property, plant and equipment was $209 million, $185 million and $151 million for 2018, 2017 and 2016, respectively.

Note 10. *Goodwill*

The changes in the carrying amount of goodwill for the years ended December 31, 2018 and 2017 were as follows:

	2018	2017
	(in millions)	
Beginning balance	$ 3,035	$ 1,756

Additions	2	1,136
Foreign currency translation	(133)	143
Ending balance	$ 2,904	$ 3,035

The Company had no accumulated impairment losses for goodwill at December 31, 2018. Based on annual impairment testing, the Company's goodwill is not impaired.

Note 11. *Other Intangible Assets*

The following table sets forth net intangible assets, other than goodwill, at December 31:

	2018			2017		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Finite-lived intangible assets						
Capitalized software	$ 1,514	$ (898)	$ 616	$ 1,572	$ (888)	$ 684
Customer relationships	439	(232)	207	473	(214)	259
Other	46	(45)	1	57	(55)	2
Total	1,999	(1,175)	824	2,102	(1,157)	945
Indefinite-lived intangible assets						
Customer relationships	167	—	167	175	—	175
Total	$ 2,166	$ (1,175)	$ 991	$ 2,277	$ (1,157)	$ 1,120

The decrease in the gross carrying amount of amortized intangible assets in 2018 was primarily related to the retirement of fully amortized intangible assets, partially offset by additions to capitalized software. Certain intangible assets are denominated in foreign currencies. As such, the change in intangible assets includes a component attributable to foreign currency translation. Based on the qualitative assessment performed in 2018, it was determined that the Company's indefinite-lived intangible assets were not impaired.

Amortization on the assets above amounted to $250 million, $252 million and $221 million in 2018, 2017 and 2016, respectively. The following table sets forth the estimated future amortization expense on finite-lived intangible assets on the consolidated balance sheet at December 31, 2018 for the years ending December 31:

	(in millions)
2019	$ 248
2020	187
2021	127
2022	51
2023 and thereafter	211
	$ 824

Note 12. *Accrued Expenses and Accrued Litigation*

Accrued expenses consisted of the following at December 31:

	2018	2017
	(in millions)	
Customer and merchant incentives	$ 3,275	$ 2,648
Personnel costs	744	613
Advertising	103	88
Income and other taxes	158	194
Other	467	388
Total accrued expenses	$ 4,747	$ 3,931

Customer and merchant incentives represent amounts to be paid to customers under business agreements. The increase in customer and merchant incentives is due to the adoption of the new accounting standard pertaining to revenue recognition and timing of payments to customers. See Note 1 (Summary of Significant Accounting Policies) for additional information on the cumulative impact of the adoption of the revenue recognition guidance.

As of December 31, 2018 and 2017, the Company's provision for litigation was $1,591 million and $709 million, respectively. These amounts are not included in the accrued expenses table above and are separately reported as accrued litigation on the consolidated balance sheet. See Note 20 (Legal and Regulatory Proceedings) for additional information regarding the Company's accrued litigation.

Note 13. *Pension, Postretirement and Savings Plans*

The Company and certain of its subsidiaries maintain various pension and other postretirement plans that cover substantially all employees worldwide.

Defined Contribution Plans

The Company sponsors defined contribution retirement plans. The primary plan is the Mastercard Savings Plan, a 401(k) plan for substantially all of the Company's U.S. employees, which is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), as amended. In addition, the Company has several defined contribution plans outside of the U.S. The Company's total expense for its defined contribution plans was $98 million, $84 million and $73 million in 2018, 2017 and 2016, respectively.

Defined Benefit and Other Postretirement Plans

The Company sponsors pension and postretirement plans for certain non-U.S. employees (the "non-U.S. Plans") that cover various benefits specific to their country of employment. In 2017, the Company acquired a majority interest in Vocalink. Vocalink has a defined benefit pension plan (the "Vocalink Plan") which was permanently closed to new entrants and future accruals as of July 21, 2013, however, plan participants' obligations are adjusted for future salary changes. The Company has agreed to make contributions of £15 million (approximately $18 million as of December 31, 2018) annually until March 2020. The term "Pension Plans" includes the non-U.S. Plans and the Vocalink Plan.

The Company maintains a postretirement plan providing health coverage and life insurance benefits for substantially all of its U.S. employees hired before July 1, 2007 (the "Postretirement Plan").

MASTERCARD INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The Company uses a December 31 measurement date for the Pension Plans and its Postretirement Plan (collectively the "Plans"). The Company recognizes the funded status of its Plans, measured as the difference between the fair value of the plan assets and the projected benefit obligation, in the consolidated balance sheet. The following table sets forth the Plans' funded status, key assumptions and amounts recognized in the Company's consolidated balance sheet at December 31:

	Pension Plans		Postretirement Plan	
	2018	2017	2018	2017
	($ in millions)			
Change in benefit obligation				
Benefit obligation at beginning of year	$ 468	$ 46	$ 61	$ 59
Benefit obligation acquired during the year	—	410	—	—
Service cost	9	9	1	1
Interest cost	12	8	2	2
Actuarial (gain) loss	(7)	(44)	(2)	3
Benefits paid	(22)	(12)	(5)	(4)
Transfers in	1	3	—	—
Foreign currency translation	(23)	48	—	—
Benefit obligation at end of year	438	468	57	61
Change in plan assets				
Fair value of plan assets at beginning of year	427	33	—	—
Fair value of plan assets acquired during the year	—	344	—	—
Actual (loss) gain on plan assets	(8)	(4)	—	—
Employer contributions	33	23	5	4
Benefits paid	(23)	(12)	(5)	(4)
Transfers in	2	3	—	—
Foreign currency translation	(21)	40	—	—
Fair value of plan assets at end of year	410	427	—	—
Funded status at end of year	$ (28)	$ (41)	$ (57)	$ (61)
Amounts recognized on the consolidated balance sheet consist of:				
Other liabilities, short-term	$ —	$ —	$ (3)	$ (3)
Other liabilities, long-term	(28)	(41)	(54)	(58)
	$ (28)	$ (41)	$ (57)	$ (61)

Accumulated other comprehensive income consists of:				
Net actuarial (gain) loss	$ (5)	$ (22)	$ (7)	$ (5)
Prior service credit	1	—	(6)	(8)
Balance at end of year	$ (4)	$ (22)	$ (13)	$ (13)

Weighted-average assumptions used to determine end of year benefit obligations				
Discount rate				
Non-U.S. Plans	1.80%	1.80%	*	*
Vocalink Plan	3.10%	2.80%	*	*
Postretirement Plan	*	*	4.25%	3.50%
Rate of compensation increase				
Non-U.S. Plans	2.60%	2.60%	*	*
Vocalink Plan	4.00%	3.85%	*	*
Postretirement Plan	*	*	3.00%	3.00%

* Not applicable

Each of the Pension Plans had benefit obligations in excess of plan assets at December 31, 2018 and 2017. Information on the Pension Plans were as follows:

	2018	2017
	(in millions)	
Projected benefit obligation	$ 438	$ 468
Accumulated benefit obligation	430	428
Fair value of plan assets	410	427

For the year ended December 31, 2018, the Company's projected benefit obligation related to its Pension Plans decreased $30 million attributable primarily to foreign currency translation and benefits paid. For the year ended December 31, 2017, the Company's projected benefit obligation related to its Pension Plans increased $422 million attributable primarily to the acquisition of Vocalink.

Components of net periodic benefit cost recorded in earnings were as follows for the Plans for each of the years ended December 31:

	Pension Plans			Postretirement Plan		
	2018	2017	2016	2018	2017	2016
	(in millions)					
Service cost	$ 9	$ 9	$ 10	$ 1	$ 1	$ 1
Interest cost	12	8	1	2	2	2
Expected return on plan assets	(20)	(13)	(1)	—	—	—
Curtailment gain	—	—	—	—	—	—
Amortization of actuarial loss	—	—	—	—	—	—
Amortization of prior service credit	—	—	—	(2)	(2)	(1)
Pension settlement charge	—	—	—	—	—	—
Net periodic benefit cost	$ 1	$ 4	$ 10	$ 1	$ 1	$ 2

Net periodic benefit cost, excluding the service cost component, is recognized in other income (expense) on the consolidated statement of operations. The service cost component is recognized in general and administrative expenses on the consolidated statement of operations.

Other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

	Pension Plans			Postretirement Plan		
	2018	2017	2016	2018	2017	2016
	(in millions)					
Curtailment gain	$ —	$ —	$ —	$ —	$ —	$ —
Current year actuarial loss (gain)	17	(22)	1	(2)	5	—

Current year prior service credit	1	—	—	—	—	—
Amortization of prior service credit	—	—	—	2	2	1
Pension settlement charge	—	—	—	—	—	—
Total other comprehensive loss (income)	$ 18	$ (22)	$ 1	$ —	$ 7	$ 1
Total net periodic benefit cost and other comprehensive loss (income)	$ 19	$ (18)	$ 11	$ 1	$ 8	$ 3

Assumptions

Weighted-average assumptions used to determine net periodic benefit cost were as follows for the years ended December 31:

	Pension Plans			Postretirement Plan		
	2018	2017	2016	2018	2017	2016
Discount rate						
Non-U.S. Plans	1.80 %	1.60 %	1.85 %	*	*	*
Vocalink Plan	2.80 %	2.50 %	*	*	*	*
Postretirement Plan	*	*	*	3.50 %	4.00 %	4.25 %
Expected return on plan assets						
Non-U.S. Plans	3.00 %	3.25 %	3.25 %	*	*	*
Vocalink Plan	4.75 %	4.75 %	*	*	*	*
Rate of compensation increase						
Non-U.S. Plans	2.60 %	2.59 %	2.64 %	*	*	*
Vocalink Plan	3.85 %	3.95 %	*	*	*	*
Postretirement Plan	*	*	*	3.00 %	3.00 %	3.00 %

* Not applicable

The Company's discount rate assumptions are based on yield curves derived from high quality corporate bonds, which are matched to the expected cash flows of each respective plan. The expected return on plan assets assumptions are derived using the current and expected asset allocations of the Pension Plans' assets and considering historical as well as expected returns on various classes of plan assets. The rates of compensation increases are determined by the Company, based upon its long-term plans for such increases.

The following additional assumptions were used at December 31 in accounting for the Postretirement Plan:

	2018	2017
Health care cost trend rate assumed for next year	6.00 %	6.50 %
Ultimate trend rate	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	2	3

Assets

Plan assets are managed taking into account the timing and amount of future benefit payments. The Vocalink Plan assets are managed within the following target asset allocations: non-government fixed income 39%, government securities (including U.K. governmental bonds) 28%, investment funds 25% and other 8%. The investment funds are currently comprised of approximately 44% derivatives, 28% equity, 16% fixed income and 12% other. For the non-U.S. Plans, the assets are concentrated primarily in insurance contracts.

The Valuation Hierarchy of the Pension Plans' assets is determined using a consistent application of the categorization measurements for the Company's financial instruments. See Note 1 (Summary of Significant Accounting Policies) for additional information.

Cash and cash equivalents and other public investment vehicles (including certain mutual funds and government and agency securities) are valued at quoted market prices, which represent the net asset value of the shares held by the Vocalink Plan, and are therefore included in Level 1 of the Valuation Hierarchy. Certain other mutual funds (including commingled funds), governmental and agency securities and insurance contracts are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2 of the Valuation Hierarchy. Asset-backed securities are classified as Level 3 due to a lack of observable inputs in measuring fair value.

The following tables set forth by level, within the Valuation Hierarchy, the Pension Plans' assets at fair value as of December 31, 2018 and 2017:

	December 31, 2018				December 31, 2017			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)							
Cash and cash equivalents	$ 22	$ —	$ —	$ 22	$ 21	$ —	$ —	$ 21
Government and agency securities	—	88	—	88	21	95	—	116
Mutual funds	154	30	—	184	146	28	—	174
Insurance contracts	—	57	—	57	—	45	—	45
Asset-backed securities	—	—	34	34	—	—	31	31
Other	—	25	—	25	2	16	22	40
Total	$ 176	$ 200	$ 34	$ 410	$ 190	$ 184	$ 53	$ 427

The following table summarizes expected benefit payments through 2028 for the Pension Plans and the Postretirement Plan, including those payments expected to be paid from the Company's general assets. Actual benefit payments may differ from expected benefit payments.

	Pension Plans	Postretirement Plan
	(in millions)	
2019	$ 14	$ 3
2020	10	4
2021	11	4
2022	14	4
2023	13	4
2024 - 2028	64	20

Note 14. *Debt*

Long-term debt consisted of the following at December 31:

Notes	Issuance Date	Interest Payment Terms	Maturity Date	Aggregate Principal Amount	Stated Interest Rate	Effective Interest Rate	2018	2017
					(in millions, except percentages)			
2018 USD Notes	February 2018	Semi-annually	2028	$ 500	3.500 %	3.598 %	$ 500	$ —
			2048	$ 500	3.950 %	3.990 %	500	—
				$1,000				
2016 USD Notes	November 2016	Semi-annually	2021	$ 650	2.000 %	2.236 %	650	650
			2026	750	2.950 %	3.044 %	750	750
			2046	600	3.800 %	3.893 %	600	600
				$2,000				
2015 Euro Notes	December 2015	Annually	2022	€ 700	1.100 %	1.265 %	801	839
			2027	800	2.100 %	2.189 %	916	958
			2030	150	2.500 %	2.562 %	172	180
				€1,650				
2014 USD Notes	March 2014	Semi-annually	2019	$ 500	2.000 %	2.178 %	500	500
			2024	1,000	3.375 %	3.484 %	1,000	1,000
				$1,500				
							6,389	5,477
Less: Unamortized discount and debt issuance costs							(55)	(53)
Total debt outstanding							6,334	5,424
Less: Current portion[1]							(500)	—
Long-term debt							$ 5,834	$ 5,424

[1] Relates to the current portion of the 2014 USD Notes, due in April 2019, classified as current portion of long-term debt on the consolidated balance sheet.

In February 2018, the Company issued $500 million principal amount of notes due February 2028 and $500 million principal amount of notes due February 2048 (collectively the "2018 USD Notes"). The net proceeds from the issuance of the 2018 USD Notes, after deducting the original issue discount, underwriting discount and offering expenses, were $991 million.

The net proceeds, after deducting the original issue discount, underwriting discount and offering expenses, from the issuance of the 2016 USD Notes, the 2015 Euro Notes and the 2014 USD Notes, were $1.969 billion, $1.723 billion and $1.484 billion, respectively.

The outstanding debt, described above, is not subject to any financial covenants and it may be redeemed in whole, or in part, at the Company's option at any time for a specified make-whole amount. These notes are senior unsecured obligations and would rank equally with any future unsecured and unsubordinated indebtedness. The proceeds of the notes are to be used for general corporate purposes.

Scheduled annual maturities of the principal portion of long-term debt outstanding at December 31, 2018 are summarized below.

	(in millions)
2019	$ 500
2020	—
2021	650
2022	801
2023	—
Thereafter	4,438
Total	$ 6,389

On November 15, 2018, the Company increased its commercial paper program (the "Commercial Paper Program") from $3.75 billion to $4.5 billion under which the Company is authorized to issue unsecured commercial paper notes with maturities of up to 397 days from the date of issuance. The Commercial Paper Program is available in U.S. dollars.

In conjunction with the Commercial Paper Program, the Company entered into a committed five-year unsecured $4.5 billion revolving credit facility (the "Credit Facility") on November 15, 2018. The Credit Facility, which expires on November 15, 2023, amended and restated the Company's prior $3.75 billion credit facility which was set to expire in October 2022. Borrowings under the Credit Facility are available in U.S. dollars and/or euros. The facility fee under the Credit Facility is determined according to the Company's credit rating and is payable on the average daily commitment, regardless of usage, per annum. In addition to the facility fee, interest rates on borrowings under the Credit Facility would be based on prevailing market interest rates plus applicable margins that fluctuate based on the Company's credit rating. The Credit Facility contains customary representations, warranties, events of default and affirmative and negative covenants, including a financial covenant limiting the maximum level of consolidated debt to earnings before interest, taxes, depreciation and amortization ("EBITDA"). The Company was in compliance in all material respects with the covenants of the Credit Facility at December 31, 2018 and 2017. The majority of Credit Facility lenders are customers or affiliates of customers of Mastercard.

Borrowings under the Commercial Paper Program and the Credit Facility are used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by the Company's customers. The Company may borrow and repay amounts under the Commercial Paper Program and Credit Facility from time to time. The Company had no borrowings under the Credit Facility and the Commercial Paper Program at December 31, 2018 and 2017.

In March 2018, the Company filed a universal shelf registration statement (replacing a previously filed shelf registration statement that was set to expire) to provide additional access to capital, if needed. Pursuant to the shelf registration statement, the Company may from time to time offer to sell debt securities, guarantees of debt securities, preferred stock, Class A common stock, depository shares, purchase contracts, units or warrants in one or more offerings.

Note 15. *Stockholders' Equity*

Classes of Capital Stock

Mastercard's amended and restated certificate of incorporation authorizes the following classes of capital stock:

Class	Par Value Per Share	Authorized Shares (in millions)	Dividend and Voting Rights
A	$0.0001	3,000	One vote per share Dividend rights
B	$0.0001	1,200	Non-voting Dividend rights
Preferred	$0.0001	300	No shares issued or outstanding at December 31, 2018 and 2017, respectively. Dividend and voting rights are to be determined by the Board of Directors of the Company upon issuance.

Ownership and Governance Structure

Equity ownership and voting power of the Company's shares were allocated as follows as of December 31:

	2018		2017	
	Equity Ownership	General Voting Power	Equity Ownership	General Voting Power
Public Investors (Class A stockholders)	88.0 %	89.0 %	88.0 %	89.2 %
Principal or Affiliate Customers (Class B stockholders)	1.1 %	— %	1.4 %	— %
Mastercard Foundation (Class A stockholders)	10.9 %	11.0 %	10.6 %	10.8 %

Class B Common Stock Conversions

Shares of Class B common stock are convertible on a one-for-one basis into shares of Class A common stock. Entities eligible to hold Mastercard's Class B common stock are defined in the Company's amended and restated certificate of incorporation (generally the Company's principal or affiliate customers), and they are restricted from retaining ownership of shares of Class A common stock. Class B stockholders are required to subsequently sell or otherwise transfer any shares of Class A common stock received pursuant to such a conversion.

Mastercard Foundation

In connection and simultaneously with its 2006 initial public offering (the "IPO"), the Company issued and donated 135 million newly authorized shares of Class A common stock to Mastercard Foundation. Mastercard Foundation is a private charitable foundation incorporated in Canada that is controlled by directors who are independent of the Company and its principal customers. Under the terms of the donation, Mastercard Foundation became able to resell the donated shares in May 2010 to the extent necessary to meet charitable disbursement requirements dictated by Canadian tax law. Under Canadian tax law, Mastercard Foundation is generally required to disburse at least 3.5% of its assets not used in administration each year for qualified charitable disbursements. However, Mastercard Foundation obtained permission from the Canadian tax authorities to defer the giving requirements until 2021. Mastercard Foundation, at its discretion, may decide to meet its disbursement obligations on an annual basis or to settle previously accumulated obligations during any given year. Mastercard Foundation will be permitted to sell all of its remaining shares beginning May 1, 2027, subject to certain conditions.

Stock Repurchase Programs

The Company's Board of Directors have approved share repurchase programs authorizing the Company to repurchase shares of its Class A Common Stock. These programs become effective after the completion of the previously authorized share repurchase program.

MASTERCARD INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The following table summarizes the Company's share repurchase authorizations of its Class A common stock through December 31, 2018, as well as historical purchases:

Board authorization dates	December 2018	December 2017	December 2016	December 2015	December 2014	
Date program became effective	January 2019	March 2018	April 2017	February 2016	January 2015	Total
	(in millions, except average price data)					
Board authorization	$ 6,500	$ 4,000	$ 4,000	$ 4,000	$ 3,750	$ 22,250
Dollar-value of shares repurchased in 2016	$ —	$ —	$ —	$ 3,004	$ 507	$ 3,511
Remaining authorization at December 31, 2016	$ —	$ —	$ 4,000	$ 996	$ —	$ 4,996
Dollar-value of shares repurchased in 2017	$ —	$ —	$ 2,766	$ 996	$ —	$ 3,762
Remaining authorization at December 31, 2017	$ —	$ 4,000	$ 1,234	$ —	$ —	$ 5,234
Dollar-value of shares repurchased in 2018	$ —	$ 3,699	$ 1,234	$ —	$ —	$ 4,933
Remaining authorization at December 31, 2018	$ 6,500	$ 301	$ —	$ —	$ —	$ 6,801
Shares repurchased in 2016	—	—	—	31.2	5.7	36.9
Average price paid per share in 2016	$ —	$ —	$ —	$ 96.15	$ 89.76	$ 95.18
Shares repurchased in 2017	—	—	21.0	9.1	—	30.1
Average price paid per share in 2017	$ —	$ —	$131.97	$109.16	$ —	$ 125.05
Shares repurchased in 2018	—	19.0	7.2	—	—	26.2
Average price paid per share in 2018	$ —	$194.77	$171.11	$ —	$ —	$ 188.26
Cumulative shares repurchased through December 31, 2018	—	19.0	28.2	40.4	40.8	128.4
Cumulative average price paid per share	$ —	$194.77	$141.99	$ 99.10	$ 92.03	$ 120.44

The following table presents the changes in the Company's outstanding Class A and Class B common stock for the years ended December 31:

	Outstanding Shares	
	Class A	Class B
	(in millions)	
Balance at December 31, 2015	1,095.0	21.3
Purchases of treasury stock	(36.9)	—

Share-based payments	2.3	—
Conversion of Class B to Class A common stock	2.0	(2.0)
Balance at December 31, 2016	1,062.4	19.3
Purchases of treasury stock	(30.1)	—
Share-based payments	2.2	—
Conversion of Class B to Class A common stock	5.2	(5.2)
Balance at December 31, 2017	1,039.7	14.1
Purchases of treasury stock	(26.2)	—
Share-based payments	2.8	—
Conversion of Class B to Class A common stock	2.3	(2.3)
Balance at December 31, 2018	1,018.6	11.8

Note 16. *Accumulated Other Comprehensive Income (Loss)*

The changes in the balances of each component of accumulated other comprehensive income (loss), net of tax, for the years ended December 31, 2018 and 2017 were as follows:

	Foreign Currency Translation Adjustments[1]	Translation Adjustments on Net Investment Hedge	Defined Benefit Pension and Other Postretirement Plans[2]	Investment Securities Available-for-Sale[3]	Accumulated Other Comprehensive Income (Loss)
			(in millions)		
Balance at December 31, 2016	$ (949)	$ 12	$ 11	$ 2	$ (924)
Other comprehensive income (loss)	567	(153)	14	(1)	427
Balance at December 31, 2017	(382)	(141)	25	1	(497)
Other comprehensive income (loss)	(279)	75	(15)	(2)	(221)
Balance at December 31, 2018	$ (661)	$ (66)	$ 10	$ (1)	$ (718)

1 During 2017, the decrease in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the euro. During 2018, the increase in the accumulated other comprehensive loss related to foreign currency translation adjustments was driven primarily by the devaluation of the euro, British pound and Brazilian real.

2 During 2017, the increase in the accumulated other comprehensive gain related to the Company's postretirement plans was driven primarily by the addition of the Vocalink Plan. Deferred gains related to the Company's postretirement plans, reclassified from accumulated other comprehensive income (loss) to earnings, were $2 million before tax and $1 million after tax. During 2018, the decrease in the accumulated other comprehensive gain related to the Company's postretirement plans was driven primarily by an actuarial loss related to the Vocalink Plan. Deferred gains related to the Company's postretirement plans, reclassified from accumulated other comprehensive income (loss) to earnings, were $1 million before and after tax. See Note 13 (Pension, Postretirement and Savings Plans) for additional information.

3 During 2017 and 2018, gains and losses on available-for-sale investment securities, reclassified from accumulated other comprehensive income (loss) to investment income, were not significant.

Note 17. *Share-Based Payments*

In May 2006, the Company implemented the Mastercard Incorporated 2006 Long Term Incentive Plan, which was amended and restated as of June 5, 2012 (the "LTIP"). The LTIP is a stockholder-approved plan that permits the grant of various types of equity awards to employees.

The Company has granted Options, RSUs and PSUs under the LTIP. The Options, which expire ten years from the date of grant, generally vest ratably over four years from the date of grant. The RSUs and PSUs generally vest after three years. The Company uses the straight-line method of attribution for expensing equity awards. Compensation expense is recorded net of estimated forfeitures. Estimates are adjusted as appropriate.

For all awards granted prior to March 2017, a participant's unvested awards are forfeited upon termination of employment. For all awards granted on or after March 1, 2017, in the event of termination due to job elimination (as defined by the Company), a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than six months (seven months for those granted on or after March 1, 2017) after receiving the award, the participant retains all of their awards without providing

additional service to the Company. Retirement eligibility is dependent upon age and years of service. Compensation expense is recognized over the shorter of the vesting periods stated in the LTIP or the date the individual becomes eligible to retire but not less than six months (or seven months for grants awarded on or after March 1, 2017).

There are approximately 116 million shares of Class A common stock authorized for equity awards under the LTIP. Although the LTIP permits the issuance of shares of Class B common stock, no such shares have been authorized for issuance. Shares issued as a result of Option exercises and the conversions of RSUs and PSUs were funded primarily with the issuance of new shares of Class A common stock.

Stock Options

The fair value of each Option is estimated on the date of grant using a Black-Scholes option pricing model. The following table presents the weighted-average assumptions used in the valuation and the resulting weighted-average fair value per option granted for the years ended December 31:

	2018	2017	2016
Risk-free rate of return	2.7%	2.0%	1.3%
Expected term (in years)	6.00	5.00	5.00
Expected volatility	19.7%	19.3%	23.3%
Expected dividend yield	0.6%	0.8%	0.8%
Weighted-average fair value per Option granted	$ 40.90	$ 21.23	$ 18.58

The risk-free rate of return was based on the U.S. Treasury yield curve in effect on the date of grant. The expected term and the expected volatility were based on historical Mastercard information. The expected dividend yields were based on the Company's expected annual dividend rate on the date of grant.

The following table summarizes the Company's option activity for the year ended December 31, 2018:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in millions)		(in years)	(in millions)
Outstanding at January 1, 2018	8.6	$ 77		
Granted	0.9	$ 173		
Exercised	(1.8)	$ 57		
Forfeited/expired	(0.1)	$ 112		
Outstanding at December 31, 2018	7.6	$ 93	6.4	$ 726
Exercisable at December 31, 2018	4.3	$ 72	5.2	$ 505
Options vested and expected to vest at December 31, 2018	7.6	$ 93	6.4	$ 723

As of December 31, 2018, there was $34 million of total unrecognized compensation cost related to non-vested Options. The cost is expected to be recognized over a weighted-average period of 2.1 years.

Restricted Stock Units

The following table summarizes the Company's RSU activity for the year ended December 31, 2018:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value

	(in millions)			(in millions)
Outstanding at January 1, 2018	4.1	$	97	
Granted	0.9	$	171	
Converted	(1.1)	$	90	
Forfeited	(0.2)	$	110	
Outstanding at December 31, 2018	3.7	$	117	$ 702
RSUs expected to vest at December 31, 2018	3.6	$	116	$ 680

The fair value of each RSU is the closing stock price on the New York Stock Exchange of the Company's Class A common stock on the date of grant, adjusted for the exclusion of dividend equivalents. Upon vesting, a portion of the RSU award may be withheld to satisfy the minimum statutory withholding taxes. The remaining RSUs will be settled in shares of the Company's Class A

common stock after the vesting period. As of December 31, 2018, there was $153 million of total unrecognized compensation cost related to non-vested RSUs. The cost is expected to be recognized over a weighted-average period of 1.7 years.

Performance Stock Units

The following table summarizes the Company's PSU activity for the year ended December 31, 2018:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2018	0.5	$ 105	
Granted	0.1	$ 226	
Converted	(0.3)	$ 99	
Other[1]	0.3	$ 94	
Outstanding at December 31, 2018	0.6	$ 120	$ 119
PSUs expected to vest at December 31, 2018	0.6	$ 119	$ 118

1 Represents additional shares issued in March 2018 related to the 2015 PSU grant based on performance and market conditions achieved over the three-year measurement period. These shares vested upon issuance.

Since 2013, PSUs containing performance and market conditions have been issued. Performance measures used to determine the actual number of shares that vest after three years include net revenue growth, EPS growth and relative total shareholder return ("TSR"). Relative TSR is considered a market condition, while net revenue and EPS growth are considered performance conditions. The Monte Carlo simulation valuation model is used to determine the grant-date fair value.

Compensation expenses for PSUs are recognized over the requisite service period if it is probable that the performance target will be achieved and subsequently adjusted if the probability assessment changes. As of December 31, 2018, there was $13 million of total unrecognized compensation cost related to non-vested PSUs. The cost is expected to be recognized over a weighted-average period of 1.3 years.

Additional Information

The following table includes additional share-based payment information for each of the years ended December 31:

	2018	2017	2016
	(in millions, except weighted-average fair value)		
Share-based compensation expense: Options, RSUs and PSUs	$ 196	$ 176	$ 148
Income tax benefit recognized for equity awards	41	57	49
Income tax benefit realized related to Options exercised	53	36	31

Options:			
Total intrinsic value of Options exercised	242	106	86
RSUs:			
Weighted-average grant-date fair value of awards granted	171	112	91
Total intrinsic value of RSUs converted into shares of Class A common stock	194	131	122
PSUs:			
Weighted-average grant-date fair value of awards granted	226	126	92
Total intrinsic value of PSUs converted into shares of Class A common stock	40	13	25

Note 18. *Commitments*

At December 31, 2018, the Company had the following future minimum payments due under non-cancelable agreements:

	Total	Capital Leases	Operating Leases	Sponsorship, Licensing & Other
		(in millions)		
2019	$ 426	$ 4	$ 72	$ 350
2020	259	4	75	180
2021	175	—	76	99
2022	121	—	68	53
2023	67	—	58	9
Thereafter	327	—	327	—
Total	$ 1,375	$ 8	$ 676	$ 691

Included in the table above are capital leases with a net present value of minimum lease payments of $8 million. In addition, at December 31, 2018, $25 million of the future minimum payments in the table above for sponsorship, licensing and other agreements was accrued. Consolidated rental expense for the Company's leased office space was $94 million, $77 million and $62 million for 2018, 2017 and 2016, respectively. Consolidated lease expense for automobiles, computer equipment and office equipment was $20 million, $22 million and $19 million for 2018, 2017 and 2016, respectively.

Note 19. *Income Taxes*

On December 22, 2017, U.S. Tax Reform was enacted into law with the effective date for most provisions being January 1, 2018. U.S. Tax Reform represents significant changes to the U.S. internal revenue code and, among other things:

- lowered the corporate income tax rate from 35% to 21%
- imposed a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax")
- provides for a 100% dividends received deduction on dividends from foreign affiliates
- requires a current inclusion in U.S. federal taxable income of earnings of foreign affiliates that are determined to be global intangible low taxed income or "GILTI"
- creates the base erosion anti-abuse tax, or "BEAT"
- provides for an effective tax rate of 13.125% for certain income derived from outside of the U.S. (referred to as foreign derived intangible income or "FDII")
- introduced further limitations on the deductibility of executive compensation
- permits 100% expensing of qualifying fixed assets acquired after September 27, 2017

- limits the deductibility of interest expense in certain situations and
- eliminates the domestic production activities deduction.

While the effective date of the law for most provisions was January 1, 2018, GAAP requires the effects of changes in tax rates be accounted for in the reporting period of enactment, which was the 2017 reporting period.

Components of Income and Income tax expense

The domestic and foreign components of income before income taxes for the years ended December 31 are as follows:

	2018	2017	2016
		(in millions)	
United States	$ 3,510	$ 3,482	$ 3,736
Foreign	3,694	3,040	1,910
Income before income taxes	$ 7,204	$ 6,522	$ 5,646

The total income tax provision for the years ended December 31 is comprised of the following components:

	2018	2017	2016
		(in millions)	
Current			
Federal	$ 649	$ 1,704	$ 1,074
State and local	69	65	36
Foreign	871	752	497
	1,589	2,521	1,607
Deferred			
Federal	(228)	134	(6)
State and local	(11)	1	(2)
Foreign	(5)	(49)	(12)
	(244)	86	(20)
Income tax expense	$ 1,345	$ 2,607	$ 1,587

Effective Income Tax Rate

A reconciliation of the effective income tax rate to the U.S. federal statutory income tax rate for the years ended December 31, is as follows:

	2018		2017		2016	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 7,204		$ 6,522		$ 5,646	
Federal statutory tax	1,513	21.0 %	2,283	35.0 %	1,976	35.0 %
State tax effect, net of federal benefit	46	0.6 %	43	0.7 %	22	0.4 %
Foreign tax effect	(92)	(1.3 %	(380)	(5.8 %	(188)	(3.3 %
European Commission fine	194	2.7 %	—	— %	—	— %
Foreign tax credits[1]	(110)	(1.5 %	(27)	(0.4 %	(141)	(2.5 %
Transition Tax	22	0.3 %	629	9.6 %	—	— %
Remeasurement of deferred taxes	(7)	(0.1 %	157	2.4 %	—	— %
Windfall benefit	(72)	(1.0 %	(43)	(0.7 %	—	— %
Other, net	(149)	(2.0 %	(55)	(0.8 %	(82)	(1.5 %
Income tax expense	$ 1,345	18.7 %	$ 2,607	40.0 %	$ 1,587	28.1 %

[1] Included within the impact of the 2018 foreign tax credits is a $90 million tax benefit relating to the carryback of certain foreign tax credits. Additionally, included in 2016 is a $116 million benefit associated

with the repatriation of 2016 foreign earnings. There was no benefit associated with the repatriation of foreign earnings in 2018 and 2017 due to the enactment of U.S. Tax Reform.

The effective tax rates for the years ended December 31, 2018, 2017 and 2016 were 18.7%, 40.0% and 28.1%, respectively. The effective income tax rate for 2018 was lower than the effective income tax rate for 2017 primarily due to additional tax expense of $873 million attributable to U.S. Tax Reform in 2017, a lower 2018 statutory tax rate in the U.S. and Belgium and a more favorable geographic mix of earnings. The lower effective tax rate is also attributable to discrete tax benefits, relating primarily to $90 million of foreign tax credits generated in 2018, which can be carried back and utilized in 2017 under transition rules in the proposed foreign tax credit regulations issued on November 28, 2018, along with provisions for legal matters in the United States. These benefits were partially offset by the nondeductible nature of the fine issued by the European Commission. See Note 20 (Legal and Regulatory Proceedings) for further discussion of the European Commission fine and U.S. merchant class litigation. The impact of U.S. Tax Reform for the period ending December 31, 2018 resulted in a net $75 million non-recurring tax benefit due to the carry back of certain foreign tax credits, incremental transition tax and the remeasurement of deferred taxes.

The effective income tax rate for 2017 was higher than the effective income tax rate for 2016 primarily due to additional tax expense of $873 million attributable to U.S. Tax reform, which included provisional amounts of $825 million related to the Transition Tax, the remeasurement of the Company’s net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding the indefinite reinvestment of a substantial amount of the Company’s foreign earnings, as well as $48 million due to a foregone foreign tax credit benefit on 2017 repatriations. In addition, the

Company's 2017 effective income tax rate versus 2016 was impacted by a more favorable geographic mix of earnings in 2017, partially offset by a lower U.S. foreign tax credit benefit.

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The Company was able to make reasonable estimates at December 31, 2017 and had recorded a provisional charge of $629 million related to the Transition Tax, $157 million for the remeasurement of the Company's net deferred tax asset in the U.S. and $36 million related to the change in assertion regarding the indefinite reinvestment of foreign earnings. However, these amounts were adjusted during the measurement period due to evolving analysis and interpretations of law, including issuance by the Internal Revenue Service (the "IRS") and Treasury of Notices and regulations, discussions with the Department of Treasury ("Treasury"), as well as interpretations of how accounting for income taxes should be applied.

At the close of the measurement period, the Company has finalized its assessment of the impact of U.S. Tax Reform resulting in a Transition Tax liability of $687 million and a $150 million charge related to the remeasurement of the Company's net deferred tax assets in the U.S. In 2018, the Company recorded an increase in the transition tax liability of $36 million, with an offsetting decrease to its deferred tax liabilities. The Company recorded additional Transition Tax expense of $22 million and has recorded a $7 million reduction to the charge for the remeasurement of its net deferred tax assets. The adjustments in 2018 were primarily the result of additional administrative guidance and proposed regulations issued by the IRS and Treasury.

The Transition Tax will be paid over eight annual installments. The initial installment of $55 million was due and paid by April 15, 2018. Additionally, the overpayment appearing on the 2017 U.S. federal tax return has been applied against the Company's Transition Tax liability. Approximately $509 million of the remaining tax due is recorded in other liabilities on the consolidated balance sheet at December 31, 2018. At December 31, 2017 the Company had reflected a current liability of $52 million and an other liability of $577 million. Under U.S. Tax Reform, for purposes of IRS examination of the Transition Tax, the statute of limitations is extended to six years.

Singapore Income Tax Rate

In connection with the expansion of the Company's operations in the Asia Pacific, Middle East and Africa region, the Company's subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL") received an incentive grant from the Singapore Ministry of Finance in 2010. The incentive had provided MAPPL with, among other benefits, a reduced income tax rate for the 10-year period commencing January 1, 2010 on taxable income in excess of a base amount. The Company continued to explore business opportunities in this region, resulting in an expansion of the incentives being granted by the Ministry of Finance, including a further reduction to the income tax rate on taxable income in excess of a revised fixed base amount commencing July 1, 2011 and continuing through December 31, 2025. Without the incentive grant, MAPPL would have been subject to the statutory income tax rate on its earnings. For 2018, 2017 and 2016, the impact of the incentive grant received from the Ministry of Finance resulted in a reduction of MAPPL's income tax liability of $212 million, or $0.20 per diluted share, $104 million, or $0.10 per diluted share, and $49 million, or $0.04 per diluted share, respectively.

Intra-entity asset transfers

During 2014, the Company implemented an initiative to better align its legal entity and tax structure with its operational footprint outside of the U.S. This initiative resulted in a one-time taxable gain in Belgium relating to the transfer of intellectual property to a related foreign entity in the United Kingdom. The Company recorded a deferred charge related to the income tax expense on intercompany profits that resulted from the transfer. The tax associated with the transfer was deferred and amortized utilizing a 25-year life. The deferred charge was included in other current assets and other assets on the consolidated balance sheet at December 31, 2017 in the amounts of $17 million and $352 million, respectively. The aforementioned deferred charge of $369 million at December 31, 2017, was written off to retained earnings as a component of the cumulative-effect adjustment as of January 1, 2018. In addition, deferred taxes are a component of the cumulative-effect adjustment whereby the Company has recorded a $186 million deferred tax asset in this regard. See Note 1 (Summary of Significant Accounting Policies) for additional information related to this guidance.

Indefinite Reinvestment

In 2017, as a result of U.S. Tax Reform, among other things, the Company changed its assertion regarding the indefinite reinvestment of foreign earnings outside the U.S. for certain of our foreign affiliates and recognized a provisional deferred tax liability of $36 million. In 2018, the Company completed its analysis of global working capital and cash needs. It is the Company's

present intention to indefinitely reinvest a portion of its historic undistributed accumulated earnings associated with certain foreign subsidiaries outside of the U.S.

As part of its analysis, the Company determined that approximately $5.8 billion of the approximately $6.7 billion of unremitted foreign earnings as of December 31, 2017, were no longer permanently reinvested. Notwithstanding the fact that some earnings continue to be permanently reinvested, all historical earnings, approximately $7.0 billion, were taxed in the U.S. as part of transition tax pursuant to U.S. Tax Reform, of which $267 million was repatriated in 2017.

Additionally, during 2018, the Company repatriated approximately $3.3 billion. As of December 31, 2018, the Company had approximately $2.5 billion of accumulated earnings to be repatriated in the future, for which $8 million of deferred tax benefit was recorded. The tax effect is primarily related to the estimated foreign exchange impact recognized when earnings are repatriated. The Company expects that foreign withholding taxes associated with these future repatriated earnings will not be material. Earnings of approximately $0.9 billion remain permanently reinvested and the Company estimates that an immaterial U.S. federal and state and local income tax benefit would result, primarily from foreign exchange, if these earnings were to be repatriated.

Deferred Taxes

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The components of deferred tax assets and liabilities at December 31 are as follows:

	2018	2017
	(in millions)	
Deferred Tax Assets		
Accrued liabilities	$ 297	$ 158
Compensation and benefits	210	127
State taxes and other credits	30	28
Net operating and capital losses	104	105
Unrealized gain/loss - 2015 Euro Notes	28	48
Recoverable basis of deconsolidated entities	—	35
Intangible assets[1]	170	—
Previously taxed earnings and profits	7	—
Other items	80	83
Less: Valuation allowance	(94)	(91)
Total Deferred Tax Assets	832	493
Deferred Tax Liabilities		
Prepaid expenses and other accruals	89	48
Intangible assets	125	151
Property, plant and equipment	97	83
Previously taxed earnings and profits	—	36
Other items	18	31

Total Deferred Tax Liabilities	329	349
Net Deferred Tax Assets	$ 503	$ 144

[1] On January 1, 2018 a $186 million deferred tax asset was established related to intra-entity transfers as discussed above.

Both the 2018 and 2017 valuation allowances relate primarily to the Company's ability to recognize tax benefits associated with certain foreign net operating losses. The recognition of the foreign losses is dependent upon the future taxable income in such jurisdictions and the ability under tax law in these jurisdictions to utilize net operating losses following a change in control.

A reconciliation of the beginning and ending balance for the Company's unrecognized tax benefits for the years ended December 31, is as follows:

	2018	2017	2016
		(in millions)	
Beginning balance	$ 183	$ 169	$ 181
Additions:			
Current year tax positions	23	21	20
Prior year tax positions	5	9	13
Reductions:			
Prior year tax positions	(17)	(1)	(28)
Settlements with tax authorities	(18)	(4)	(2)
Expired statute of limitations	(12)	(11)	(15)
Ending balance	$ 164	$ 183	$ 169

The entire unrecognized tax benefit of $164 million, if recognized, would reduce the effective tax rate. During 2018, there was a reduction to the balance of the Company's unrecognized tax benefits. This was primarily due to a favorable court decision and settlements with tax authorities in multiple jurisdictions. Further, the information gained related to these matters was considered in measuring uncertain tax benefits recognized for the periods subsequent to the periods settled.

The Company is subject to tax in the U.S., Belgium, Singapore, the United Kingdom and various other foreign jurisdictions, as well as state and local jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted after considering facts and circumstances, including progress of tax audits, developments in case law and closing of statutes of limitation. Within the next twelve months, the Company believes that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. While such a change may be significant, it is not possible to provide a range of the potential change until the examinations progress further or the related statutes of limitation expire. The Company has effectively settled its U.S. federal income tax obligations through 2011. With limited exception, the Company is no longer subject to state and local or foreign examinations by tax authorities for years before 2010.

At December 31, 2018 and 2017, the Company had a net income tax-related interest payable of $8 million and $10 million, respectively, in its consolidated balance sheet. Tax-related interest income /(expense) in the periods 2018, 2017 and 2016, were not material. In addition, as of December 31, 2018 and 2017, the amounts the Company has recognized for penalties payable in its consolidated balance sheet were not material.

Note 20. *Legal and Regulatory Proceedings*

Mastercard is a party to legal and regulatory proceedings with respect to a variety of matters in the ordinary course of business. Some of these proceedings are based on complex claims involving substantial uncertainties and unascertainable damages. Accordingly, except as discussed below, it is not possible to determine the probability of loss or estimate damages, and therefore, Mastercard has not established reserves for any of these proceedings. When the Company determines that a loss is both probable and reasonably estimable, Mastercard records a liability and discloses the amount of the liability if it is material. When a material

loss contingency is only reasonably possible, Mastercard does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Unless otherwise stated below with respect to these matters, Mastercard cannot provide an estimate of the possible loss or range of loss based on one or more of the following reasons: (1) actual or potential plaintiffs have not claimed an amount of monetary damages or the amounts are unsupportable or exaggerated, (2) the matters are in early stages, (3) there is uncertainty as to the outcome of pending appeals or motions, (4) there are significant factual issues to be resolved, (5) the existence in many such proceedings of multiple defendants or potential defendants whose share of any potential financial responsibility has yet to be determined and/or (6) there are novel legal issues presented. Furthermore, except as identified with respect to the matters below, Mastercard does not believe that the outcome of any individual existing legal or regulatory proceeding to which it is a party will have a material adverse effect on its results of operations, financial condition or overall business. However, an adverse judgment or other outcome or settlement with respect to any proceedings discussed below could result in fines or payments by Mastercard and/or could require Mastercard to change its business practices. In addition, an adverse outcome in a regulatory proceeding could lead to the filing of civil damage claims and possibly result in significant damage awards. Any of these events could have a material adverse effect on Mastercard's results of operations, financial condition and overall business.

Interchange Litigation and Regulatory Proceedings

Mastercard's interchange fees and other practices are subject to regulatory, legal review and/or challenges in a number of jurisdictions, including the proceedings described below. When taken as a whole, the resulting decisions, regulations and legislation with respect to interchange fees and acceptance practices may have a material adverse effect on the Company's prospects for future growth and its overall results of operations, financial position and cash flows.

United States. In June 2005, the first of a series of complaints were filed on behalf of merchants (the majority of the complaints were styled as class actions, although a few complaints were filed on behalf of individual merchant plaintiffs) against Mastercard International, Visa U.S.A., Inc., Visa International Service Association and a number of financial institutions. Taken together, the claims in the complaints were generally brought under both Sections 1 and 2 of the Sherman Act, which prohibit monopolization and attempts or conspiracies to monopolize a particular industry, and some of these complaints contain unfair competition law claims under state law. The complaints allege, among other things, that Mastercard, Visa, and certain financial institutions conspired to set the price of interchange fees, enacted point of sale acceptance rules (including the no surcharge rule) in violation of antitrust laws and engaged in unlawful tying and bundling of certain products and services. The cases were consolidated for pre-trial proceedings in the U.S. District Court for the Eastern District of New York in MDL No. 1720. The plaintiffs filed a consolidated class action complaint that seeks treble damages.

In July 2006, the group of purported merchant class plaintiffs filed a supplemental complaint alleging that Mastercard's initial public offering of its Class A Common Stock in May 2006 (the "IPO") and certain purported agreements entered into between Mastercard and financial institutions in connection with the IPO: (1) violate U.S. antitrust laws and (2) constituted a fraudulent conveyance because the financial institutions allegedly attempted to release, without adequate consideration, Mastercard's right to assess them for Mastercard's litigation liabilities. The class plaintiffs sought treble damages and injunctive relief including, but not limited to, an order reversing and unwinding the IPO.

In February 2011, Mastercard and Mastercard International entered into each of: (1) an omnibus judgment sharing and settlement sharing agreement with Visa Inc., Visa U.S.A. Inc. and Visa International Service Association and a number of financial institutions; and (2) a Mastercard settlement and judgment sharing agreement with a number of financial institutions. The agreements provide for the apportionment of certain costs and liabilities which Mastercard, the Visa parties and the financial institutions may incur, jointly and/or severally, in the event of an adverse judgment or settlement of one or all of the cases in the merchant litigations. Among a number of scenarios addressed by the agreements, in the event of a global settlement involving the Visa parties, the financial institutions and Mastercard, Mastercard would pay 12% of the monetary portion of the settlement. In the event of a settlement involving only Mastercard and the financial institutions with respect to their issuance of Mastercard cards, Mastercard would pay 36% of the monetary portion of such settlement.

In October 2012, the parties entered into a definitive settlement agreement with respect to the merchant class litigation (including with respect to the claims related to the IPO) and the defendants separately entered into a settlement agreement with the individual merchant plaintiffs. The settlements included cash payments that were apportioned among the defendants pursuant to the omnibus judgment sharing and settlement sharing agreement described above. Mastercard also agreed to provide class members with a short-term

reduction in default credit interchange rates and to modify certain of its business practices, including its "no surcharge" rule. The court granted final approval of the settlement in December 2013, and objectors to the settlement appealed that decision to the U.S. Court of Appeals for the Second Circuit. In June 2016, the court of appeals vacated the class action certification, reversed the settlement approval and sent the case back to the district court for further proceedings. The court of appeals' ruling was based primarily on whether the merchants were adequately represented by counsel in the settlement. As a result of the appellate court ruling, the district court divided the merchants' claims into two separate classes - monetary damages claims (the "Damages Class") and claims seeking changes to business practices (the "Rules Relief Class"). The court appointed separate counsel for each class.

Prior to the reversal of the settlement approval, merchants representing slightly more than 25% of the Mastercard and Visa purchase volume over the relevant period chose to opt out of the class settlement. Mastercard had anticipated that most of the larger merchants who opted out of the settlement would initiate separate actions seeking to recover damages, and over 30 opt-out complaints have been filed on behalf of numerous merchants in various jurisdictions. Mastercard has executed settlement agreements with a number of opt-out merchants. Mastercard believes these settlement agreements are not impacted by the ruling of the court of appeals. The defendants have consolidated all of these matters in front of the same federal district court that approved the merchant class settlement. In July 2014, the district court denied the defendants' motion to dismiss the opt-out merchant complaints for failure to state a claim.

In September 2018, the parties to the Damages Class litigation entered into a class settlement agreement to resolve the Damages Class claims. Mastercard increased its reserve by $237 million during 2018 to reflect both its expected financial obligation under the Damages Class settlement agreement and the filed and anticipated opt-out merchant cases. In January 2019, the district court issued an order granting preliminary approval of the settlement and authorized notice of the settlement to class members. Damages Class members will now have the opportunity to opt out of the class settlement agreement, after which the district court will schedule a hearing on final approval. The settlement agreement does not relate to the Rules Relief Class claims. Separate settlement negotiations with the Rules Relief Class are ongoing.

As of December 31, 2018 and 2017, Mastercard had accrued a liability of $915 million and $708 million, respectively, as a reserve for both the merchant class litigation and the filed and anticipated opt-out merchant cases. As of December 31, 2018 and 2017, Mastercard had $553 million and $546 million, respectively, in a qualified cash settlement fund related to the merchant class litigation and classified as restricted cash on its consolidated balance sheet. Mastercard believes the reserve for both the merchant class litigation and the filed and anticipated opt-out merchants represents its best estimate of its probable liabilities in these matters. The portion of the accrued liability relating to both the opt-out merchants and the merchant class litigation settlement does not represent an estimate of a loss, if any, if the matters were litigated to a final outcome. Mastercard cannot estimate the potential liability if that were to occur.

Canada. In December 2010, a proposed class action complaint was commenced against Mastercard in Quebec on behalf of Canadian merchants. The suit essentially repeated the allegations and arguments of a previously filed application by the Canadian Competition Bureau to the Canadian Competition Tribunal (dismissed in Mastercard's favor) concerning certain Mastercard rules related to point-of-sale acceptance, including the "honor all cards" and "no surcharge" rules. The Quebec suit sought compensatory and punitive damages in unspecified amounts, as well as injunctive relief. In the first half of 2011, additional purported class action lawsuits were commenced in British Columbia and Ontario against Mastercard, Visa and a number of large Canadian financial institutions. The British Columbia suit sought compensatory damages in unspecified amounts, and the Ontario suit sought compensatory damages of $5 billion on the basis of alleged conspiracy and various alleged breaches of the Canadian Competition Act. Additional purported class action complaints were commenced in Saskatchewan and Alberta with claims that largely mirror those in the other suits. In June 2017, Mastercard entered into a class settlement agreement to resolve all of the Canadian class action litigation. The settlement, which requires Mastercard to make a cash payment and modify its "no surcharge" rule, has received court approval in each Canadian province. Objectors to the settlement have sought to appeal the approval orders. In 2017, Mastercard recorded a provision for litigation of $15 million related to this matter.

Europe. In July 2015, the European Commission ("EC") issued a Statement of Objections related to Mastercard's interregional interchange fees and central acquiring rule within the European Economic Area (the "EEA"). The Statement of Objections, which followed an investigation opened in 2013, included preliminary conclusions concerning the alleged anticompetitive effects of these practices. In December 2018, Mastercard announced the anticipated resolution of the EC's investigation. With respect to interregional interchange fees, Mastercard made a settlement proposal whereby it would make changes to its interregional interchange fees. The proposed settlement is subject to market testing by the EC before it is made binding in an EC decision. The EC has announced that Visa has entered into a parallel proposed settlement. In addition, with respect to Mastercard's historic central

acquiring rule, the EC issued a negative decision in January 2019. The EC's negative decision covers a period of time of less than two years before the rule's modification. The rule was modified in late 2015 to comply with the requirements of the EEA Interchange Fee Regulation. The decision does not require any modification of Mastercard's current business practices but includes a fine of €571 million. Mastercard incurred a charge of $654 million in the fourth quarter of 2018 in relation to this matter.

Since May 2012, a number of United Kingdom ("U.K.") retailers filed claims or threatened litigation against Mastercard seeking damages for alleged anti-competitive conduct with respect to Mastercard's cross-border interchange fees and its U.K. and Ireland domestic interchange fees (the "U.K. Merchant claimants"). In addition, Mastercard, has faced similar filed or threatened litigation by merchants with respect to interchange rates in other countries in Europe (the "Pan-European Merchant claimants"). In aggregate, the alleged damages claims from the U.K. and Pan-European Merchant claimants were in the amount of approximately £3 billion (approximately $4 billion as of December 31, 2018). Mastercard has resolved over £2 billion (approximately $3 billion as of December 31, 2018) of these damages claims through settlement or judgment. Since June 2015, Mastercard has recorded litigation provisions for settlements, judgments and legal fees relating to these claims, including charges of $237 million and $117 million in 2018 and 2016, respectively. There were no litigation charges relating to U.K. and Pan-European Merchant claimants in 2017. As detailed below, Mastercard continues to litigate with the remaining U.K. and Pan-European Merchant claimants and it has submitted statements of defense disputing liability and damages claims.

In January 2017, Mastercard received a liability judgment in its favor on all significant matters in a separate action brought by ten of the U.K. Merchant claimants. Three of the U.K. Merchant claimants appealed the judgment, and these appeals were

combined with Mastercard's appeal of a 2016 judgment in favor of one U.K. merchant. In July 2018, the U.K. appellate court ruled against both Mastercard and Visa on two of the three legal issues being considered, concluding that U.K. interchange rates restricted competition and that they were not objectively necessary for the payment networks. The appellate court sent the cases back to trial for reconsideration on the remaining issue concerning the "lawful" level of interchange. Mastercard and Visa have been granted permission to appeal the appellate court ruling to the U.K. Supreme Court. Mastercard expects the litigation process to be delayed pending the resolution of its appeal to the U.K. Supreme Court.

In September 2016, a proposed collective action was filed in the United Kingdom on behalf of U.K. consumers seeking damages for intra-EEA and domestic U.K. interchange fees that were allegedly passed on to consumers by merchants between 1992 and 2008. The complaint, which seeks to leverage the European Commission's 2007 decision on intra-EEA interchange fees, claims damages in an amount that exceeds £14 billion (approximately $18 billion as of December 31, 2018). In July 2017, the court denied the plaintiffs' application for the case to proceed as a collective action. The plaintiffs were granted permission to appeal the denial of their collective action application and the appellate court heard an oral argument on the appeal in February 2019.

ATM Non-Discrimination Rule Surcharge Complaints

In October 2011, a trade association of independent Automated Teller Machine ("ATM") operators and 13 independent ATM operators filed a complaint styled as a class action lawsuit in the U.S. District Court for the District of Columbia against both Mastercard and Visa (the "ATM Operators Complaint"). Plaintiffs seek to represent a class of non-bank operators of ATM terminals that operate in the United States with the discretion to determine the price of the ATM access fee for the terminals they operate. Plaintiffs allege that Mastercard and Visa have violated Section 1 of the Sherman Act by imposing rules that require ATM operators to charge non-discriminatory ATM surcharges for transactions processed over Mastercard's and Visa's respective networks that are not greater than the surcharge for transactions over other networks accepted at the same ATM. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees. Plaintiffs have not quantified their damages although they allege that they expect damages to be in the tens of millions of dollars.

Subsequently, multiple related complaints were filed in the U.S. District Court for the District of Columbia alleging both federal antitrust and multiple state unfair competition, consumer protection and common law claims against Mastercard and Visa on behalf of putative classes of users of ATM services (the "ATM Consumer Complaints"). The claims in these actions largely mirror the allegations made in the ATM Operators Complaint, although these complaints seek damages on behalf of consumers of ATM services who pay allegedly inflated ATM fees at both bank and non-bank ATM operators as a result of the defendants' ATM rules. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees. Plaintiffs have not quantified their damages although they allege that they expect damages to be in the tens of millions of dollars.

In January 2012, the plaintiffs in the ATM Operators Complaint and the ATM Consumer Complaints filed amended class action complaints that largely mirror their prior complaints. In February 2013, the district court granted Mastercard's motion to dismiss the complaints

for failure to state a claim. On appeal, the Court of Appeals reversed the district court's order in August 2015 and sent the case back for further proceedings.

U.S. Liability Shift Litigation

In March 2016, a proposed U.S. merchant class action complaint was filed in federal court in California alleging that Mastercard, Visa, American Express and Discover (the "Network Defendants"), EMVCo and a number of issuing banks (the "Bank Defendants") engaged in a conspiracy to shift fraud liability for card present transactions from issuing banks to merchants not yet in compliance with the standards for EMV chip cards in the United States (the "EMV Liability Shift"), in violation of the Sherman Act and California law. Plaintiffs allege damages equal to the value of all chargebacks for which class members became liable as a result of the EMV Liability Shift on October 1, 2015. The plaintiffs seek treble damages, attorney's fees and costs and an injunction against future violations of governing law, and the defendants have filed a motion to dismiss. In September 2016, the court denied the Network Defendants' motion to dismiss the complaint, but granted such a motion for EMVCo and the Bank Defendants. In May 2017, the court transferred the case to New York so that discovery could be coordinated with the U.S. merchant class interchange litigation described above. The plaintiffs have filed a renewed motion for class certification, following the district court's denial of their initial motion.

Telephone Consumer Protection Class Action

Mastercard is a defendant in a Telephone Consumer Protection Act ("TCPA") class action pending in Florida. The plaintiffs are individuals and businesses who allege that approximately 381,000 unsolicited faxes were sent to them advertising a Mastercard co-brand card issued by First Arkansas Bank ("FAB"). The TCPA provides for uncapped statutory damages of $500 per fax. Mastercard has asserted various defenses to the claims, and has notified FAB of an indemnity claim that it has (which FAB has disputed). In June 2018, the court granted Mastercard's motion to stay the proceedings until the Federal Communications Commission makes a decision on the application of the TCPA to online fax services.

Note 21. *Settlement and Other Risk Management*

Mastercard's rules guarantee the settlement of many of the transactions between its customers ("settlement risk"). Settlement exposure is the settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days.

Gross settlement exposure is estimated using the average daily payment volume during the three months ended December 31, 2018 multiplied by the estimated number of days of exposure. The Company has global risk management policies and procedures, which include risk standards, to provide a framework for managing the Company's settlement risk and exposure. In the event of a failed customer, Mastercard may pursue one or more remedies available under our rules to recover potential losses. Historically, the Company has experienced a low level of losses from customer failures.

As part of its policies, Mastercard requires certain customers that are not in compliance with the Company's risk standards to post collateral, typically in the form of cash, letters of credit, or guarantees. This requirement is based on a review of the individual risk circumstances for each customer. Mastercard monitors its credit risk portfolio on a regular basis and the adequacy of collateral on hand. Additionally, from time to time, the Company reviews its risk management methodology and standards. As such, the amounts of estimated settlement exposure are revised as necessary.

The Company's estimated settlement exposure was as follows:

	December 31, 2018	December 31, 2017
	(in millions)	
Gross settlement exposure	$ 49,666	$ 47,002
Collateral held for settlement exposure	(4,711)	(4,360)
Net uncollateralized settlement exposure	$ 44,955	$ 42,642

Mastercard also provides guarantees to customers and certain other counterparties indemnifying them from losses stemming from failures of third parties to perform duties. This includes guarantees of Mastercard-branded travelers cheques issued, but not yet cashed of $377 million and $395 million at December 31, 2018 and 2017, respectively, of which $297 million and $313 million at December 31, 2018 and 2017, respectively, is mitigated by collateral arrangements. In addition, the Company enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings

arising from relationships or transactions with the Company. Certain indemnifications do not provide a stated maximum exposure. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable. Historically, payments made by the Company under these types of contractual arrangements have not been material.

Note 22. *Foreign Exchange Risk Management*

The Company monitors and manages its foreign currency exposures as part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. A primary objective of the Company's risk management strategies is to reduce the financial impact that may arise from volatility in foreign currency exchange rates principally through the use of both foreign currency derivative contracts (Derivatives) and foreign currency denominated debt (Net Investment Hedge).

Derivatives

The Company enters into foreign currency derivative contracts to manage risk associated with anticipated receipts and disbursements which are valued based on currencies other than the functional currencies of the entity. The Company may also enter into foreign currency derivative contracts to offset possible changes in value due to foreign exchange fluctuations of earnings, assets and liabilities. The objective of these activities is to reduce the Company's exposure to gains and losses resulting from fluctuations of foreign currencies against its functional currencies.

As of December 31, 2018 and 2017, the majority of derivative contracts to hedge foreign currency fluctuations had been entered into with customers of Mastercard. Mastercard's derivative contracts are summarized below:

	December 31, 2018		December 31, 2017	
	Notional	Estimated Fair Value	Notional	Estimated Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 34	$ (1)	$ 27	$ —
Commitments to sell foreign currency	1,066	26	968	(26)
Options to sell foreign currency	25	4	27	2
Balance sheet location				
Accounts receivable [1]		$ —		$ 6
Prepaid expenses and other current assets [1]		35		—
Other current liabilities [1]		(6)		(30)

[1] The derivative contracts are subject to enforceable master netting arrangements, which contain various netting and setoff provisions.

The amount of gain (loss) recognized on the consolidated statement of operations for the contracts to purchase and sell foreign currency is summarized below:

	Year Ended December 31,		
	2018	2017	2016
		(in millions)	
Foreign currency derivative contracts			
General and administrative	$ 53	$ (75)	$ (6)

The fair value of the foreign currency derivative contracts generally reflects the estimated amounts that the Company would receive (or pay), on a pre-tax basis, to terminate the contracts. The terms of the foreign currency derivative contracts are generally less than 18 months. The Company had no deferred gains or losses related to foreign exchange contracts in accumulated other comprehensive income as of December 31, 2018 and 2017, as these contracts were not accounted for under hedge accounting.

The Company's derivative financial instruments are subject to both market and counterparty credit risk. Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as foreign currency exchange rates, interest rates and other related variables. The effect of a

hypothetical 10% adverse change in U.S. dollar forward rates could result in a fair value loss of approximately $113 million on the Company's foreign currency derivative contracts outstanding at December 31, 2018. Counterparty credit risk is the risk of loss due to failure of the counterparty to perform its obligations in accordance with contractual terms. To mitigate counterparty credit risk, the Company enters into derivative contracts with a diversified group of selected financial institutions based upon their credit ratings and other factors. Generally, the Company does not obtain collateral related to derivatives because of the high credit ratings of the counterparties.

Net Investment Hedge

The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates, with changes in the value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). In 2015, the Company designated its €1.65 billion euro-denominated debt as a net investment hedge for a portion of its net investment in European foreign operations. As of December 31, 2018, the Company had a net foreign currency transaction pre-tax loss of $120 million in accumulated other comprehensive income (loss) associated with hedging activity. There was no ineffectiveness in the current period.

Note 23. *Segment Reporting*

Mastercard has concluded it has one operating and reportable segment, "Payment Solutions." Mastercard's President and Chief Executive Officer has been identified as the chief operating decision-maker. All of the Company's activities are interrelated, and each activity is dependent upon and supportive of the other. Accordingly, all significant operating decisions are based upon analysis of Mastercard at the consolidated level.

Revenue by geographic market is based on the location of the Company's customer that issued the card, as well as the location of the merchant acquirer where the card is being used. Revenue generated in the U.S. was approximately 33% of total revenue in 2018, 35% in 2017 and 38% in 2016. No individual country, other than the U.S., generated more than 10% of total revenue in those periods.

Mastercard did not have any individual customer that generated greater than 10% of net revenue in 2018, 2017 or 2016. The following table reflects the geographical location of the Company's property, plant and equipment, net, as of December 31:

	2018	2017	2016
		(in millions)	
United States	$ 613	$ 572	$ 504
Other countries	308	257	229
Total	$ 921	$ 829	$ 733

MASTERCARD INCORPORATED

SUMMARY OF QUARTERLY DATA (Unaudited)

	2018 Quarter Ended				
	March 31	June 30	September 30	December 31	2018 Total
	(in millions, except per share data)				
Net revenue	$ 3,580	$ 3,665	$ 3,898	$ 3,807	$ 14,950
Operating income	1,825	1,936	2,287	1,234	7,282
Net income	1,492	1,569	1,899	899	5,859
Basic earnings per share	$ 1.42	$ 1.50	$ 1.83	$ 0.87	$ 5.63
Basic weighted-average shares outstanding	1,051	1,043	1,037	1,032	1,041
Diluted earnings per share	$ 1.41	$ 1.50	$ 1.82	$ 0.87	$ 5.60
Diluted weighted-average shares outstanding	1,057	1,049	1,043	1,038	1,047

	2017 Quarter Ended				
	March 31	June 30	September 30	December 31	2017 Total
	(in millions, except per share data)				
Net revenue	$ 2,734	$ 3,053	$ 3,398	$ 3,312	$ 12,497
Operating income	1,506	1,653	1,941	1,522	6,622
Net income	1,081	1,177	1,430	227	3,915
Basic earnings per share	$ 1.00	$ 1.10	$ 1.34	$ 0.21	$ 3.67
Basic weighted-average shares outstanding	1,078	1,070	1,063	1,057	1,067
Diluted earnings per share	$ 1.00	$ 1.10	$ 1.34	$ 0.21	$ 3.65
Diluted weighted-average shares outstanding	1,082	1,075	1,068	1,063	1,072

Note: Tables may not sum due to rounding.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our President and Chief Executive Officer and our Chief Financial Officer, to allow timely decisions regarding disclosure. The President and Chief Executive Officer and the Chief Financial Officer, with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2018 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of such date.

Internal Control over Financial Reporting

In addition, Mastercard Incorporated's management assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2018. Management's report on internal control over financial reporting is included in Part II, Item 8. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There was no change in Mastercard's internal control over financial reporting that occurred during the three months ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, Mastercard's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, we hereby incorporate by reference herein the disclosure contained in Exhibit 99.1 of this Report.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item with respect to our directors and executive officers, code of ethics, procedures for recommending nominees, audit committee, audit committee financial experts and compliance with Section 16(a) of the Exchange Act will appear in our definitive proxy statement to be filed with the SEC and delivered to stockholders in connection with the Annual Meeting of Stockholders to be held on June 25, 2019 (the "Proxy Statement").

The aforementioned information in the Proxy Statement is incorporated by reference into this Report.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item with respect to executive officer and director compensation will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item with respect to security ownership of certain beneficial owners and management equity and compensation plans will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item with respect to transactions with related persons, the review, approval or ratification of such transactions and director independence will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item with respect to auditors' services and fees will appear in the Proxy Statement and is incorporated by reference into this Report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Report:

1 Consolidated Financial Statements

See Index to Consolidated Financial Statements in Part II, Item 8.

2 Consolidated Financial Statement Schedules

None.

3 The following exhibits are filed as part of this Report or, where indicated, were previously filed and are hereby incorporated by reference:

Refer to the Exhibit Index included herein.

ITEM 16. FORM 10-K SUMMARY

None.

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EXHIBIT INDEX

Exhibit Number	Exhibit Description
3.1(a)	Amended and Restated Certificate of Incorporation of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
3.1(b)	Amended and Restated Bylaws of Mastercard Incorporated (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
4.1	Indenture, dated as of March 31, 2014, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.2	Officer's Certificate of the Company, dated as of March 31, 2014 (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.3	Form of Global Note representing the Company's 2.000% Notes due 2019 (included in Exhibit 4.2) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.4	Form of Global Note representing the Company's 3.375% Notes due 2024 (included in Exhibit 4.2) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.5	Officer's Certificate of the Company, dated as of December 1, 2015 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.6	Form of Global Note representing the Company's 1.100% Notes due 2022 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.7	Form of Global Note representing the Company's 2.100% Notes due 2027 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.8	Form of Global Note representing the Company's 2.500% Notes due 2030 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).

4.9	Officer's Certificate of the Company, dated as of November 21, 2016 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.10	Form of Global Note representing the Company's 2.000% Notes due 2021 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.11	Form of Global Note representing the Company's 2.950% Notes due 2026 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.12	Form of Global Note representing the Company's 3.800% Notes due 2046 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.13	Officer's Certificate of the Company, dated as of February 26, 2018 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.14	Form of Global Note representing the Company's 3.5% Notes due 2028 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.1 of the of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
4.15	Form of Global Note representing the Company's 3.95% Notes due 2048 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.1 of the of the Company's Current Report on Form 8-K filed on February 26, 2018 (File No. 001-32877)).
10.1*	$4,500,000,000 Amended and Restated Credit Agreement, dated as of November 15, 2018, among Mastercard Incorporated, the several lenders and agents from time to time party thereto, Citibank, N.A., as managing administrative agent and JPMorgan Chase Bank, N.A. as administrative agent.
10.2+	Employment Agreement between Mastercard International Incorporated and Ajay Banga, dated as of July 1, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 8, 2010 (File No. 001-32877)).
10.3+	Employment Agreement between Martina Hund-Mejean and Mastercard International, amended and restated as of December 24, 2012 (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K filed February 14, 2013 (File No. 001-32877)).
10.3.1+	Amendment to Amended and Restated Employment Agreement between Martina Hund-Mejean and Mastercard International, dated as of December 21, 2017 (incorporated by reference to Exhibit 10.3.1 to the Company's Annual Report on Form 10-K filed February 14, 2018 (File No. 001-32877)).

10.4+	Description of Employment Arrangement with Gary Flood (incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K filed February 18, 2010 (File No. 001-32877)).
10.5+	Contract of Employment between Mastercard UK Management Services Limited and Ann Cairns, amended and restated as of April 5, 2018 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.5.1+	Deed of Employment between Mastercard UK Management Services Limited and Ann Cairns, dated July 6, 2011 (incorporated by reference to Exhibit 10.8.2 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.6+	Description of Employment Arrangement with Craig Vosburg (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.7+	Mastercard International Senior Executive Annual Incentive Compensation Plan, as amended and restated effective June 9, 2015 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 10, 2015 (File No. 001-32877)).
10.8+	Mastercard International Incorporated Restoration Program, as amended and restated January 1, 2007 unless otherwise provided (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.9+	Mastercard Incorporated Deferral Plan, as amended and restated effective December 1, 2008 for account balances established after December 31, 2004 (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.10+	Mastercard Incorporated 2006 Long Term Incentive Plan, amended and restated effective June 5, 2012 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.11+	Form of Restricted Stock Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.12+	Form of Stock Option Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.13+	Form of Performance Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.14+	

	Form of Mastercard Incorporated Long Term Incentive Plan Non-Competition and Non-Solicitation Agreement for named executive officers (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.15+	Amended and Restated Mastercard International Incorporated Executive Severance Plan, amended and restated as of April 10, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2018 (File No. 001-32877)).
10.16+	Amended and Restated Mastercard International Incorporated Change in Control Severance Plan, amended and restated as of June 25, 2018 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 26, 2018 (File No. 001-32877)).
10.17	Schedule of Non-Employee Directors' Annual Compensation effective as of June 26, 2018 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed July 26, 2018 (File No. 001-32877)).
10.18	2006 Non-Employee Director Equity Compensation Plan, amended and restated effective as of June 26, 2018 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed July 26, 2018 (File No. 001-32877)).
10.19	Form of Deferred Stock Unit Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 5, 2012 (effective for awards granted on and subsequent to June 27, 2017) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 27, 2017 (File No. 001-32877)).
10.20	Form of Restricted Stock Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 5, 2012 (effective for awards granted on and subsequent to June 27, 2017) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed July 27, 2017 (File No. 001-32877)).
10.21	Form of Indemnification Agreement between Mastercard Incorporated and certain of its directors (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).
10.22	Form of Indemnification Agreement between Mastercard Incorporated and certain of its director nominees (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).
10.23	Deed of Gift between Mastercard Incorporated and Mastercard Foundation (incorporated by reference to Exhibit 10.28 to Pre-Effective Amendment No. 5 to the Company's Registration Statement on Form S-1 filed May 3, 2006 (File No. 333-128337)).
10.24	Settlement Agreement, dated as of June 4, 2003, between Mastercard International Incorporated and Plaintiffs in the class action litigation

entitled In Re Visa Check/MasterMoney Antitrust Litigation (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 8, 2003 (File No. 000-50250)).

10.25	Stipulation and Agreement of Settlement, dated July 20, 2006, between Mastercard Incorporated, the several defendants and the plaintiffs in the consolidated federal class action lawsuit titled In re Foreign Currency Conversion Fee Antitrust Litigation (MDL 1409), and the California state court action titled Schwartz v. Visa Int'l Corp., et al. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 1, 2006 (File No. 001-32877)).
10.26	Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A. Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.33 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.26.1	Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of August 25, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.26.2	Second Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).
10.27**	Mastercard Settlement and Judgment Sharing Agreement, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.34 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.27.1	Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of August 26, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.27.2	Second Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).

10.28	Superseding and Amended Class Settlement Agreement, dated September 17, 2018, by and among Mastercard Incorporated and Mastercard International Incorporated; Visa, Inc., Visa U.S.A. Inc. and Visa International Service Association; the Class Plaintiffs defined therein; and the Customer Banks defined therein (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 18, 2018 (File No. 001-32877)).
21*	List of Subsidiaries of Mastercard Incorporated.
23.1*	Consent of PricewaterhouseCoopers LLP.
31.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Martina Hund-Mejean, Chief Financial Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Martina Hund-Mejean, Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.1*	Disclosure pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

+ Management contracts or compensatory plans or arrangements.

* Filed or furnished herewith.

** Exhibit omits certain information that has been filed separately with the U.S. Securities and Exchange Commission and has been granted confidential treatment.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and should not be relied upon for that purpose.

In particular, any representations and warranties made by the Company in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

MASTERCARD INCORPORATED
(Registrant)

Date: February 13, 2019 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Date: February 13, 2019 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer; Director
(Principal Executive Officer)

Date: February 13, 2019 By: /s/ MARTINA HUND-MEJEAN
Martina Hund-Mejean
Chief Financial Officer
(Principal Financial Officer)

Date: February 13, 2019 By: /s/ SANDRA ARKELL
Sandra Arkell
Corporate Controller
(Principal Accounting Officer)

Date: February 13, 2019 By: /s/ SILVIO BARZI
Silvio Barzi
Director

Date: February 13, 2019 By: /s/ DAVID R. CARLUCCI
David R. Carlucci
Director

Date: February 13, 2019 By: /s/ RICHARD K. DAVIS
Richard K. Davis
Director

Date: February 13, 2019 By: /s/ STEVEN J. FREIBERG

Steven J. Freiberg
Director

Date: February 13, 2019 By: /s/ JULIUS GENACHOWSKI

Julius Genachowski
Director

Date: February 13, 2019 By: /s/ CHOON PHONG GOH

Choon Phong Goh
Director

Date: February 13, 2019 By: /s/ RICHARD HAYTHORNTHWAITE

Richard Haythornthwaite
Chairman of the Board; Director

Date: February 13, 2019 By: /s/ MERIT E. JANOW

Merit E. Janow
Director

Date: February 13, 2019 By: /s/ NANCY KARCH

Nancy Karch
Director

Date: February 13, 2019 By: /s/ OKI MATSUMOTO

Oki Matsumoto
Director

Date: February 13, 2019 By: /s/ RIMA QURESHI

Rima Qureshi
Director

Date: February 13, 2019 By: /s/ JOSÉ OCTAVIO REYES LAGUNES

José Octavio Reyes Lagunes
Director

Date: February 13, 2019 By: /s/ GABRIELLE SULZBERGER

Gabrielle Sulzberger
Director

Date: February 13, 2019 By: /s/ JACKSON TAI

Jackson Tai
Director

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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, 2017
Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from to
Commission file number: 001-32877

malogo.jpg

Mastercard Incorporated
(Exact name of registrant as specified in its charter)

Delaware	**13-4172551**
(State or other jurisdiction of incorporation or organization)	**(IRS Employer Identification Number)**
2000 Purchase Street	**10577**
Purchase, NY	**(Zip Code)**
(Address of principal executive offices)	

(914) 249-2000
(Registrant's telephone number, including area code)

Title of each Class	Name of each exchange on which registered
Class A common stock, par value $0.0001 per share	**New York Stock Exchange**

Securities registered pursuant to Section 12(g): Class B common stock, par value $0.0001 per share

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files) Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☒

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an 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. (Check One):

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐ (do not check if a smaller reporting company)	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 ☒

The aggregate market value of the registrant's Class A common stock, par value $0.0001 per share, held by non-affiliates (using the New York Stock Exchange closing price as of June 30, 2017, the last business day of the registrant's most recently completed second fiscal quarter) was approximately $113.8 billion. There is currently no established public trading market for the registrant's Class B common stock, par value $0.0001 per share. As of February 9, 2018, there were 1,037,246,307 shares outstanding of the registrant's Class A common stock, par value $0.0001 per share and 14,138,629 shares outstanding of the registrant's Class B common stock, par value $0.0001 per share.

Portions of the registrant's definitive proxy statement for the 2018 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

MASTERCARD INCORPORATED
FISCAL YEAR 2017 FORM 10-K ANNUAL REPORT
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In this Report on Form 10-K ("Report"), references to the "Company," "Mastercard," "we," "us" or "our" refer to the Mastercard brand generally, and to the business conducted by Mastercard Incorporated and its consolidated subsidiaries, including our operating subsidiary, Mastercard International Incorporated.

Forward-Looking Statements

This Report contains forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts may be forward-looking statements. When used in this Report, the words "believe", "expect", "could", "may", "would", "will", "trend" and similar words are intended to identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements that relate to the Company's future prospects, developments and business strategies.

Many factors and uncertainties relating to our operations and business environment, all of which are difficult to predict and many of which are outside of our control, influence whether any forward-looking statements can or will be achieved. Any one of those factors could cause our actual results to differ materially from those expressed or implied in writing in any forward-looking statements made by Mastercard or on its behalf, including, but not limited to, the following factors:

- direct regulation of the payments industry (including regulatory, legislative and litigation activity with respect to interchange fees, surcharging and the extension of current regulatory activity to additional jurisdictions or products)
- the impact of preferential or protective government actions
- regulation to which we are directly or indirectly subject based on our participation in the payments industry (including anti-money laundering and economic sanctions, financial sector oversight, real-time account-based payment systems, issuer practice regulation and regulation of internet and digital transactions)
- the impact of changes in laws, including the recent U.S. tax legislation, regulations and interpretations thereof, or challenges to our tax positions
- regulation of privacy, data protection and security
- potential or incurred liability and limitations on business resulting from litigation
- the impact of competition in the global payments industry (including disintermediation and pricing pressure)
- the challenges relating to rapid technological developments and changes
- the challenges relating to operating an account-based payment system in addition to our core network and to working with new customers and end users
- the impact of information security incidents, account data breaches, fraudulent activity or service disruptions on our business

- issues related to our relationships with our financial institution customers (including loss of substantial business from significant customers, competitor relationships with our customers and banking industry consolidation)

- the impact of our relationships with other stakeholders, including merchants and governments

- exposure to loss or illiquidity due to settlement guarantees and other significant third-party obligations

- the impact of global economic and political events and conditions (including global financial market activity, declines in cross-border activity, negative trends in consumer spending, the effect of adverse currency fluctuation and the effects of the U.K.'s proposed withdrawal from the E.U.)

- reputational impact, including impact related to brand perception

- issues related to acquisition integration, strategic investments and entry into new businesses

- issues related to our Class A common stock and corporate governance structure

Please see a complete discussion of these risk factors in Part I, Item 1A - Risk Factors. We caution you that the important factors referenced above may not contain all of the factors that are important to you. Our forward-looking statements speak only as of the date of this Report or as of the date they are made, and we undertake no obligation to update our forward-looking statements.

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PART I

ITEM 1. BUSINESS

Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. Through our global payments processing network, we facilitate the switching (authorization, clearing and settlement) of payment transactions and deliver related products and services. We make payments easier and more efficient by creating a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro®, Cirrus® and Masterpass®. Our recent acquisition of VocaLink Holdings Limited ("Vocalink") has expanded our capability to process automated clearing house ("ACH") transactions, among other things. As a multi-rail network, we now offer customers one partner to turn to for their payment needs for both domestic and cross-border transactions. We also provide value-added offerings such as safety and security products, information services and consulting, loyalty and reward programs and issuer and acquirer processing. Our networks are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a consumer who holds a card or uses another device enabled for payment), merchant, issuer (the account holder's financial institution) and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our branded products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

We generate revenues from assessing our customers based on the gross dollar volume ("GDV") of activity on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services.

Our Strategy

We grow, diversify and build our business through a combination of organic growth and strategic investments, including acquisitions. Our ability to grow our business is influenced by personal consumption expenditure ("PCE") growth, driving cash and check transactions toward electronic forms of payment, increasing our share in electronic payments and providing value-added products and services. In addition, our ability to grow our business extends to other payments flows, such as business to business ("B2B"), person to person ("P2P"), business to consumer ("B2C") and government disbursements, among others. We have enhanced our capabilities to capture these payment flows through a combination of product offerings and expanded solutions for our customers. As a result, the total market opportunity for our addressable payment flows is approximately $225 trillion.

grow.jpg

Grow. We focus on growing our core businesses globally, including growing our consumer credit, debit, prepaid and commercial products and solutions, thereby increasing the number of payment transactions we switch. We also look to take advantage of the opportunities presented by the evolving ways people interact and transact in the growing digital economy.

***Diversify*.** We diversify our business by:

- adding new players to our customer base in new and existing markets by working with partners such as governments, merchants, technology companies (such as digital players and mobile providers) and other businesses

- expanding capabilities based on our core network into new areas to provide opportunities for electronic payments and to capture more payment flows, such as B2C transfers, B2B transfers, P2P transfers, including in the areas of transit and government disbursements

- driving acceptance at merchants of all sizes

- broadening financial inclusion for the unbanked and underbanked

Build. We build our business by:

- creating and acquiring differentiated products to provide unique, innovative solutions that we bring to market, such as real-time account-based payment, Mastercard B2B Hub™ and Mastercard Send™ platforms

- providing value-added services across safety and security, consulting, data analytics, processing and loyalty.

Strategic Partners. We work with a variety of stakeholders. We provide financial institutions with solutions to help them increase revenue by driving preference for Mastercard-branded products. We help merchants, financial institutions and other organizations by delivering data-driven insights and other services that help them grow and create simple and secure customer experiences. We partner with technology companies such as digital players and mobile providers to deliver digital payment solutions powered by our technology, expertise and security protocols. We help national and local governments drive increased financial inclusion and efficiency, reduce costs, increase transparency to reduce crime and corruption and advance social programs. For consumers, we provide better, safer and more convenient ways to pay.

Recent Business and Legal/Regulatory Developments

recentbusinessa04.jpg

Digital Payments. Numerous trends in the digital economy, such as demand for faster payments and the application of emerging technology, present opportunities for growth and impetus for change in our business. We have launched and extended products and platforms that take advantage of the growing digital economy, where consumers are increasingly using technology to interact with other consumers and merchants. Among our recent developments in 2017 we:

- expanded our use of Masterpass globally, which is live in dozens of markets around the world. Masterpass is a global digital payment service that allows consumers to make fast, simple and secure transactions on any device and across any channel. Over the last year, we have enhanced the browser and in-app checkout experience globally and made significant platform improvements to make it easier and faster for consumers to checkout. We have also launched a new merchant onboarding experience and a new package of software to make it easier for merchants to integrate with Masterpass.

- continued to expand and scale Mastercard Send™ capabilities, using HomeSend, to connect more people, businesses and governments to facilitate the transfer of funds quickly and securely both domestically and cross-border in over 100 markets.

- broadened our acceptance solutions to offer Quick Response ("QR") codes under a common set of new global specifications developed in conjunction with EMVCo and other industry players. Masterpass QR provides people with mobile phones the ability to safely make in-person purchases without a card and avoids the need for expensive point of sale equipment.

acha02.jpg

Real-time Account-based Payment Systems. In 2017, we completed the acquisition of a controlling interest in Vocalink. Vocalink operates systems for ACH payments and ATM processing platforms in the United Kingdom and other countries. ACH payments constitute a significant amount of all payments made by consumers, businesses and governments. Adding ACH payments to our core card-based business will expand our ability to offer more electronic payment options to consumers, businesses and governments, and help us capture more payment flows.

safetyandsecurity.jpg ***Safety and Security.*** As new technologies and cyber-security threats evolve, including organized cyber-crime and nation state attacks, there is a growing need to protect transactions and people's identities regardless of the device or channel used to make a purchase, while at the same time continuing to improve the payment experience for all stakeholders. Our focus on security is embedded in our products, our systems and our networks, as well as our analytics to prevent fraud. In 2017, we:

- acquired Brighterion, Inc., a software company specializing in Artificial Intelligence ("AI"), that enhances our networks, improves our existing product suite and helps us build the next generation of solutions to tackle fraud and cybersecurity threats.

- acquired NuData Security, a global technology company that helps businesses prevent online and mobile fraud using session and behavioral biometric indicators, to enhance security of the internet of things (the "IoT"), including device-level security and authentication.

- launched Early Detection System™, a service that provides issuers with a unique predictive capability to identify accounts with a heightened risk of fraud based on their exposure to security incidents or data breaches. Early Detection System determines if an account is at risk and sends an alert to the issuer with a quantification of the level of risk. The issuer then uses the level of risk to more accurately prioritize what action to take; from monitoring transactions more closely to proactively issuing a replacement card.

- embedded AI across our network with Decision Intelligence™, a comprehensive decision and fraud detection solution that utilizes our networks to increase approvals and reduce false declines. This solution now applies AI scoring to every processed transaction on our networks and is used by multiple issuers globally.

- expanded Safety Net, a technology that intelligently detects and blocks large scale fraud events resulting from cyber-attacks against our issuers. This technology now features new advanced detection capabilities, and acts as an extra layer of defense for every issuer we work with globally, monitoring every processed transaction on our networks.

- helped stakeholders to increase approvals and reduce declines for consumers with our account continuity solution, Automated Billing Updater. This solution automatically updates expired card numbers at merchant card-on-file locations and is increasingly used by major digital merchants.

- leveraged MDES to tokenize Masterpass and enable third-party token vaults compliant with EMV® (the global standard for chip technology) to tokenize Mastercard-branded products and services and extended the utility of MDES to tokenize credentials-on-file.

commerciala01.jpg ***Commercial.*** Our market share in commercial products is growing globally, as we offer solutions with travel and entertainment, procurement, fleet and virtual cards. We estimate there is $120 trillion in addressable payment flows in B2B globally, of which approximately $100 trillion is related to accounts payable. To address this opportunity, we are expanding our capabilities to capture non-carded payment flows with new solutions, such as the Mastercard B2B Hub, Mastercard Send for cross-border payments, and real-time account-based payment systems for ACH transactions. We launched the innovative Mastercard B2B Hub platform in 2017 to enable small and midsized businesses to optimize their invoice and payment processes with automation tools that improve the speed, ease and security of their commercial payments.

financialinclusion.jpg ***Financial Inclusion.*** We are focused on addressing financial inclusion, reaching people without access to an account that allows them to store and use money. In 2015, we made a commitment to reach 500 million people previously excluded from financial services by 2020. We are more than halfway to delivering on that commitment. In 2017, we worked with governments across several geographies to develop and roll out electronic

payments solutions, social payment distribution mechanisms and digital identity solutions. We also worked with merchants globally to help drive acceptance necessary to support these inclusion efforts.

legalandregualtory.jpg ***Legal and Regulatory*.** We operate in a dynamic and rapidly evolving legal and regulatory environment, with heightened regulatory and legislative scrutiny, expansion of local regulatory schemes and other legal challenges, particularly with respect to interchange fees (as discussed below under "Our Operations and Network"). These create both risks and opportunities for our industry. See Part I, Item 1A for a more detailed discussion of our legal and regulatory developments and risks. Also see Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8. Our recent legal and regulatory developments include:

- ***European Union***

  - In 2015, the European Commission issued a statement of objections related to the interregional interchange rates we set and our central acquiring rules within the European Economic Area (the "EEA"). The statement of objections preliminarily concludes that these practices have anticompetitive effects, and the European Commission has indicated it intends to seek fines if it confirms these conclusions. We submitted a response in April 2016 and participated in a related oral hearing in May 2016. Since that time, we have remained in discussions with the European Commission and expect to obtain greater clarity with respect to these issues in the first half of 2018.

- E.U. member states were required to finish transposing the EEA's revised Payment Services Directive (commonly referred to as "PSD2") into their national laws by January 2018. This directive requires financial institutions to provide third party payment processors access to consumer payment accounts, which may enable these processors to route transactions away from Mastercard products by offering certain services directly to people who currently use our products. This directive also requires a new standard for authentication of transactions, which requires additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

- In 2016, the European Parliament passed the General Data Protection Regulation (the "GDPR"), a new data protection regulation that will increase our compliance burden for using and processing personal and sensitive data of EEA residents. We have implemented an approach to achieve compliance by the May 2018 deadline.

- ***United States***

  - ***Merchant Class Litigation.*** In June 2016, the U.S. Court of Appeals for the Second Circuit reversed the approval of a settlement of an antitrust litigation among a class of merchants, Mastercard, Visa and a number of financial institutions. The court vacated the class action certification and sent the case back to the district court for further proceedings. The parties are proceeding with discovery while at the same time are involved in mediation.

  - ***Tax Cuts and Jobs Act.*** On December 22, 2017, the U.S. passed a comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "TCJA"). Among other things, the TCJA reduces the U.S. corporate income tax rate from 35% to 21% in 2018, puts into effect the migration towards a territorial tax system and imposes a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax"). The enactment of the tax legislation has resulted in additional tax expense of $873 million in the fourth quarter and year ended December 31, 2017, due primarily to provisional amounts recorded for the Transition Tax and the remeasurement of U.S. deferred tax assets and liabilities at lower enacted corporate tax rates. These provisional amounts are based on our initial analysis of the TCJA and may be adjusted in 2018. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion of the TCJA.

- ***United Kingdom***

  - Beginning in May 2012, a number of retailers filed claims or threatened litigation against us seeking damages for alleged anti-competitive conduct with respect to our cross-border interchange fees and our U.K. and Ireland domestic interchange fees. In 2016, a tribunal in one of these cases issued a judgment against us for damages, and we entered into settlements with additional claimants. In January 2017, we received a favorable liability judgment on all significant matters in a separate action brought by ten of the claimants (who were seeking over $500 million in damages). Both the

negative judgment and positive judgment for us are being appealed before the U.K. appellate court.

- In connection with the Vocalink part of our business, we expect to enter into a period of consultation with the U.K. Treasury regarding the possible extension of the U.K. payment systems oversight regime to include Vocalink's role as a service provider.

- ***China*** - In 2017, People's Bank of China issued the Service Guidelines for Market Access of Bank Card Clearing Institutions, providing more guidance and clarity in addition to the 2016 regulations on license application and operational requirements for network operators, including international networks such as ours, to process domestic payments in China. We have been engaged with regulators and other stakeholders in connection with steps required to advance an application. In the meantime, we continue to work to expand issuance and acceptance of Mastercard-branded products in the Chinese market to support our existing cross-border business and to prepare for potential domestic opportunities.

Our Business

Our Operations and Network

We operate a unique and proprietary global payments network, our core network, that links issuers and acquirers around the globe to facilitate the switching of transactions, permitting account holders to use a Mastercard product at millions of acceptance locations worldwide. Our core network facilitates an efficient and secure means for receiving payments, a convenient, quick and

secure payment method for consumers to access their funds and a channel for businesses to receive insight through information that is derived from our network. We authorize, clear and settle transactions through our core network for our issuer customers in more than 150 currencies and in more than 210 countries and territories. Our acquisition of Vocalink expands our range of payment capabilities beyond our core network.

Typical Transaction. Our core network supports what is often referred to as a "four-party" payments network. The following diagram depicts a typical transaction on our core network, and our role in that transaction:

mapaymenttransactions.jpg

In a typical transaction, an account holder purchases goods or services from a merchant using one of our payment products. After the transaction is authorized by the issuer, the issuer pays the acquirer an amount equal to the value of the transaction, minus the interchange fee (described below), and then posts the transaction to the account holder's account. The acquirer pays the amount of the purchase, net of a discount (referred to as the "merchant discount" rate, as further described below), to the merchant.

- ***Interchange Fees.*** Interchange fees reflect the value merchants receive from accepting our products and play a key role in balancing the costs consumers and merchants incur. We do not earn revenues from interchange fees. Generally, interchange fees are collected from acquirers and paid to issuers to reimburse the issuers for a portion of the costs incurred. These costs are incurred by issuers in providing services that benefit all participants in the system, including acquirers and merchants, whose participation in the network enables increased sales to their existing and new customers, efficiencies in the delivery of existing and new products, guaranteed payments and improved experience for their customers. We (or, alternatively, financial institutions) establish "default interchange fees" that apply when there are no other established settlement terms in place between an issuer and an acquirer. We administer the collection and remittance of interchange fees through the settlement process.

- ***Additional Four-Party System Fees.*** The merchant discount rate is established by the acquirer to cover its costs of both participating in the four-party system and providing services to merchants. The rate takes into consideration the amount of the interchange fee which the acquirer generally pays to the issuer. Additionally, acquirers may charge merchants processing and related fees in addition to the merchant discount rate, and issuers may also charge account holders fees for the transaction, including, for example, fees for extending revolving credit.

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Switched Transactions

- ***Authorization, Clearing and Settlement.*** Through our core network, we enable the routing of a transaction to the issuer for its approval, facilitate the exchange of financial transaction information between issuers and acquirers after a successfully conducted transaction, and help to settle the transaction by facilitating the determination and exchange of funds between parties via settlement banks chosen by us and our customers.

- ***Cross-Border and Domestic.*** Our core network switches transactions throughout the world when the merchant country and issuer country are different ("cross-border transactions"), providing account holders with the ability to use, and merchants to accept, our products and services across country borders. We also provide switched transaction services to customers where the merchant country and the issuer country are the same ("domestic transactions"). We switch approximately half of all transactions using Mastercard and Maestro-branded cards, including nearly all cross-border transactions. We switch the majority of Mastercard and Maestro-branded domestic transactions in the United States, United Kingdom, Canada, Brazil and a select number of other countries. Outside of these countries, most domestic transactions on our products are switched without our involvement.

Our Core Network Architecture. Our core network features a globally integrated structure that provides scale for our issuers, enabling them to expand into regional and global markets. It features an intelligent architecture that enables the network to adapt to the needs of each transaction by blending two distinct network structures:

- a distributed (peer-to-peer) switching structure for transactions that require fast, reliable switching to ensure they are switched close to where the transaction occurred; and

- a centralized (hub-and-spoke) switching structure for transactions that require value-added switching, such as real-time access to transaction data for fraud scoring or rewards at the point-of-sale.

Our core network's architecture enables us to connect all parties regardless of where or how the transaction is occurring. It has 24-hour a day availability and world-class response time.

Real-time Account-based Payment Systems. Augmenting our core network, we now offer real-time account-based payments through our acquisition of Vocalink, which enables payments between bank accounts in near real-time in countries in which it has been deployed.

Payments System Security. Our networks and products are designed to ensure safety and security for the global payments system. The networks incorporate multiple layers of protection, both for continuity purposes and to provide best-in-class security protection. We engage in many efforts to mitigate information security challenges, including maintaining an information security program, a business continuity program and insurance coverage, as well as regularly testing our systems to address potential vulnerabilities.

As part of our multi-layered approach to protect the global payments system, we also work with issuers, acquirers, merchants, governments and payments industry associations to help develop and put in place standards (e.g., EMV) for safe and secure transactions.

Digital Payments. Our networks support and enable our digital payment platforms, products and solutions, reflecting the growing digital economy where consumers are increasingly seeking to use their payment accounts to pay when, where and how they want.

Customer Risk. We guarantee the settlement of many of the transactions between our issuers and acquirers to ensure the integrity of our core network. We refer to the amount of this guarantee as our settlement exposure. We do not, however, guarantee payments to merchants by their acquirers, or the availability of unspent prepaid account holder account balances.

Our Products and Services

We provide a wide variety of integrated products and services that support payment products that customers can offer to their account holders. These services facilitate transactions on our core network among account holders, merchants, financial institutions, businesses, governments, and other organizations in markets globally.

coreproductsa01.jpg

Core Products

Consumer Credit and Charge. We offer a number of programs that enable issuers to provide consumers with credit that allow them to defer payment. These programs are designed to meet the needs of our customers around the world and address standard, premium and affluent consumer segments.

Debit. We support a range of payment products and solutions that allow our customers to provide consumers with convenient access to funds in deposit and other accounts. Our debit and deposit access programs can be used to make purchases and to obtain cash in bank branches, at ATMs and, in some cases, at the point of sale. Our branded debit programs consist of Mastercard (including standard, premium and affluent offerings), Maestro (the only PIN-based solution that operates globally) and Cirrus (our primary global cash access solution).

Prepaid. Prepaid programs involve a balance that is funded prior to use and can be accessed via one of our payment products. We offer prepaid payment programs using any of our brands, which we support with processing products and services. Segments on which we focus include government programs such as Social Security payments, unemployment benefits and others; commercial programs such as payroll, health savings accounts, employee benefits and others; and reloadable programs for consumers without formal banking relationships and non-traditional users of electronic payments.

We also provide prepaid program management services, primarily outside of the United States, that manage and enable switching and issuer processing for consumer and commercial prepaid travel cards for business partners such as financial institutions, retailers, telecommunications companies, travel agents, foreign exchange bureaus, colleges and universities, airlines and governments.

Commercial. We offer commercial payment products and solutions that help large corporations, midsized companies, small businesses and government entities streamline their procurement and payment processes, manage information and expenses (such as travel and entertainment) and reduce administrative costs. Our offerings and platforms include premium, travel, purchasing and fleet cards and programs; our SmartData tool that provides information reporting and expense management capabilities; and credit and debit programs targeted for small businesses.

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The following chart provides GDV and number of cards featuring our brands in 2017 for select programs and solutions:

	Year Ended December 31, 2017			As of December 31, 2017	
	GDV			Cards	
	(in billions)	Growth (Local)	% of Total GDV	(in millions)	Percentage Increase from December 31, 2016
Mastercard Branded Programs[1,2]					
Consumer Credit	$ 2,289	8 %	44 %	768	6 %
Consumer Debit and Prepaid	2,369	12 %	45 %	991	14 %
Commercial Credit and Debit	583	15 %	11 %	67	16 %

1 Excludes Maestro and Cirrus cards and volume generated by those cards.

2 Article 8 of the E.U. Interchange Fee Regulation related to card payments, which became effective in June 2016, states that a network can no longer charges fees on domestic EEA payment transactions that do not use its payment brand. Prior to that, Mastercard collected a de minimis assessment fee in a few countries, particularly France, on transactions with Mastercard co-badged cards if the brands of domestic networks (as opposed to Mastercard) were used. As a result, the non-Mastercard co-badged volume is no longer being included. Please see "Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations" for a further discussion.

Digital. Leveraging our global innovations capability, we are developing platforms, products and solutions in digital payments that help our customers and partners to offer digital solutions:

- ***Delivering better digital experiences everywhere.*** We work to enable digital payment services across all channels and devices. We are using our technologies and security protocols to develop solutions to make digital shopping and selling experiences, such as on smartphones and other connected devices, simpler, faster and safer for both consumers and merchants. We also offer products that make it easier for merchants to accept payments and expand their customer base and are developing products and practices to facilitate acceptance via mobile devices. The successful implementation of our loyalty and reward programs is an important part of enabling these digital purchasing experiences.

- ***Securing more transactions.*** We are leveraging tokenization, biometrics and machine learning technologies in our push to secure every transaction. These efforts include driving EMV-level security and benefits through all our payment channels.

- ***Digitizing personal and business payments.*** Through Mastercard Send, we provide money transfer and global remittance solutions to enable our customers to facilitate consumers sending and receiving money quickly and securely domestically and around the world. These solutions allow our customers to address new payment flows with the goal of enabling the movement of money from any funding source, such as cash, card, bank account or mobile money account, to any destination globally, securely and in real time.

- ***Simplifying access to, and integration of, our digital assets.*** Our Mastercard Developer platform makes it easy for customers and partners to leverage our many digital assets and services. By providing a single access point with tools and

capabilities to find what we believe are some of the best in class Application Program Interfaces ("APIs") across a broad range of Mastercard services, we enable easy integration of our services into new and existing solutions.

- ***Identifying and experimenting with future technologies, start-ups and trends.*** Through Mastercard Labs, our global innovation and development arm, we continue to bring customers and partners access to thought leadership, innovation methodologies, new technologies and relevant early-stage fintech players.

Additional Platforms. We offer commercial payment products and solutions that utilize additional payment platforms that are in addition to our core network - for example, Mastercard B2B Hub, which enables small and midsized businesses to optimize their invoice and payment processes. In addition, through our acquisition of Vocalink, we offer real-time account-based payments for ACH transactions and will be able to offer commercial solutions utilizing these capabilities. These networks enable payments between bank accounts in near real-time and have key attributes, including enhanced data and messaging capabilities, making them particularly well-suited for B2B and bill payment flows. The real-time account-based payment landscape is rapidly evolving as more markets introduce real-time account-based payment infrastructure.

Value-Added Products and Services

We provide additional integrated products and services to our customers and stakeholders, including financial institutions, retailers and governments that enhance the value proposition of our products and networks.

Safety and Security. We offer integrated products and services to prevent, detect and respond to fraud and cyber-attacks and to ensure the safety of transactions made using Mastercard products. We do this using a multi-layered safety and security strategy:

- The "Prevent" layer protects infrastructure, devices and data from attacks. We have continued to grow global usage of EMV chip and contactless security technology, helping to reduce fraud. Greater usage of this technology has increased the number EMV cards issued and the transaction volume on EMV cards. While this technology is prevalent in Europe, the U.S. market has been adopting this technology in recent years.

- The "Identify" layer allows us to help banks and merchants verify genuine consumers during the payment process. Examples of solutions under this layer include Mastercard Identity Check™, a fingerprint, face and iris scanning biometric technology to verify online purchases on mobile devices, and our recently launched Biometric Card which has a fingerprint scanner built in to the card and is compatible with existing EMV payment terminals

- The "Detect" layer spots fraudulent behavior and cyber-attacks and takes action to stop these activities once detected. Examples of our capabilities under this layer include our Early Detection System, Decision Intelligence and Safety Net services and technologies.

- The "Experience" layer improves the security experience for our stakeholders in areas from the speed of transactions, improving approvals for online and card-on-file payments, to the ability to differentiate good consumers from fraudsters. Our offerings in this space include Mastercard In Control®, for consumer alerts and controls and our suite of digital token services available through our Mastercard Digital Enablement Service ("MDES").

We have also worked with our financial institution customers to provide products to consumers globally with increased confidence through the benefit of "zero liability", or no responsibility for counterfeit or lost card losses in the event of fraud.

Loyalty and Rewards. We have built a scalable rewards platform that enables financial institutions to provide consumers with a variety of benefits and services, such as personalized offers and rewards, access to a global airline lounge network, concierge services, insurance services, emergency card replacement, emergency cash advances and a 24-hour account holder service center. For merchants, we provide campaigns with targeted offers and rewards, management services for publishing offers, and accelerated points programs for co-brand and rewards program members.

Processing. We extend our processing capabilities in the payments value chain in various regions and across the globe with an expanded suite of offerings, including:

- Issuer solutions designed to provide customers with a complete processing solution to help them create differentiated products and services and allow quick deployment of payments portfolios across banking channels.

- Payment gateways that offer a single interface to provide e-commerce merchants with the ability to process secure online and in-app payments and offer value-added solutions, including outsourced electronic payments, fraud prevention and alternative payment options.

- Mobile gateways that facilitate transaction routing and processing for mobile-initiated transactions for our customers.

***Mastercard Advisors*.** Mastercard Advisors is our global professional services group that provides proprietary analysis, data-driven consulting and marketing services solutions to help clients optimize, streamline and grow their businesses, as well as deliver value to consumers.

Mastercard Advisors' capabilities incorporate payments expertise and analytical and executional skills to create end-to-end solutions which are increasingly delivered via platforms embedded in our customers' day-to-day operations. By observing patterns of payments behavior based on billions of transactions switched globally, we leverage anonymized and aggregated information and a consultative approach to help our customers make better business decisions. Our executional skills such as marketing, digital implementation and staff augmentation allow us to assist clients implement actions based on these insights.

Increasingly, Mastercard Advisors has been helping financial institutions, retailers and governments innovate. Drawing on rapid prototyping methodologies from our global innovation and development arm, Mastercard Labs, we offer "Launchpad," a five day app prototyping workshop that is one of our fastest growing offerings globally. Through our Applied Predictive Technology business, a software as a service platform, we can help our customers conduct disciplined business experiments for in-market tests.

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Brand

malogo2.jpg

Our family of well-known brands includes Mastercard, Maestro, Cirrus and Masterpass. We manage and promote our brands through advertising, promotions and sponsorships, as well as digital, mobile and social media initiatives, in order to increase people's preference for our brands and usage of our products. We sponsor a variety of sporting, entertainment and charity-related marketing properties to align with consumer segments important to us and our customers. Our advertising plays an important role in building brand visibility, usage and overall preference among account holders globally. Our "Priceless®" advertising campaign, which has run in 54 languages in 119 countries worldwide, promotes Mastercard usage benefits and acceptance, markets Mastercard payment products and solutions and provides Mastercard with a consistent, recognizable message that supports our brand around the globe. We have extended Priceless to create experiences through four platforms to drive brand preference: Priceless Cities® provides account holders across all of our regions with access to special experiences in various cities, Priceless Causes® provides account holders with opportunities to support philanthropic causes, Priceless Specials™ provides account holders with merchant offers and discounts and Priceless Surprises® provides account holders with unexpected and unique surprises.

Our Revenue Sources

We generate revenues primarily from assessing our customers based on GDV on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services. Our net revenues are classified into five categories: domestic assessment fees, cross-border volume fees, transaction processing fees, other revenues and rebates and incentives (contra-revenue).

See "Management's Discussion and Analysis of Financial Condition and Results of Operations - Revenue" in Part II, Item 7 for more detail about our revenue, GDV, processed transactions and our other payment-related products and services.

Intellectual Property

We own a number of valuable trademarks that are essential to our business, including Mastercard, Maestro and Cirrus, through one or more affiliates. We also own numerous other trademarks covering various brands, programs and services offered by us to support our payment programs. Trademark and service mark registrations are generally valid indefinitely as long as they are used and/or properly maintained. Through license agreements with our customers, we authorize the use of our trademarks in connection with our customers' issuing and merchant acquiring businesses. In addition, we own a number of patents and patent applications relating to payments solutions, transaction processing, smart cards, contactless, mobile, biometrics, AI, security systems and other matters, many of which are important to our business operations. Patents are of varying duration depending on the jurisdiction and filing date.

Competition

We compete in the global payments industry against all forms of payment including:

- cash and checks
-

card-based payments, including credit, charge, debit, ATM and prepaid products, as well as limited-use products such as private label

- contactless, mobile and e-commerce payments, as well as cryptocurrency

- other electronic payments, including ACH payments, wire transfers, electronic benefits transfers and bill payments

We face a number of competitors both within and outside of the global payments industry:

- ***Cash, Check and legacy ACH*.** Cash and checks continue to represent one of the most widely used forms of payment. However, an even larger share of payments on a U.S. dollar volume basis are made via legacy, or "slow," ACH platforms. When combined, cash, checks and legacy ACH payments represent 90 percent of the $225 trillion of addressable payment flows.

- ***General Purpose Payment Networks.*** We compete worldwide with payment networks such as Visa, American Express, JCB, China UnionPay and Discover, among others. Some of the competitors have more market share than we do in certain jurisdictions. Some also have different business models that may provide an advantage in pricing, regulatory compliance burdens or otherwise. In addition, several governments are promoting, or considering promoting, local networks for domestic switching. See "Risk Factors" in Part I, Item 1A for a discussion of the risks related to payments system regulation and government actions that may prevent us from competing effectively for a more detailed discussion.

- ***Debit and Local Networks.*** We compete with ATM and point-of-sale debit networks in various countries. In addition, in many countries outside of the United States, local debit brands serve as the main domestic brands, while our brands are used mostly to enable cross-border transactions (typically representing a small portion of overall transaction volume). Certain jurisdictions have also created domestic card schemes that are focused mostly on debit (including MIR in Russia).

- ***Competition for Customer Business.*** We compete intensely with other payments networks for customer business. Globally, financial institutions typically issue both Mastercard and Visa-branded payment products, and we compete with Visa for business on the basis of individual portfolios or programs. In addition, a number of our customers issue American Express and/or Discover-branded payment cards in a manner consistent with a four-party system. We continue to face intense competitive pressure on the prices we charge our issuers and acquirers, and we seek to enter into business agreements with them through which we offer incentives and other support to issue and promote our payment products. We also compete for non-financial institution partners, such as merchants, governments and mobile providers.

- ***Real-time Account-based Payment Systems.*** Through our acquisition of Vocalink, we now face competition in the real-time account-based payment space from other companies that provide these payment solutions. In addition, real-time account-based payments face competition from other payment methods, such as cash and checks, credit cards, electronic, mobile and e-commerce payment platforms, cryptocurrencies and other payments networks.

- ***Alternative Payments Systems and New Entrants.*** As the global payments industry becomes more complex, we face increasing competition from alternative payment systems and emerging payment providers. Many of these providers have developed payments systems focused on online activity in e-commerce and mobile channels (in some cases, expanding to other channels), and may process payments using in-house account transfers, real-time account-based payment networks or global or local networks. Examples include digital wallet providers (such as Paytm, PayPal, Alipay and Amazon), mobile operator services, mobile phone-based money transfer and microfinancing services (such as mPesa), handset manufacturers and cryptocurrencies. In some circumstances, these providers can be a partner or customer, as well as a competitor.

- ***Value-Added Products and Services.*** We face competition from companies that provide alternatives to our value-added products and services, including information services and consulting firms that provide consulting services and insights to financial institutions, as well as companies that compete against us as providers of loyalty and program management solutions. In addition, our integrated

products and services offerings face competition and potential displacement from transaction processors throughout the world, which are seeking to enhance their networks that link issuers directly with point-of-sale devices for payment transaction authorization and processing services. Regulatory initiatives could also lead to increased competition in this space.

Our competitive advantages include our:

- globally recognized brands
- highly adaptable global acceptance network built over 50 years
- expertise in real-time account-based payments through our Vocalink acquisition
- adoption of innovative products and digital solutions
- Masterpass global digital payments ecosystem
- safety and security solutions embedded in our networks
- Mastercard Advisors group dedicated solely to the payments industry

- ability to serve a broad array of participants in global payments due to our expanded on-soil presence in individual markets and a heightened focus on working with governments

- world class talent

Government Regulation

General. Government regulation impacts key aspects of our business. We are subject to regulations that affect the payments industry in the many countries in which our integrated products and services are used. See "Risk Factors" in Part I, Item 1A for more detail and examples.

***Payments Oversight*.** Several central banks or similar regulatory bodies around the world have increased, or are seeking to increase, their formal oversight of the electronic payments industry. Actions by these organizations could influence other organizations around the world to adopt or consider adopting similar oversight. As a result, Mastercard could be subject to new regulation, supervisions and examination requirements. For example, in the U.K., the Bank of England has expanded its oversight of systemically important payment systems to include service providers, as well. Also, in the EEA, the implementation of the revised Payment Services Directive ("PSD2") will require financial institutions to provide third party payment processors access to consumer payment accounts, which may enable these processors to route transactions away from Mastercard products by offering certain services directly to people who currently use our products. PSD2 will also require a new standard for authentication of transactions, which necessitate additional verification information from consumers to complete transactions. This may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience under the new standards.

Interchange Fees. Interchange fees associated with four-party payments systems like ours are being reviewed or challenged in various jurisdictions around the world via legislation to regulate interchange fees, competition-related regulatory proceedings, central bank regulation and litigation. Examples include statutes in the United States that cap debit interchange for certain regulated activities and European Union legislation capping consumer credit and debit interchange fees on payments issued and acquired within the EEA. For more detail, see our risk factors in "Risk Factors-Regulations Related to Our Participation in the Payments Industry" in Part I, Item 1A. Also see Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

Preferential or Protective Government Actions. Some governments have taken action to provide resources, preferential treatment or other protection to selected domestic payments and processing providers, as well as to create their own national providers.

***Payments System Regulation*.** Regulators in several countries around the world either have, or are seeking to establish, authority to regulate certain aspects of the payments systems in their countries. Such authority has resulted in regulation of various aspects of our business. In the European Union, legislation requires us to separate our scheme activities (brand, products, franchise and licensing) from our switched transactions and other processing in terms of how we go to market, make decisions and organize our structure. Additionally, several jurisdictions have created or granted authority to create new regulatory bodies that either have or would have the authority to regulate payment systems, including the United Kingdom's Payments Systems Regulator (PSR) (which has designated us (including our Vocalink business) as a payments system subject to regulation) and the National Bank of Belgium.

Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption. We are subject to anti-money laundering ("AML") and counter terrorist financing ("CTF") laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by the U.S. Office of Foreign Assets Control ("OFAC"). We have implemented a comprehensive AML/CTF program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payment network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including its list of Specially Designated Nationals and Blocked Persons (the "SDN List"). We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-

sponsoring states, and we have no offices, subsidiaries or affiliated entities located in any of these countries or geographies and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk.

Financial Sector Oversight. We are or may be subject to regulations related to our role in the financial industry and our relationship with our financial institution customers. In addition, we are or may be subject to regulation by a number of agencies charged with oversight of, among other things, consumer protection, financial and banking matters. The regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products.

Issuer Practice Legislation and Regulation. Our customers are subject to numerous regulations and investigations applicable to banks and other financial institutions in their capacity as issuers and otherwise, impacting us as a consequence. Such regulations and investigations have been related to payment card add-on products, campus cards, bank overdraft practices, fees issuers charge to account holders and the transparency of terms and conditions. Additionally, regulations such as PSD2 in the EEA require financial institutions to provide third-party payment-processors access to consumer payment accounts, enabling them to provide payment initiation and account information services directly to consumers.

Regulation of Internet and Digital Transactions**.** Various jurisdictions have enacted or have proposed regulation related to internet transactions. The legislation applies to payments system participants, including us and our U.S. customers, and is implemented through a federal regulation. We may also be impacted by evolving laws surrounding gambling, including fantasy sports. Certain jurisdictions are also considering regulatory initiatives in digital-related areas that could impact us, such as cyber-security, copyright and trademark infringement and privacy.

Data Protection and Information Security. Aspects of our operations or business are subject to privacy and data protection laws in the United States, the European Union and elsewhere around the world. For example, in the United States, we and our customers are respectively subject to Federal Trade Commission and federal banking agency information safeguarding requirements under the Gramm-Leach-Bliley Act that require the maintenance of a written, comprehensive information security program. In the European Union, we will be subject to the pending GDPR which goes into effect in May of 2018. This law will require a comprehensive data protection and privacy program to protect the personal and sensitive data of European citizens and residents. Due to constant changes to the nature of data, regulations in this area are constantly evolving with regulatory and legislative authorities in numerous parts of the world considering proposals to protect information. In addition, the interpretation and application of these privacy and data protection laws are often uncertain and in a state of flux, thus requiring constant monitoring for compliance.

Additional Regulatory Developments. Various regulatory agencies also continue to examine a wide variety of issues that could impact us, including evolving laws surrounding marijuana, prepaid payroll cards, virtual currencies, identity theft, account management guidelines, privacy, disclosure rules, security and marketing that would impact our customers directly.

Seasonality

See “Management’s Discussion and Analysis of Financial Condition and Results of Operations-Seasonality” in Part II, Item 7.

Financial Information About Geographic Areas

See Note 21 (Segment Reporting) to the consolidated financial statements included in Part II, Item 8 for certain geographic financial information.

Employees

As of December 31, 2017, we employed approximately 13,400 persons, of whom approximately 7,900 were employed outside of the United States.

Additional Information

Mastercard Incorporated was incorporated as a Delaware corporation in May 2001. We conduct our business principally through our principal operating subsidiary, Mastercard International Incorporated ("Mastercard International"), a Delaware non-stock (or membership) corporation that was formed in November 1966. For more information about our capital structure, including our Class A common stock (our voting stock) and Class B common stock (our non-voting stock), see Note 13 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8.

Website and SEC Reports

Our internet address is www.mastercard.com. From time to time, we may use our corporate website as a channel of distribution of material company information. Financial and other material information is routinely posted and accessible on the investor relations section of our corporate website. In addition, you may automatically receive email alerts and other information about Mastercard by enrolling your email address by visiting "Investor Alerts" in the investor relations section of our corporate website.

Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports are available for review, without charge, on the investor relations section of our corporate website as soon as reasonably practicable after they are filed with, or furnished to, the U.S. Securities and Exchange Commission (the "SEC"). The information contained on our corporate website is not incorporated by reference into this Report.

You may also read and copy any materials that we file with the SEC at its Public Reference Room at 100 F Street N.E., Washington, D.C. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. In addition, our filings are available electronically from the SEC at www.sec.gov.

ITEM 1A. RISK FACTORS

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Legal and Regulatory

Direct Regulation of the Payments Industry

Global regulatory and legislative activity related to the payments industry may have a material adverse impact on our overall business and results of operations.

Regulators increasingly seek to regulate, or establish or expand their authority to regulate, certain aspects of payments systems such as ours. Some recent examples of regulatory and legislative activity include:

- The European Union's adoption of its Interchange Fee Regulation in 2015 regulating electronic payments issued and acquired within the EEA, including caps on consumer credit and debit interchange fees (described in more detail in the risk factors below) and the separation of brand and switching (which Mastercard implemented in 2016)

- Several jurisdictions' creation or grant of authority to create new regulations that either have or would enable the authority to regulate or increase formal oversight over payment systems, including the United Kingdom and India (both of which have designated us as a payments system subject to regulation), as well as Brazil, Hong Kong, Mexico and Russia

- The EEA's implementation of the revised PSD2, which requires:

  - financial institutions to provide third party payment processors access to consumer payment accounts. This may enable these third party payment processors to route transactions away from Mastercard products by offering account information or payment initiation services directly to people who currently use our products.

  - a different standard for authentication of transactions (strong customer authentication ("SCA"), as opposed to risk-based authentication). The new authentication standard requires additional verification information from consumers to complete transactions and may increase the number of transactions that consumers abandon if we are unable to ensure a frictionless authentication experience. An increase in the rate of abandoned transactions could adversely impact our volumes or other operations metrics.

These regulations have established, and could further expand, obligations or restrictions with respect to the types of products and services that we may offer to financial institutions for consumers, the countries in which our integrated products and services may be used, the way we structure and operate our business and the types of consumers and merchants who can obtain or accept our products or services. New regulations and oversight could also relate to our clearing and settlement activities (including risk management policies and procedures, collateral requirements, participant default policies and procedures, the ability to complete timely switching of financial transactions, and capital and financial resource requirements). In addition, several central banks or similar regulatory bodies around the world that have increased, or are seeking to increase, their formal oversight of the electronic payments industry and, in some cases, are considering designating certain payments networks as "systemically important payment systems" or "critical infrastructure." These obligations, designations and restrictions may further expand and could conflict with each other as more jurisdictions impose oversight of payment systems.

As a result, increased regulation and oversight of payment systems may result in costly compliance burdens or otherwise increase our costs. Such laws or compliance burdens could result in issuers being less willing to participate in our payments system, reduce the benefits offered in connection with the use of our products (making our products less desirable to consumers), reduce the volume of domestic and cross-border transactions or other operational metrics, disintermediate us, impact our profitability and limit our ability to innovate or offer differentiated products and services, all of which could materially and adversely impact our financial performance. Regulators could also require us to obtain prior approval for changes to its system rules, procedures or operations, or could require customization with regard to such changes, which could impact market participant risk and therefore risk to us. Such regulatory changes could lead to new or different criteria for participation in and access to our payments system by financial institutions or other customers. Moreover, failure to comply with the laws and regulations to which we are subject could result in fines, sanctions, civil damages or other penalties, which could materially and adversely affect our overall business and results of operations, as well as have an impact on our brand and reputation

Increased regulatory, legislative and litigation activity with respect to interchange rates could have an adverse impact on our business.

Interchange rates are a significant component of the costs that merchants pay in connection with the acceptance of our products. Although we do not earn revenues from interchange, interchange rates can impact the volume of transactions we see on our payment products. If

interchange rates are too high, merchants may stop accepting our products or route debit transactions away from our network. If interchange rates are too low, issuers may stop promoting our integrated products and services, eliminate or reduce loyalty rewards programs or other account holder benefits (e.g., free checking, low interest rates on balances), or charge fees to account holders (e.g., annual fees or late payment fees).

Governments and merchant groups in a number of countries have implemented or are seeking interchange rate reductions through legislation, competition law, central bank regulation and litigation.

Examples of regulatory and legislative activity include:

- A Statement of Objections issued by the European Commission in July 2015 related to our interregional interchange fees and central acquiring rules within the EEA, to which we have responded and remain in discussions.

- Legislation regulating the level of domestic interchange rates that has been enacted, or is being considered, in many jurisdictions (for example, debit interchange in the United States is capped by statute for certain regulated entities).

- Merchants and consumers are also seeking interchange fee reductions and acceptance rule changes through litigation. See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details.

If issuers cannot collect or we are forced to reduce interchange rates, issuers may be less willing to participate in our four-party payments system, or may reduce the benefits offered in connection with the use of our products, reducing the attractiveness of our products to consumers. In particular, any changes to interregional interchange fees as a result of the European Commission's Statement of Objections could impact our cross-border transaction activity disproportionately versus competitors that are not subject to similar reductions. These and other impacts could lower transaction volumes, and/or make proprietary three-party networks or other forms of payment more attractive. Issuers could reduce the benefits associated with our products or choose to charge higher fees to consumers to attempt to recoup a portion of the costs incurred for their services. In addition, issuers could seek to decrease the expense of their payment programs by seeking a reduction in the fees that we charge to them, particularly if regulation has a disproportionate impact on us as compared to our competitors in terms of the fees we can charge. This could make our products less desirable to consumers, reduce the volume of transactions and our profitability, and limit our ability to innovate or offer differentiated products.

We are devoting substantial resources to defending our right to establish interchange rates in regulatory proceedings, litigation and legislative activity. The potential outcome of any of these activities could have a more positive or negative impact on us relative to our competitors. If we are ultimately unsuccessful in defending our ability to establish interchange rates, any resulting legislation, regulation and/or litigation may have a material adverse impact on our overall business and results of operations. In addition, regulatory proceedings and litigation could result in us being fined and/or having to pay civil damages, the amount of which could be material.

Current regulatory activity could be extended to additional jurisdictions or products, which could materially and adversely affect our overall business and results of operations.

Regulators around the world increasingly replicate other regulators' approaches with regard to the regulation of payments and other industries. Consequently, regulation in any one country, state or region may influence regulatory approaches in other countries, states or regions. Similarly, new laws and regulations within a country, state or region involving one product may lead to regulation of similar or related products. For example, regulations affecting debit transactions could lead to regulation of other products (such as credit).

As a result, the risks to our business created by any one new law or regulation are magnified by the potential it has to be replicated in other jurisdictions or involve other products within any particular jurisdiction. These include matters like interchange rates, potential direct regulation of our network fees and pricing, network standards and network exclusivity and routing agreements. Conversely, if widely varying regulations come into existence worldwide, we may have difficulty adjusting our products, services, fees and other important aspects of our business to meet the varying requirements. Either of these outcomes could materially and adversely affect our overall business and results of operations.

Limitations on our ability to restrict merchant surcharging could materially and adversely impact our results of operations.

We have historically implemented policies, referred to as no-surcharge rules, in certain jurisdictions, including the United States, that prohibit merchants from charging higher prices to consumers who pay using our products instead of other means. Authorities in several jurisdictions have acted to end or limit the application of these no-surcharge rules (or indicated interest in doing so). Additionally, we have modified our no-surcharge rules to permit U.S. merchants to surcharge credit cards, subject to certain limitations. It is possible that over time merchants in some or all merchant categories in these jurisdictions may choose to surcharge as permitted by the rule change. This could result in consumers viewing

our products less favorably and/or using alternative means of payment instead of electronic products, which could result in a decrease in our overall transaction volumes, and which in turn could materially and adversely impact our results of operations.

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Preferential or Protective Government Actions

Preferential and protective government actions related to domestic payment services could adversely affect our ability to maintain or increase our revenues.

Governments in some countries have acted, or in the future may act, to provide resources, preferential treatment or other protection to selected national payment and switching providers, or have created, or may in the future create, their own national provider. This action may displace us from, prevent us from entering into, or substantially restrict us from participating in, particular geographies, and may prevent us from competing effectively against those providers. For example:

- Governments in some countries are considering, or may consider, regulatory requirements that mandate switching of domestic payments either entirely in that country or by only domestic companies. In particular, we are currently excluded from domestic switching in China and are seeking market access, which is uncertain and subject to a number of factors, including receiving regulatory approval. In 2017, People's Bank of China issued the Service Guidelines for Market Access of Bank Card Clearing Institutions, which provide some guidance on the 2016 regulations on license application and operational requirements for network operators to process domestic payments in China. We have been engaged with regulators, business partners and other stakeholders in connection with steps required to advance an application. Additionally, Russia has amended its National Payments Systems laws to require all payment systems to process domestic transactions through a government-owned payment switch. As a result, all of our domestic transactions in Russia are currently processed by that system instead of by us.

- Geopolitical events and resulting OFAC sanctions, adverse trade policies or other types of government actions could lead jurisdictions affected by those sanctions to take actions in response that could adversely affect our business.

- Regional groups of countries, such as the Gulf Cooperation Countries in the Middle East and a number of countries in South East Asia, are considering, or may consider, efforts to restrict our participation in the switching of regional transactions.

Such developments prevent us from utilizing our global switching capabilities for domestic or regional customers. Our efforts to effect change in, or work with, these countries may not succeed. This could adversely affect our ability to maintain or increase our revenues and extend our global brand.

Regulation Related to Our Participation in the Payments Industry

Regulations that directly or indirectly affect the global payments industry may materially and adversely affect our overall business and results of operations.

We are subject to regulations that affect the payments industry in the many jurisdictions in which our integrated products and services are used. Many of our customers are also subject to regulations applicable to banks and other financial institutions that, at times, consequently affect us. Regulation of the payments industry, including regulations applicable to us and our customers, has increased significantly in the last several years. See "Business-

Government Regulation" in Part I, Item 1 for a detailed description of such regulation and related legislation. Examples include:

- ***Anti-Money Laundering, Counter Terrorist Financing, Economic Sanctions and Anti-Corruption*** - We are subject to AML and CTF laws and regulations globally, including the U.S. Bank Secrecy Act and the USA PATRIOT Act, as well as the various economic sanctions programs, including those imposed and administered by OFAC. We have implemented a comprehensive AML/CTF program, comprised of policies, procedures and internal controls, including the designation of a compliance officer, which is designed to prevent our payment network from being used to facilitate money laundering and other illicit activity and to address these legal and regulatory requirements and assist in managing money laundering and terrorist financing risks. The economic sanctions programs administered by OFAC restrict financial transactions and other dealings with certain countries and geographies (specifically Crimea, Cuba, Iran, North Korea and Syria) and with persons and entities included in OFAC sanctions lists including the SDN List. We take measures to prevent transactions that do not comply with OFAC and other applicable sanctions, including establishing a risk-based compliance program that has policies, procedures and controls designed to prevent us from having unlawful business dealings with prohibited countries, regions, individuals or entities. As part of this program, we obligate issuers and acquirers to comply with their local sanctions obligations and the U.S. sanctions programs, including requiring the screening of account holders and merchants, respectively, against OFAC sanctions lists (including the SDN List). Iran, Sudan and Syria have been identified by the U.S. State Department as terrorist-sponsoring states, and we have no offices, subsidiaries or affiliated entities located in any of these countries or geographies and do not license entities domiciled there. We are also subject to anti-corruption laws and regulations globally, including the U.S. Foreign Corrupt

Practices Act and the U.K. Bribery Act, which, among other things, generally prohibit giving or offering payments or anything of value for the purpose of improperly influencing a business decision or to gain an unfair business advantage. We have implemented policies, procedures and internal controls to proactively manage corruption risk. A violation and subsequent judgment or settlement against us, or those with whom we may be associated, under these laws could subject us to substantial monetary penalties, damages, and/or have a significant reputational impact.

- ***Financial Sector Oversight -*** In the United States, we are subject to regulation by a number of agencies charged with oversight of, among other things, consumer protection, financial and banking matters. These regulators have supervisory and independent examination authority as well as enforcement authority that we may be subject to because of the services we provide to financial institutions that issue and acquire our products. It is often not clear whether and/or to what extent these institutions will regulate broader aspects of payment networks.

- ***Real-time Account-based Payment Systems*** – In 2017, we completed the acquisition of a controlling interest in Vocalink. In the U.K., the Bank of England has expanded its oversight of certain payment system providers that are systemically important to U.K.'s payment network. As a result of these changes, aspects of our Vocalink business could become subject to the U.K. payment system oversight regime and be directly overseen by the Bank of England.

- ***Issuer Practice Legislation and Regulation*** - Our financial institution customers are subject to numerous regulations, which impact us as a consequence. In addition, certain regulations, such as PSD2 in the EEA, may disintermediate issuers. If our customers are disintermediated in their business, we could face diminished demand for our integrated products and services. In addition, existing or new regulations in these or other areas may diminish the attractiveness of our products to our customers.

- ***Regulation of Internet and Digital Transactions*** - Proposed legislation in various jurisdictions relating to Internet gambling and other digital areas such as cyber-security, copyright, trademark infringement and privacy could impose additional compliance burdens on us and/or our customers, including requiring us or our customers to monitor, filter, restrict, or otherwise oversee various categories of payment transactions.

Increased regulatory focus on us, such as in connection with the matters discussed above, may result in costly compliance burdens and/or may otherwise increase our costs. Similarly, increased regulatory focus on our customers may cause such customers to reduce the volume of transactions processed through our systems. Actions by regulators could influence other organizations around the world to enact or consider adopting similar measures, amplifying any potential compliance burden. Finally, failure to comply with the laws and regulations discussed above to which we are subject could result in fines, sanctions or other penalties. Each may individually or collectively materially and adversely affect our financial performance and/or our overall business and results of operations, as well as have an impact on our reputation.

We could be subject to adverse changes in tax laws, regulations and interpretations or challenges to our tax positions.

We are subject to tax laws and regulations of the U.S. federal, state and local governments as well as various non-U.S. jurisdictions.

Potential changes in existing tax laws may impact our effective tax rate and tax payments. For example, the recent U.S. tax legislation enacted on December 22, 2017 represents a significant overhaul of the U.S. federal tax code. This tax legislation reduced the U.S. statutory corporate tax rate and made other changes that could have a favorable impact on our overall U.S. federal tax liability in a given period. However, the tax legislation also included a number of provisions that limit or eliminate various deductions, including interest expense, performance-based compensation for certain executives and the domestic production activities deduction, among others, that could affect our U.S. federal income tax position. We are continuing to evaluate the overall impact of this tax legislation on our operations and U.S. federal income tax position. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion of the TCJA. While we expect the TCJA to be favorable to the Company overall, there can be no assurance that changes in tax laws or regulations, both within the U.S. and the other jurisdictions in which we operate, will not materially and adversely affect our effective tax rate, tax payments, financial condition and results of operations. Similarly, changes in tax laws and regulations that impact our customers and counterparties or the economy generally may also impact our financial condition and results of operations.

In addition, tax laws and regulations are complex and subject to varying interpretations, and any significant failure to comply with applicable tax laws and regulations in all relevant jurisdictions could give rise to substantial penalties and liabilities. Any changes in enacted tax laws, rules or regulatory or judicial interpretations; any adverse outcome in connection with tax audits in any jurisdiction; or any change in the pronouncements relating to accounting for income taxes could materially and adversely impact our effective tax rate, tax payments, financial condition and results of operations.

Privacy, Data Protection and Security

Regulation of privacy, data protection, security and the digital economy could increase our costs, as well as negatively impact our growth.

We are subject to regulations related to privacy, data protection and information security in the jurisdictions in which we do business. These regulations could result in negative impacts to our business. As we continue to develop integrated products and services to meet the needs of a changing marketplace, we may expand our information profile through the collection of additional data across multiple channels. This expansion could amplify the impact of these regulations on our business. Regulation of privacy and data protection and information security often times require monitoring of and changes to our data practices in regard to the collection, use, disclosure, storage and/or security of personal and sensitive information. In addition, due to the European Parliament's passage of the GDPR and the European Court of Justice's invalidation of the Safe Harbor treaty, we are subject to enhanced compliance and operational requirements in the European Union. Failure to comply with these laws, regulations and requirements could result in fines, sanctions or other penalties, which could materially and adversely affect our results of operations and overall business, as well as have an impact on our reputation.

New requirements or reinterpretations of existing requirements in these areas, or the development of new regulatory schemes related to the digital economy in general, may also increase our costs and could impact aspects of our business such as fraud monitoring, the development of information-based products and solutions and technology operations. In addition, these requirements may increase the costs to our customers of issuing payment products, which may, in turn, decrease the number of our payment products that they issue. Moreover, due to account data compromise events, as well as the disclosure of the monitoring activities by certain governmental agencies, there has been heightened legislative and regulatory scrutiny around the world that could lead to further regulation and requirements. Any of these developments could materially and adversely affect our overall business and results of operations.

In addition, fraudulent activity could encourage regulatory intervention, which could damage our reputation and reduce the use and acceptance of our integrated products and services or increase our compliance costs. Criminals are using increasingly sophisticated methods to capture consumer account information to engage in illegal activities such as counterfeiting or other fraud. As outsourcing and specialization become common in the payments industry, there are more third parties involved in processing transactions using our payment products. While we are taking measures to make card and digital payments more secure, increased fraud levels involving our integrated products and services, or misconduct or negligence by third parties switching or otherwise servicing our integrated products and services, could lead to regulatory intervention, such as enhanced security requirements, as well as damage to our reputation.

Litigation

Liabilities we may incur for any litigation that has been or may be brought against us could materially and adversely affect our results of operations.

We are a defendant on a number of civil litigations and regulatory proceedings and investigations, including among others, those alleging violations of competition and antitrust law and those involving intellectual property claims. See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for more details regarding the allegations contained in these complaints and the status of these proceedings. In the event we are found liable in any material litigations or proceedings, particularly in the event we may be found liable in a large class-action lawsuit or on the

basis of an antitrust claim entitling the plaintiff to treble damages or under which we were jointly and severally liable, we could be subject to significant damages, which could have a material adverse impact on our overall business and results of operations.

Limitations on our business resulting from litigation or litigation settlements may materially and adversely affect our overall business and results of operations.

Certain limitations have been placed on our business in recent years because of litigation and litigation settlements, such as changes to our no-surcharge rule in the United States. Any future limitations on our business resulting from litigation or litigation settlements could impact our relationships with our customers, including reducing the volume of business that we do with them, which may materially and adversely affect our overall business and results of operations.

Business and Operations

Competition and Technology

Substantial and intense competition worldwide in the global payments industry may materially and adversely affect our overall business and results of operations.

The global payments industry is highly competitive. Our payment programs compete against all forms of payment, including cash and checks; electronic, mobile and e-commerce payment platforms; cryptocurrencies; ACH payment services; and other payments networks, which can have several competitive impacts on our business:

- Within the global general purpose payments industry, we face substantial and increasingly intense competition worldwide.

- In certain jurisdictions, including the United States, Visa has greater volume, scale and market share than we do, which may provide significant competitive advantages.

- Some of our traditional competitors, as well as alternative payment service providers, may have substantially greater financial and other resources than we have, may offer a wider range of programs and services than we offer or may use more effective advertising and marketing strategies to achieve broader brand recognition or merchant acceptance than we have.

- Our ability to compete may also be affected by the outcomes of litigation, competition-related regulatory proceedings, central bank activity and legislative activity.

Certain of our competitors, including American Express, Discover, private-label card networks and certain alternative payments systems, operate three-party payments systems with direct connections to both merchants and consumers and these competitors may derive competitive advantages from their business models. If we continue to attract more regulatory scrutiny than these competitors because we operate a four-party system, or we are regulated because of the system we operate in a way in which our competitors are not, we could lose business to these competitors. See “Business-Competition” in Part I, Item 1.

If we are not able to differentiate ourselves from our competitors, drive value for our customers and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively against these threats. Our competitors may also more effectively introduce their own innovative programs and services that adversely impact our growth. We also compete against new entrants that have developed alternative payments systems, e-commerce payments systems and payments systems for mobile devices, as well as physical store locations. A number of these new entrants rely principally on the Internet to support their services and may enjoy lower costs than we do, which could put us at a competitive disadvantage. Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Disintermediation from stakeholders both within and outside of the payments value chain could harm our business.

As the payments industry continues to develop and change, we face disintermediation and related risks, including:

- Parties that process our transactions in certain countries may try to eliminate our position as an intermediary in the payment process. For example, merchants could switch (and in some cases are switching) transactions directly with issuers. Additionally, processors could process transactions directly between issuers and acquirers. Large scale consolidation within processors could result in these processors developing bilateral agreements or in some cases switching the entire transaction on their own network, thereby disintermediating us.

- Regulation in the EEA may disintermediate us by enabling third-party processors opportunities to route payment transactions away from our networks and towards other forms of payment.

- Although we partner with technology companies (such as digital players and mobile providers) that leverage our technology, platforms and networks to deliver their products, they could develop platforms or networks that disintermediate us from digital payments and impact our ability to compete in the digital economy. This risk is heightened when we have relationships with these entities where we share Mastercard data. While we share this data in a controlled manner subject to applicable anonymization and data privacy standards, without proper oversight we could inadvertently share too much data which could give the partner a competitive advantage.

- Competitors, customers, technology companies, governments and other industry participants may develop products that compete with or replace value-added products and services we currently provide to support our switched transaction and payment offerings. These products could replace our own switching and payments offerings or could force us to change our pricing or practices for these offerings. In addition, governments that develop national payment platforms may promote their platforms in such a way that could put us at a competitive disadvantage in those markets.

- Participants in the payments industry may merge, create joint ventures or form other business combinations that may strengthen their existing business services or create new payment services that compete with our services.

Our failure to compete effectively against any of the foregoing competitive threats could materially and adversely affect our overall business and results of operations.

Continued intense pricing pressure may materially and adversely affect our overall business and results of operations.

In order to increase transaction volumes, enter new markets and expand our Mastercard-branded cards and enabled products and services, we seek to enter into business agreements with customers through which we offer incentives, pricing discounts and other support that promote our products. In order to stay competitive, we may have to increase the amount of these incentives and pricing discounts. Over the past several years, we have experienced continued pricing pressure. The demand from our customers for better pricing arrangements and greater rebates and incentives moderates our growth. We may not be able to continue our expansion strategy to process additional transaction volumes or to provide additional services to our customers at levels sufficient to compensate for such lower fees or increased costs in the future, which could materially and adversely affect our overall business and results of operations. In addition, increased pressure on prices increases the importance of cost containment and productivity initiatives in areas other than those relating to customer incentives.

In the future, we may not be able to enter into agreements with our customers if they require terms that we are unable or unwilling to offer, and we may be required to modify existing agreements in order to maintain relationships and to compete with others in the industry. Some of our competitors are larger and have greater financial resources than we do and accordingly may be able to charge lower prices to our customers. In addition, to the extent that we offer discounts or incentives under such agreements, we will need to further increase transaction volumes or the amount of services provided thereunder in order to benefit incrementally from such agreements and to increase revenue and profit, and we may not be successful in doing so, particularly in the current regulatory environment. Our customers also may implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability. These factors could have a material adverse impact on our overall business and results of operations.

Rapid and significant technological developments and changes could negatively impact our overall business and results of operations or limit our future growth.

The payments industry is subject to rapid and significant technological changes, which can impact our business in several ways:

- Technological changes, including continuing developments of technologies in the areas of smart cards and devices, contactless and mobile payments, e-commerce,

cryptocurrency and block chain technology, machine learning and AI, could result in new technologies that may be superior to, or render obsolete, the technologies we currently use in our programs and services. Moreover, these changes could result in new and innovative payment methods and programs that could place us at a competitive disadvantage and that could reduce the use of our products.

- We rely in part on third parties, including some of our competitors and potential competitors, for the development of and access to new technologies. The inability of these companies to keep pace with technological developments, or the acquisition of these companies by competitors, could negatively impact our offerings.

- Our ability to develop and adopt new services and technologies may be inhibited by industry-wide solutions and standards (such as those related to EMV, tokenization or other safety and security technologies), and by resistance from customers or merchants to such changes.

- Our ability to develop evolving systems and products may be inhibited by any difficulty we may experience in attracting and retaining technology experts.

- Our ability to adopt these technologies can also be inhibited by intellectual property rights of third parties. We have received, and we may in the future receive, notices or inquiries from patent holders (for example, other operating companies or non-practicing entities) suggesting that we may be infringing certain patents or that we need to license the use of their patents to avoid infringement. Such notices may, among other things, threaten litigation against us or our customers or demand significant license fees.

- Our ability to develop new technologies and reflect technological changes in our payments offerings will require resources, which may result in additional expenses.

- We work with technology companies (such as digital players and mobile providers) that use our technology to enhance payment safety and security and to deliver their payment-related products and services quickly and efficiently to consumers. Our inability to keep pace technologically could negatively impact the willingness of these customers to work with us, and could encourage them to use their own technology and compete against us.

We cannot predict the effect of technological changes on our business, and our future success will depend, in part, on our ability to anticipate, develop or adapt to technological changes and evolving industry standards. Failure to keep pace with these technological developments or otherwise bring to market products that reflect these technologies could lead to a decline in the use of our products, which could have a material adverse impact on our overall business and results of operations.

Operating a new real-time account-based payments network in connection with our Vocalink acquisition presents risks that could materially affect our business.

Our acquisition of Vocalink in 2017 added real-time account-based payment technology to the suite of capabilities we offer. While expansion into this space presents business opportunities, there are also regulatory and operational risks associated with administering a new type of payments network and with integrating this acquisition into our business.

Operating a new type of payments system presents new regulatory and operational risks. English regulators have designated this platform to be "critical national infrastructure" and regulators in other countries may in the future expand their regulatory oversight of real-time account-based payments systems in similar ways. In addition, any prolonged service outage on this network could result in quickly escalating impacts, including potential intervention by the Bank of England and significant reputational risk to Vocalink and us. For a discussion of the regulatory risks related to our real-time account-based payments platform, see our risk factor in "Risk Factors - Regulation Related to Our Participation in the Payments Industry" in this Part I, Item 1A. Furthermore, the complexity of this payment technology requires careful management to address security vulnerabilities that are different from those faced on our core network. While we are leveraging Vocalink's talent and expertise, we may face challenges in adapting to the complex requirements of operating a new payments system. Operational difficulties, such as the temporary unavailability of our services or products, or security breaches on our real-time account-based payments network could cause a loss of business for these products and services, result in potential liability for us and adversely affect our reputation.

We are also working to embed the new products and technology acquired from Vocalink into our existing markets. This product convergence requires tight working relationships and integration with the people and corporate culture of Vocalink as a critical success factor. Not managing the integration successfully could result in larger-than-expected integration costs, which could be significant. If we fail to successfully embed these new technologies, we may lose existing Vocalink business and may not remain competitive in our payment technology offerings as compared to our competitors. See our risk factor in "Risk Factors - Acquisitions" in this Part I, Item 1A for more information on risks relating to the integrating our acquisitions.

Working with new customers and end users as we expand our integrated products and services can present operational challenges, be costly and result in reputational damage if the new products or services do not perform as intended.

The payments markets in which we compete are characterized by rapid technological change, new product introductions, evolving industry standards and changing customer and consumer needs. In order to remain competitive and meet the needs of the payments market, we are continually involved in diversifying our integrated products and services. These efforts carry the risks associated with any diversification initiative, including cost overruns, delays in delivery and performance problems. These projects also carry risks associated with working with different types of customers, for example organizations such as corporations that are not financial institutions and non-governmental organizations ("NGOs"), and end users than those we have traditionally worked with. These differences may present new operational challenges in the development and implementation of our new products or services.

Our failure to render these integrated products and services could make our other integrated products and services less desirable to customers, or put us at a competitive disadvantage. In addition, if there is a delay in the implementation of our products or services or if our products or services do not perform as anticipated, we could face additional regulatory scrutiny, fines, sanctions or other penalties, which could materially and adversely affect our overall business and results of operations, as well as negatively impact our brand and reputation.

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Information Security and Service Disruptions

Information security incidents or account data compromise events could disrupt our business, damage our reputation, increase our costs and cause losses.

Information security risks for payments and technology companies such as ours have significantly increased in recent years in part because of the proliferation of new technologies, the use of the Internet and telecommunications technologies to conduct financial transactions, and the increased sophistication and activities of organized crime, hackers, terrorists and other external parties. These threats may derive from fraud or malice on the part of our employees or third parties, or may result from human error or accidental technological failure. These threats include cyber-attacks such as computer viruses, malicious code, phishing attacks or information security breaches and could lead to the misappropriation of consumer account and other information and identity theft.

Our operations rely on the secure processing, transmission and storage of confidential, proprietary and other information in our computer systems and networks. Our customers and other parties in the payments value chain, as well as account holders, rely on our digital technologies, computer systems, software and networks to conduct their operations. In addition, to access our integrated products and services, our customers and account holders increasingly use personal smartphones, tablet PCs and other mobile devices that may be beyond our control. We, like other financial technology organizations, routinely are subject to cyber-threats and our technologies, systems and networks have been subject to attempted cyber-attacks. Because of our position in the payments value chain, we believe that we are likely to continue to be a target of such threats and attacks. Additionally, geopolitical events and resulting government activity could also lead to information security threats and attacks by affected jurisdictions and their sympathizers.

To date, we have not experienced any material impact relating to cyber-attacks or other information security breaches. However, future attacks or breaches could lead to security breaches of the networks, systems or devices that our customers use to access our integrated products and services, which in turn could result in the unauthorized disclosure, release, gathering, monitoring, misuse, loss or destruction of confidential, proprietary and other information (including account data information) or data security compromises. Such attacks or breaches could also cause service interruptions, malfunctions or other failures in the physical infrastructure or operations systems that support our businesses and customers (such as the lack of availability of our value-added systems), as well as the operations of our customers or other third parties. In addition, they could lead to damage to our reputation with our customers and other parties and the market, additional costs to us (such as repairing systems, adding new personnel or protection technologies or compliance costs), regulatory penalties, financial losses to both us and our customers and partners and the loss of customers and business opportunities. If such attacks are not detected immediately, their effect could be compounded.

We maintain an information security program, a business continuity program and insurance coverage (each reviewed by our Board of Directors and its Audit Committee), and our processing systems incorporate multiple levels of protection, in order to address or otherwise mitigate these risks. We also continually test our systems to discover and address any potential vulnerabilities. Despite these mitigation efforts, there can be no assurance that we will be immune to these risks and not suffer material breaches and resulting losses in the future, or that our insurance coverage would be sufficient to cover all losses. Our risk and exposure to these matters remain heightened because of, among other things, the evolving nature of these threats, our prominent size and scale and our role in the global payments and technology industries, our plans to continue to implement our digital and mobile channel strategies and develop additional remote connectivity solutions to serve our customers and account holders when and how they want to be served, our global presence, our extensive

use of third-party vendors and future joint venture and merger and acquisition opportunities. As a result, information security and the continued development and enhancement of our controls, processes and practices designed to protect our systems, computers, software, data and networks from attack, damage or unauthorized access remain a priority for us. As cyber-threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Any of the risks described above could materially adversely affect our overall business and results of operations.

In addition to information security risks for our systems, we also routinely encounter account data compromise events involving merchants and third-party payment processors that process, store or transmit payment transaction data, which affect millions of Mastercard, Visa, Discover, American Express and other types of account holders. These events, some of which have been high profile, typically involve external agents hacking the merchants' or third-party processors' systems and installing malware to compromise the confidentiality and integrity of those systems. Further events of this type may subject us to reputational damage and/or lawsuits involving payment products carrying our brands. Damage to our reputation or that of our brands resulting from an account data breach of either our systems or the systems of our customers, merchants and other third parties could decrease the use and acceptance of our integrated products and services. Such events could also slow or reverse the trend

toward electronic payments. In addition to reputational concerns, while most of the lawsuits resulting from account data breaches do not involve direct claims against us and while we have releases from many issuers and acquirers, we could still face damage claims, which, if upheld, could materially and adversely affect our results of operations. Such events could have a material adverse impact on our transaction volumes, results of operations and prospects for future growth, or increase our costs by leading to additional regulatory burdens being imposed on us.

Service disruptions that cause us to be unable to process transactions or service our customers could materially affect our overall business and results of operations.

Our transaction switching systems and other offerings may experience interruptions as a result of technology malfunctions, fire, weather events, power outages, telecommunications disruptions, terrorism, workplace violence, accidents or other catastrophic events. Our visibility in the global payments industry may also put us at greater risk of attack by terrorists, activists, or hackers who intend to disrupt our facilities and/or systems. Additionally, we rely on third-party service providers for the timely transmission of information across our global data network. Inadequate infrastructure in lesser-developed markets could also result in service disruptions, which could impact our ability to do business in those markets. If one of our service providers fails to provide the communications capacity or services we require, as a result of natural disaster, operational disruptions, terrorism, hacking or any other reason, the failure could interrupt our services. Although we maintain a business continuity program to analyze risk, assess potential impacts, and develop effective response strategies, we cannot ensure that our business would be immune to these risks, because of the intrinsic importance of our switching systems to our business, any interruption or degradation could adversely affect the perception of the reliability of products carrying our brands and materially adversely affect our overall business and our results of operations.

Financial Institution Customers and Other Stakeholder Relationships

Losing a significant portion of business from one or more of our largest financial institution customers could lead to significant revenue decreases in the longer term, which could have a material adverse impact on our business and our results of operations.

Most of our financial institution customer relationships are not exclusive and may be terminated by our customers. Our customers can reassess their commitments to us at any time in the future and/or develop their own competitive services. Accordingly, our business agreements with these customers may not reduce the risk inherent in our business that customers may terminate their relationships with us in favor of relationships with our competitors, or for other reasons, or might not meet their contractual obligations to us.

In addition, a significant portion of our revenue is concentrated among our five largest financial institution customers. Loss of business from any of our large customers could have a material adverse impact on our overall business and results of operations.

Exclusive/near exclusive relationships certain customers have with our competitors may have a material adverse impact on our business.

Certain customers have exclusive, or nearly-exclusive, relationships with our competitors to issue payment products, and these relationships may make it difficult or cost-prohibitive for us to do significant amounts of business with them to increase our revenues. In addition, these customers may be more successful and may grow faster than the customers that

primarily issue our payment products, which could put us at a competitive disadvantage. Furthermore, we earn substantial revenue from customers with nearly-exclusive relationships with our competitors. Such relationships could provide advantages to the customers to shift business from us to the competitors with which they are principally aligned. A significant loss of our existing revenue or transaction volumes from these customers could have a material adverse impact on our business.

Consolidation in the banking industry could materially and adversely affect our overall business and results of operations.

The banking industry has undergone substantial, accelerated consolidation in the past. Consolidations have included customers with a substantial Mastercard portfolio being acquired by institutions with a strong relationship with a competitor. If significant consolidation among customers were to continue, it could result in the substantial loss of business for us, which could have a material adverse impact on our business and prospects. In addition, one or more of our customers could seek to merge with, or acquire, one of our competitors, and any such transaction could also have a material adverse impact on our overall business. Consolidation could also produce a smaller number of large customers, which could increase their bargaining power and lead to lower prices and/or more favorable terms for our customers. These developments could materially and adversely affect our results of operations.

Our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and, in many jurisdictions, their ability to effectively manage or help manage our brands.

While we work directly with many stakeholders in the payments system, including merchants, governments and large digital companies and other technology companies, we are, and will continue to be, significantly dependent on our relationships with our issuers and acquirers and their respective relationships with account holders and merchants to support our programs and services. Furthermore, we depend on our issuing partners and acquirers to continue to innovate to maintain competitiveness in the market. We do not issue cards or other payment devices, extend credit to account holders or determine the interest rates or other fees charged to account holders. Each issuer determines these and most other competitive payment program features. In addition, we do not establish the discount rate that merchants are charged for acceptance, which is the responsibility of our acquiring customers. As a result, our business significantly depends on the continued success and competitiveness of our issuing and acquiring customers and the strength of our relationships with them. In turn, our customers' success depends on a variety of factors over which we have little or no influence, including economic conditions in global financial markets or their disintermediation by competitors or emerging technologies. If our customers become financially unstable, we may lose revenue or we may be exposed to settlement risk. See our risk factor in "Risk Factors - Settlement and Third-Party Obligations" in this Part I, Item 1A with respect to how we guarantee certain third-party obligations for further discussion.

With the exception of the United States and a select number of other jurisdictions, most in-country (as opposed to cross-border) transactions conducted using Mastercard, Maestro and Cirrus cards are authorized, cleared and settled by our customers or other processors. Because we do not provide domestic switching services in these countries and do not, as described above, have direct relationships with account holders, we depend on our close working relationships with our customers to effectively manage our brands, and the perception of our payments system, among consumers in these countries. We also rely on these customers to help manage our brands and perception among regulators and merchants in these countries, alongside our own relationships with them. From time to time, our customers may take actions that we do not believe to be in the best interests of our payments system overall, which may materially and adversely impact our business.

Merchants' continued focus on acceptance costs may lead to additional litigation and regulatory proceedings and increase our incentive program costs, which could materially and adversely affect our profitability.

Merchants are important constituents in our payments system. We rely on both our relationships with them, as well as their relationships with our issuer and acquirer customers, to continue to expand the acceptance of our integrated products and services. We also work with merchants to help them enable new sales channels, create better purchase experiences, improve efficiencies, increase revenues and fight fraud. In the retail industry, there is a set of larger merchants with increasingly global scope and influence. We believe that these merchants are having a significant impact on all participants in the global payments industry, including Mastercard. Some large merchants have supported the legal, regulatory and legislative challenges to interchange fees that Mastercard has been defending, including the U.S. merchant litigations. See our risk factor in "Risk Factors – Risks Related to Our Participation in the Payments Industry" in this Part I, Item 1A with respect to payments industry regulation, including interchange fees. The continued focus of merchants on the costs of accepting various forms of payment, including in connection with the growth of digital payments, may lead to additional litigation and regulatory proceedings.

Certain larger merchants are also able to negotiate incentives from us and pricing concessions from our issuer and acquirer customers as a condition to accepting our

products. We also make payments to certain merchants to incentivize them to create co-branded payment programs with us. As merchants consolidate and become even larger, we may have to increase the amount of incentives that we provide to certain merchants, which could materially and adversely affect our results of operations. Competitive and regulatory pressures on pricing could make it difficult to offset the costs of these incentives. Additionally, if the rate of merchant acceptance growth slows our business could suffer.

Our work with governments exposes us to unique risks that could have a material impact on our business and results of operations.

As we increase our work with national, state and local governments, both indirectly through financial institutions and with them directly as our customers, we may face various risks inherent in associating or contracting directly with governments. These risks include, but are not limited to, the following:

- Governmental entities typically fund projects through appropriated monies. Changes in governmental priorities or other political developments, including disruptions in governmental operations, could impact approved funding and result in changes in the scope, or lead to the termination of, the arrangements or contracts we or financial institutions enter into with respect to our payment products and services.

- Our work with governments subjects us to U.S. and international anti-corruption laws, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act. A violation and subsequent judgment or settlement under these laws could subject us to substantial monetary penalties and damages and have a significant reputational impact.

- Working or contracting with governments, either directly or via our financial institution customers, can subject us to heightened reputational risks, including extensive scrutiny and publicity, as well as a potential association with the policies of a government as a result of a business arrangement with that government. Any negative publicity or negative association with a government entity, regardless of its accuracy, may adversely affect our reputation.

Settlement and Third-Party Obligations

Our role as guarantor exposes us to risk of loss or illiquidity.

We are a guarantor of certain third-party obligations, including those of:

- principal customers, which are customers that participate directly in our programs and are responsible for their own settlement and other activities as well as those of their sponsored affiliate customers

- affiliate debit licensees

In this capacity, we are exposed to risk of loss or illiquidity:

- We may incur obligations in connection with transaction settlements if an issuer or acquirer fails to fund its daily settlement obligations due to technical problems, liquidity shortfalls, insolvency or other reasons.

- If our principal customer or affiliate debit licensee is unable to fulfill its settlement obligations to other customers, we may bear the loss.

- Although we are not obligated to do so, we may elect to keep merchants whole if an acquirer defaults on its merchant payment obligations, or to keep prepaid cardholders whole if an issuer defaults on its obligation to safeguard unspent prepaid funds.

Concurrent settlement failures of more than one of our larger customers or of several of our smaller customers either on a given day or over a condensed period of time may exceed our available resources and could materially and adversely affect our overall business and liquidity. Even if we have sufficient liquidity to cover a settlement failure, we may not be able to recover the cost of such a payment and may therefore be exposed to significant losses, which could materially and adversely affect our results of operations. Should an event occur that would trigger any significant indemnification obligation which we owe to any customers or other companies, such an obligation could materially and adversely affect our overall business and results of operations.

We mitigate the contingent risk of a settlement failure using various strategies, including monitoring our customers' financial condition, their economic and political operating environments and their compliance with our participation standards. For more information on our settlement exposure and risk assessment and mitigation practices, see Note 19

(Settlement and Other Risk Management) to the consolidated financial statements included in Part II, Item 8.

Global Economic and Political Environment

Global financial market activity could result in a material and adverse impact on our overall business and results of operations.

Adverse economic trends (including distress in financial markets, turmoil in specific economies around the world and additional government intervention) have impacted the environment in which we operate. The condition of the economic environment may accelerate the timing of or increase the impact of risks to our financial performance. Such impact may include, but is not limited to, the following:

- Our customers may:
    - restrict credit lines to account holders or limit the issuance of new Mastercard products to mitigate increasing account holder defaults
    - implement cost reduction initiatives that reduce or eliminate payment product marketing or increase requests for greater incentives or greater cost stability

- default on their settlement obligations, including as a result of sovereign defaults, causing a liquidity crisis for our other customers

- Consumer spending can be negatively impacted by:

  - declining economies, foreign currency fluctuations and the pace of economic recovery, which can change cross-border travel patterns, on which a significant portion of our revenues is dependent

  - low levels of consumer and business confidence typically associated with recessionary environments and those markets experiencing relatively high unemployment

- Government intervention (including the effect of laws, regulations and/or government investments on or in our financial institution customers), as well as uncertainty due to changing political regimes in executive, legislative and/or judicial branches of government, may have potential negative effects on our business and our relationships with customers or otherwise alter their strategic direction away from our products.

- Tightening of credit availability could impact the ability of participating financial institutions to lend to us under the terms of our credit facility.

Any of these developments could have a material adverse impact on our overall business and results of operations.

A decline in cross-border activity could adversely affect our results of operations.

We switch substantially all cross-border transactions using Mastercard, Maestro and Cirrus-branded cards and generate a significant amount of revenue from cross-border volume fees and fees related to switched transactions. Revenue from switching cross-border and currency conversion transactions for our customers fluctuates with the levels and destinations of cross-border travel and our customers' need for transactions to be converted into their base currency. Cross-border activity may be adversely affected by world geopolitical, economic, weather and other conditions. These include the threat of terrorism and outbreaks of flu, viruses and other diseases. Additionally, any regulation of interregional interchange fees could negatively impact our cross-border activity, which could decrease the revenue we receive. Any such decline in cross-border activity could materially adversely affect our results of operations.

Negative trends in spending could negatively impact our results of operations.

The global payments industry depends heavily upon the overall level of consumer, business and government spending. General economic conditions (such as unemployment, housing and changes in interest rates) and other political conditions (such as devaluation of currencies and government restrictions on consumer spending) in key countries in which we operate may adversely affect our financial performance by reducing the number or average purchase amount of transactions involving our products.

Adverse currency fluctuations and foreign exchange controls could negatively impact our results of operations.

During 2017, approximately 65% of our revenue was generated from activities outside the United States. This revenue (and the related expense) could be transacted in a non-

functional currency or valued based on a currency other than the functional currency of the entity generating the revenues. Resulting exchange gains and losses are included in our net income. Our risk management activities provide protection with respect to adverse changes in the value of only a limited number of currencies and are based on estimates of exposures to these currencies.

In addition, some of the revenue we generate outside the United States is subject to unpredictable currency fluctuations including devaluation of currencies where the values of other currencies change relative to the U.S. dollar. If the U.S. dollar strengthens compared to currencies in which we generate revenue, this revenue may be translated at a materially lower amount than expected. Furthermore, we may become subject to exchange control regulations that might restrict or prohibit the conversion of our other revenue currencies into U.S. dollars, such as what we have experienced in Venezuela.

The occurrence of currency fluctuations or exchange controls could have a material adverse impact on our results of operations.

The United Kingdom's proposed withdrawal from the European Union could harm our business and financial results.

In June 2016, voters in the United Kingdom approved the withdrawal of the U.K. from the E.U. (commonly referred to as "Brexit"). The U.K. government triggered Article 50 of the Lisbon Treaty on May 29, 2017, which commenced the official E.U. withdrawal process. Uncertainty over the terms of the U.K.'s departure from the E.U. could cause political and economic uncertainty in the U.K. and the rest of Europe, which could harm our business and financial results.

Brexit could lead to legal uncertainty and potentially divergent national laws and regulations in the U.K. and E.U. We, as well as our clients who have significant operations in the U.K., may incur additional costs and expenses as we adapt to potentially divergent regulatory frameworks from the rest of the E.U. In addition, because we conduct business in and have operations in the U.K., we may need to apply for regulatory authorization and permission in separate E.U. member states. We may also face additional complexity with regard to immigration and travel rights for our employees located in the U.K. and the E.U. These factors may impact our ability to operate in the E.U. and U.K. seamlessly. Any of these effects of Brexit, among others, could harm our business and financial results.

Reputational Impact

Negative brand perception may materially and adversely affect our overall business.

Our brands and their attributes are key assets of our business. The ability to attract consumers to our branded products and retain them depends upon the external perception of us and our industry. Our business may be affected by actions taken by our customers, merchants or other organizations that impact the perception of our brands or the payments industry in general. From time to time, our customers may take actions that we do not believe to be in the best interests of our brands, such as creditor practices that may be viewed as "predatory". Additionally, large digital companies and other technology companies who are our customers use our networks to build their own acceptance brands, which could cause consumer confusion and decrease the value of our brand. Moreover, adverse developments with respect to our industry or the industries of our customers may also, by association, impair our reputation, or result in greater regulatory or legislative scrutiny. We have also been pursuing the use of social media channels at an increasingly rapid pace. Under some circumstances, our use of social media, or the use of social media by others as a channel for criticism or other purposes, could also cause rapid, widespread reputational harm to our brands by disseminating rapidly and globally actual or perceived damaging information about us, our products or merchants or other end users who utilize our products. Also, as we are headquartered in the United States, a negative perception of the United States could impact the perception of our company, which could adversely affect our business. Such perception and damage to our reputation could have a material and adverse effect to our overall business.

Acquisitions

Acquisitions, strategic investments or entry into new businesses could disrupt our business and harm our results of operations or reputation.

Although we may continue to evaluate and/or make strategic acquisitions of, or acquire interests in joint ventures or other entities related to, complementary businesses, products or technologies, we may not be able to successfully partner with or integrate them, despite original intentions and focused efforts. In addition, such an integration may divert management's time and resources from our core business and disrupt our operations. Moreover, we may spend time and money on acquisitions or projects that do not meet our expectations or increase our revenue. To the extent we pay the purchase price of any acquisition in cash, it would reduce our cash reserves available to us for other uses, and to the extent the purchase price is paid with our stock, it could be dilutive to our stockholders. Furthermore, we may not be able to successfully finance the business following the acquisition as a result of costs of operations, including any litigation risk which may be inherited from the acquisition.

Any acquisition or entry into a new business could subject us to new regulations with which we would need to comply. This compliance could increase our costs, and we could be subject

to liability or reputational harm to the extent we cannot meet any such compliance requirements. Our expansion into new businesses could also result in unanticipated issues which may be difficult to manage.

Class A Common Stock and Governance Structure

Provisions in our organizational documents and Delaware law could be considered anti-takeover provisions and have an impact on change-in-control.

Provisions contained in our amended and restated certificate of incorporation and bylaws and Delaware law could be considered anti-takeover provisions, including provisions that could delay or prevent entirely a merger or acquisition that our stockholders consider favorable. These provisions may also discourage acquisition proposals or have the effect of delaying or preventing entirely a change in control, which could harm our stock price. For example, subject to limited exceptions, our amended and restated certificate of incorporation prohibits any person from beneficially owning more than 15% of any of the Class A common stock or any other class or series of our stock with general voting power, or more than 15% of our total voting power. In addition:

- our stockholders are not entitled to the right to cumulate votes in the election of directors

- our stockholders are not entitled to act by written consent
- a vote of 80% or more of all of the outstanding shares of our stock then entitled to vote is required for stockholders to amend any provision of our bylaws
- any representative of a competitor of Mastercard or of Mastercard Foundation is disqualified from service on our board of directors

Mastercard Foundation's substantial stock ownership, and restrictions on its sales, may impact corporate actions or acquisition proposals favorable to, or favored by, the other public stockholders.

As of February 9, 2018, Mastercard Foundation owned 112,181,762 shares of Class A common stock, representing approximately 10.8% of our general voting power. Mastercard Foundation may not sell or otherwise transfer its shares of Class A common stock prior to May 1, 2027, except to the extent necessary to satisfy its charitable disbursement requirements, for which purpose earlier sales are permitted. Mastercard Foundation is permitted to sell all of its remaining shares after May 1, 2027. The directors of Mastercard Foundation are required to be independent of us and our customers. The ownership of Class A common stock by Mastercard Foundation, together with the restrictions on transfer, could discourage or make more difficult acquisition proposals favored by the other holders of the Class A common stock. In addition, because Mastercard Foundation is restricted from selling its shares for an extended period of time, it may not have the same interest in short or medium-term movements in our stock price as, or incentive to approve a corporate action that may be favorable to, our other stockholders.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 2. PROPERTIES

As of December 31, 2017, Mastercard and its subsidiaries owned or leased 167 commercial properties. We own our corporate headquarters, located in Purchase, New York. The building is approximately 500,000 square feet. There is no outstanding debt on this building. Our principal technology and operations center, a leased facility located in O'Fallon, Missouri, is also approximately 500,000 square feet. The term of the lease on this facility is 10 years, which commenced on March 1, 2009. Our leased properties in the United States are located in 10 states and in the District of Columbia. We also lease and own properties in 69 other countries. These facilities primarily consist of corporate and regional offices, as well as our operations centers.

We believe that our facilities are suitable and adequate for the business that we currently conduct. However, we periodically review our space requirements and may acquire or lease new space to meet the needs of our business, or consolidate and dispose of facilities that are no longer required.

ITEM 3. LEGAL PROCEEDINGS

Refer to Notes 10 (Accrued Expenses and Accrued Litigation) and 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Price Range of Common Stock

Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". The following table sets forth the intra-day high and low sale prices for our Class A common stock for the four quarterly periods in each of 2017 and 2016. At February 9, 2018, we had 73 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Class A common stock is held in "street name" by brokers.

	2017		2016	
	High	Low	High	Low
First Quarter	$ 113.50	$ 104.01	$ 95.83	$ 78.52
Second Quarter	126.19	111.01	100.00	87.59
Third Quarter	143.59	120.65	102.31	86.65
Fourth Quarter	154.65	140.61	108.93	99.51

There is currently no established public trading market for our Class B common stock. There were approximately 307 holders of record of our non-voting Class B common stock as of February 9, 2018, constituting approximately 1.3% of our total outstanding equity.

Dividend Declaration and Policy

During the years ended December 31, 2017 and 2016, we paid the following quarterly cash dividends per share on our Class A common stock and Class B Common stock:

	Dividend per Share	
	2017	2016
First Quarter	$ 0.22	$ 0.19
Second Quarter	0.22	0.19
Third Quarter	0.22	0.19
Fourth Quarter	0.22	0.19

On December 4, 2017, our Board of Directors declared a quarterly cash dividend of $0.25 per share paid on February 9, 2018 to holders of record on January 9, 2018 of our Class A common stock and Class B common stock. On February 5, 2018, our Board of Directors declared a quarterly cash dividend of $0.25 per share payable on May 9, 2018 to holders of record on April 9, 2018 of our Class A common stock and Class B common stock.

Subject to legally available funds, we intend to continue to pay a quarterly cash dividend on our outstanding Class A common stock and Class B common stock. However, 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.

Issuer Purchases of Equity Securities

On December 6, 2016, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $4 billion of our Class A common stock (the "December 2016 Share Repurchase Program"). This program became effective in April 2017. On December 4, 2017, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $4 billion of our Class A common stock (the "December 2017 Share Repurchase Program"). This program will become effective after completion of the December 2016 Share Repurchase Program.

During the fourth quarter of 2017, we repurchased a total of approximately 6.9 million shares for $1.0 billion at an average price of $148.44 per share of Class A common stock. Our repurchase activity during the fourth quarter of 2017 consisted of open market share repurchases and is summarized in the following table:

Period	Total Number of Shares Purchased	Average Price Paid per Share (including commission cost)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that may yet be Purchased under the Plans or Programs [1]
October 1 – 31	2,276,450	$ 144.78	2,276,450	$1,935,087,778
November 1 – 30	2,314,860	150.22	2,314,860	1,587,353,507
December 1 – 31	2,353,069	150.22	2,353,069	5,233,867,141
Total	6,944,379	148.44	6,944,379	

[1] Dollar value of shares that may yet be purchased under the December 2016 Share Repurchase Program and the December 2017 Share Repurchase Program are as of the end of each period presented.

ITEM 6. SELECTED FINANCIAL DATA

The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2017, 2016 and 2015, and the balance sheet data as of December 31, 2017 and 2016, were derived from the audited consolidated financial statements of Mastercard Incorporated included in Part II, Item 8. The statement of operations data and the cash dividends declared per share presented below for the years ended December 31, 2014 and 2013, and the balance sheet data as of December 31, 2015, 2014 and 2013, were derived from audited consolidated financial statements not included in this Report. The data set forth below should be read in conjunction with, and are qualified by reference to, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7 and our consolidated financial statements and notes thereto included in Part II, Item 8.

	Years Ended December 31,				
	2017	2016	2015	2014	2013
	(in millions, except per share data)				
Statement of Operations Data:					
Net revenue	$ 12,497	$ 10,776	$ 9,667	$ 9,441	$ 8,312
Total operating expenses	5,875	5,015	4,589	4,335	3,809
Operating income	6,622	5,761	5,078	5,106	4,503
Net income	3,915	4,059	3,808	3,617	3,116
Basic earnings per share	3.67	3.70	3.36	3.11	2.57
Diluted earnings per share	3.65	3.69	3.35	3.10	2.56
Balance Sheet Data:					
Total assets	$ 21,329	$ 18,675	$ 16,250	$ 15,329	$ 14,242
Long-term debt	5,424	5,180	3,268	1,494	—
Equity	5,497	5,684	6,062	6,824	7,495
Cash dividends declared per share	$ 0.91	$ 0.79	$ 0.67	$ 0.49	$ 0.29

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the consolidated financial statements and notes of Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International") (together, "Mastercard" or the "Company"), included elsewhere in this Report. This change only relates to terminology; no previously reported amounts have changed. Percentage changes provided throughout "Management's Discussion and Analysis of Financial Condition and Results of Operations" were calculated on amounts rounded to the nearest thousand.

Business Overview

Mastercard is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. Through our global payments processing network, we facilitate the switching (authorization, clearing and settlement) of payment transactions and deliver related products and services. We make payments easier and more efficient by creating a wide range of payment solutions and services using our family of well-known brands, including Mastercard®, Maestro®, Cirrus® and Masterpass®. Our recent acquisition of VocaLink Holdings Limited ("Vocalink") has expanded our capability to process automated clearing house ("ACH") transactions, among other things. As a multi-rail network, we now offer customers one partner to turn to for their payment needs for both domestic and cross-border transactions. We also provide value-added offerings such as safety and security products, information services and consulting, loyalty and reward programs and issuer and acquirer processing. Our networks are designed to ensure safety and security for the global payments system.

A typical transaction on our core network involves four participants in addition to us: account holder (a consumer who holds a card or uses another device enabled for payment), merchant, issuer (the account holder's financial institution) and acquirer (the merchant's financial institution). We do not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of our branded products. In most cases, account holder relationships belong to, and are managed by, our financial institution customers.

We generate revenues from assessing our customers based on the gross dollar volume (the "GDV") of activity on the products that carry our brands, from the fees we charge to our customers for providing transaction processing and from other payment-related products and services.

Business Environment

We authorize, clear and settle transactions in more than 210 countries and territories and in more than 150 currencies. Net revenue generated in the United States was 35% of total revenue in 2017 and 38% in 2016 and 39% in 2015. No individual country, other than the United States, generated more than 10% of total net revenue in any such period, but differences in market growth, economic health and foreign exchange fluctuations in certain countries can have an impact on the proportion of revenue generated outside the United States over time. While the global nature of our business helps protect our operating results from adverse economic conditions in a single or a few countries, the significant concentration

of our revenue generated in the United States makes our business particularly susceptible to adverse economic conditions in the United States.

The competitive and evolving nature of the global payments industry provides both challenges to and opportunities for the continued growth of our business. Adverse economic trends (including distress in financial markets, currency fluctuations, turmoil in specific economies around the world and additional government intervention) have impacted the environment in which we operate. Certain of our customers, merchants that accept our brands and account holders who use our brands, have been directly impacted by these adverse economic conditions.

Our financial results may be negatively impacted by actions taken by individual financial institutions or by governmental or regulatory bodies. In addition, political instability or a decline in economic conditions in the countries in which we operate may accelerate the timing of or increase the impact of risks to our financial performance. As a result, our revenue or results of operations may be negatively impacted. We continue to monitor political and economic conditions around the world to identify opportunities for the continued growth of our business and to evaluate the evolution of the global payments industry. Notwithstanding recent encouraging trends, the extent and pace of economic recovery in various regions remains uncertain and the overall business environment may present challenges for us to grow our business.

For a full discussion of the various legal, regulatory and business risks that could impact our financial results, see “Risk Factors” in Part I, Item 1A.

Financial Results Overview

The following tables provide a summary of our operating results:

	Year ended December 31,		Increase/ (Decrease)	Year ended December 31,		Increase/ (Decrease)
	2017	2016		2016	2015	
	($ in millions, except per share data)					
Net revenue	$ 12,497	$ 10,776	16%	$ 10,776	$ 9,667	11%
Operating expenses	$ 5,875	$ 5,015	17%	$ 5,015	$ 4,589	9%
Operating income	$ 6,622	$ 5,761	15%	$ 5,761	$ 5,078	13%
Operating margin	53.0 %	53.5 %	(0.5) ppt	53.5 %	52.5 %	0.9 ppt
Income tax expense	$ 2,607	$ 1,587	64%	$ 1,587	$ 1,150	38%
Effective income tax rate	40.0 %	28.1 %	11.9 ppt	28.1 %	23.2 %	4.9 ppt
Net income	$ 3,915	$ 4,059	(4)%	$ 4,059	$ 3,808	7%
Diluted earnings per share	$ 3.65	$ 3.69	(1)%	$ 3.69	$ 3.35	10%
Diluted weighted-average shares outstanding	1,072	1,101	(3)%	1,101	1,137	(3)%

Summary of Non-GAAP Results [1]:

	Year ended December 31,		Increase/ (Decrease)		Year ended December 31,		Increase/ (Decrease)	
	2017	2016	As adjusted	Currency-neutral	2016	2015	As adjusted	Currency-neutral
	($ in millions, except per share data)							
Net revenue	$ 12,497	$ 10,776	16%	15%	$ 10,776	$ 9,667	11%	13%
Adjusted operating expenses	$ 5,693	$ 4,898	16%	16%	$ 4,898	$ 4,449	10%	12%
Adjusted operating margin	54.4 %	54.5 %	(0.1) ppt	(0.2) ppt	54.5 %	54.0 %	0.6 ppt	0.6 ppt
Adjusted effective income tax rate	26.8 %	28.1 %	(1.3) ppt	(1.3) ppt	28.1 %	23.4 %	4.6 ppt	4.7 ppt
	$ 4,906	$ 4,144	18%	17%	$ 4,144	$ 3,903	6%	7%

Adjusted net income								
Adjusted diluted earnings per share	$ 4.58	$ 3.77	21%	21%	$ 3.77	$ 3.43	10%	11%

Note: Tables may not sum due to rounding.

1 The Summary of Non-GAAP Results excludes the impact of Special Items and/or foreign currency. See "Non-GAAP Financial Information" for further information on the Special Items, the impact of foreign currency and the reconciliation to GAAP reported amounts.

Key highlights for 2017 were as follows:

- Net revenue increased 16%, or 15% on a currency-neutral basis, in 2017 versus 2016, primarily driven by:
  - Switched transaction growth of 17%
  - Cross border growth of 15% on a local currency basis
  - An increase of 10% in gross dollar volume, on a local currency basis and adjusted for the impact of the 2016 EU regulation change
  - Acquisitions contributed 2 percentage points of growth

- These increases were partially offset by higher rebates and incentives

- Operating expenses increased 17% in 2017 versus 2016. Excluding the impact of Special Items, adjusted operating expenses increased 16%, both as adjusted and on a currency-neutral basis, in 2017 versus 2016. The impact of acquisitions contributed 6 percentage points of growth for the twelve months ended December 31, 2017. Other factors contributing to the increase were continued investments in strategic initiatives as well as foreign exchange related charges.

- The effective income tax rate increased 11.9 percentage points to 40.0% in 2017 versus 28.1% in 2016, primarily due to the Tax Cuts and Jobs Act (the "TCJA"). Excluding the impact of the TCJA and other Special Items, the 2017 adjusted effective income tax rate improved by 1.3 percentage points to 26.8% from 28.1% in 2016 primarily due to a more favorable geographical mix of taxable earnings, partially offset by a lower U.S. foreign tax credit benefit.

Other financial highlights for 2017 were as follows:

- We generated net cash flows from operations of $5.6 billion in 2017, versus $4.5 billion in 2016.

- We repurchased 30 million shares of our common stock for $3.8 billion and paid dividends of $942 million in 2017.

- We acquired businesses for total consideration of $1.5 billion in 2017, the largest of which was VocaLink Holdings Limited ("Vocalink"), which expanded our capability, among other things, to process real-time account-based payment transactions.

- The TCJA, enacted in 2017, will reduce the U.S. corporate income tax rate from 35% to 21% beginning in 2018, imposes a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax") and puts into effect the migration towards a territorial tax system. While the enactment of the TCJA resulted in additional tax expense of $873 million in 2017, it is expected to have a favorable impact on our effective tax rate in future periods. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion of the TCJA impact.

Non-GAAP Financial Information

Non-GAAP financial information is defined as a numerical measure of a company's performance that excludes or includes amounts so as to be different than the most comparable measure calculated and presented in accordance with accounting principles generally accepted in the United States ("GAAP"). These non-GAAP financial measures exclude the impact of the following special items ("Special Items"). We excluded these Special Items as management monitors significant changes in tax law, litigation judgments and settlements related to interchange and regulation, and significant one-time items separately from ongoing operations and evaluates ongoing performance without these amounts.

- In 2017, due to the passage of the TCJA, we incurred additional tax expense of $873 million, $0.81 per diluted share, which includes $825 million of provisional charges attributable to the Transition Tax, the remeasurement of our net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to

a change in assertion regarding reinvestment of foreign earnings, as well as $48 million in additional tax expense related to a foregone foreign tax credit benefit on current year repatriations (collectively the "Tax Act Impact"). See Financial Results of this section and Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion of the TCJA.

- In 2017, we recorded a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) in general and administrative expenses related to the deconsolidation of our Venezuelan subsidiaries (the "Venezuela Charge"). See Impact of Foreign Currency of this section and Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8 for further discussion of the Venezuela Charge.

- In 2017, we recorded a pre-tax charge of $15 million ($10 million after tax, or $0.01 per diluted share) in provision for litigation settlements expense, related to a litigation settlement with Canadian merchants (the "Canadian Merchant Litigation Provision"). In 2016 and 2015, we recorded a pre-tax charge of $117 million ($85 million after tax, or $0.08 per diluted share) and $61 million ($45 million after tax, or $0.04 per diluted share), respectively, in provision for litigation settlements expense, related to separate litigations with merchants in the U.K. (collectively the "U.K. Merchant Litigation Provision"). See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion of the Canadian Merchant Litigation Provision and the U.K. Merchant Litigation Provision.

- In 2015, we recorded a settlement charge of $79 million ($50 million after tax, or $0.04 per diluted share) in general and administrative expenses, relating to the termination of our qualified U.S. defined benefit pension plan (the "U.S.

Employee Pension Plan Settlement Charge"). See Note 11 (Pension, Postretirement and Savings Plans) to the consolidated financial statements included in Part II, Item 8 for further discussion of the U.S. Employee Pension Plan Settlement Charge.

In addition, we present growth rates adjusted for the impact of foreign currency, which is a non-GAAP financial measure. For 2017 and 2016, we present currency-neutral growth rates, which are calculated by remeasuring the prior period's results using the current period's exchange rates for both the translational and transactional impacts on operating results. The impact of foreign currency translation represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency. The impact of the transactional foreign currency represents the effect of converting revenue and expenses occurring in a currency other than the functional currency. Our management believes the presentation of the impact of foreign currency provides relevant information.

Our management believes that the non-GAAP financial measures presented facilitate an understanding of our operating performance and provide a meaningful comparison of our results between periods. Our management uses non-GAAP financial measures to, among other things, evaluate our ongoing operations in relation to historical results, for internal planning and forecasting purposes and in the calculation of performance-based compensation.

Net revenue, operating expenses, operating margin, effective income tax rate, net income and diluted earnings per share, adjusted for Special Items and/or the impact of foreign currency, are non-GAAP financial measures and should not be relied upon as substitutes for measures calculated in accordance with GAAP. The following tables reconcile our as-reported financial measures calculated in accordance with GAAP to the respective non-GAAP adjusted financial measures.

	Year ended December 31, 2017				
	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 5,875	53.0%	40.0 %	$ 3,915	$ 3.65
Tax Act Impact	**	**	(13.4%)	873	0.81
Venezuela Charge	(167)	1.3%	0.2 %	108	0.10
Canadian Merchant Litigation Provision	(15)	0.1%	— %	10	0.01
Non-GAAP	$ 5,693	54.4%	26.8 %	$ 4,906	$ 4.58

	Year ended December 31, 2016				
	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 5,015	53.5%	28.1%	$ 4,059	$ 3.69
U.K. Merchant Litigation Provision	(117)	1.0%	— %	85	0.08
Non-GAAP	$ 4,898	54.5%	28.1%	$ 4,144	$ 3.77

	Year ended December 31, 2015

	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
	($ in millions, except per share data)				
Reported - GAAP	$ 4,589	52.5 %	23.2 %	$ 3,808	$ 3.35
U.S. Employee Pension Plan Settlement Charge	(79)	0.8 %	0.1 %	50	0.04
U.K. Merchant Litigation Provision	(61)	0.6 %	0.1 %	45	0.04
Non-GAAP	$ 4,449	54.0 %	23.4 %	$ 3,903	$ 3.43

The following tables represent the reconciliation of our growth rates reported under GAAP to our Non-GAAP growth rates, adjusted for Special Items and foreign currency:

	Year Ended December 31, 2017 as compared to the Year Ended December 31, 2016					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	16 %	17 %	(0.5) ppt	11.9 ppt	(4 %)	(1 %)
Tax Act Impact	**	**	**	(13.4) ppt	21 %	22 %
Venezuela Charge	**	(3 %)	1.3 ppt	0.2 ppt	3 %	3 %
Canadian Merchant Litigation Provision	**	— %	0.1 ppt	– ppt	— %	— %
U.K. Merchant Litigation Provision	**	3 %	(1.1) ppt	– ppt	(2 %)	(3 %)
Non-GAAP	16 %	16 %	(0.1) ppt	(1.3) ppt	18 %	21 %
Foreign currency [1]	(1 %)	(1 %)	(0.1) ppt	– ppt	(1 %)	1 %
Non-GAAP - currency-neutral	15 %	16 %	(0.2) ppt	(1.3) ppt	17 %	21 %

	Year Ended December 31, 2016 as compared to the Year Ended December 31, 2015					
	Increase/(Decrease)					
	Net revenue	Operating expenses	Operating margin	Effective income tax rate	Net income	Diluted earnings per share
Reported - GAAP	11 %	9 %	0.9 ppt	4.9 ppt	7 %	10 %
U.K. Merchant Litigation Provision	**	(1 %)	0.5 ppt	(0.1) ppt	1 %	1 %
U.S. Employee Pension Plan Settlement Charge	**	2 %	(0.8) ppt	(0.2) ppt	(1 %)	(1 %)
Non-GAAP	11 %	10 %	0.6 ppt	4.6 ppt	6 %	10 %
Foreign currency [1]	1 %	1 %	– ppt	0.1 ppt	1 %	1 %
Non-GAAP - currency-neutral	13 %	12 %	0.6 ppt	4.7 ppt	7 %	11 %

Note: Tables may not sum due to rounding.

** Not meaningful.

1 Represents the foreign currency translational and transactional impact.

Impact of Foreign Currency Rates

Our overall operating results are impacted by foreign currency translation, which represents the effect of translating operating results where the functional currency is different than our U.S. dollar reporting currency.

Our operating results can also be impacted by transactional foreign currency. The impact of the transactional foreign currency represents the effect of converting revenue and expense transactions occurring in a currency other than the functional currency. Changes in foreign currency exchange rates directly impact the calculation of gross dollar volume ("GDV") and

gross euro volume ("GEV"), which are used in the calculation of our domestic assessments, cross-border volume fees and volume-related rebates and incentives. In most non-European regions, GDV is calculated based on local currency spending volume converted to U.S. dollars using average exchange rates for the period. In Europe, GEV is calculated based on local currency spending volume converted to euros using average exchange rates for the period. As a result, our domestic assessments, cross-border volume fees and volume-related rebates and incentives are impacted by the strengthening or weakening of the U.S. dollar versus non-European local currencies and the strengthening or weakening of the euro versus other European local currencies. For example, our billing in Australia is in the U.S. dollar, however, consumer spend in Australia is in the Australian dollar. The foreign currency transactional impact of converting Australian dollars to our U.S. dollar billing currency will have an impact on the revenue generated. The strengthening or weakening of the U.S. dollar is evident when GDV growth on a U.S. dollar-converted basis is compared to GDV growth on a local currency basis. In 2017, GDV on a U.S. dollar-converted basis increased 8.7%, while GDV on a local currency basis increased 8.6% versus 2016. In 2016, GDV on a U.S. dollar-converted basis increased 5.5%, while GDV on a local currency basis increased 9.1% versus 2015. Further, the impact from transactional foreign currency occurs in transaction

processing revenue, other revenue and operating expenses when the local currency of these items are different than the functional currency.

In addition, we incur foreign currency gains and losses from remeasuring monetary assets and liabilities that are in a currency other than the functional currency and from remeasuring foreign exchange derivative contracts ("Foreign Exchange Activity"). The impact of Foreign Exchange Activity has not been eliminated in our currency-neutral results (see "Non-GAAP Financial Information") and is recorded in general and administrative expenses. We attempt to manage foreign currency balance sheet remeasurement and cash flow risk through our foreign exchange risk management activities, which are discussed further in Note 20 (Foreign Exchange Risk Management) to the consolidated financial statements included in Part II, Item 8. Since we do not designate foreign currency derivatives as hedging instruments pursuant to the accounting standards for derivative instruments and hedging activities, we record gains and losses on foreign exchange derivatives on a current basis, with the associated offset being recognized as the exposures materialize.

We are exposed to currency devaluation in certain countries. In addition, we are subject to exchange control regulations that restrict or prohibit the conversion of financial assets into U.S. dollars. While these revenues and assets are not material to us on a consolidated basis, we can be negatively impacted should there be a continued and sustained devaluation of local currencies relative to the U.S. dollar and/or a continued and sustained deterioration of economic conditions in these countries. Specifically, in Venezuela, due to increasing foreign exchange regulations restricting access to U.S. dollars, an other-than-temporary lack of exchangeability between the Venezuela bolivar and the U.S. dollar has impacted our ability to manage risk, process cross-border transactions and satisfy U.S. dollar denominated liabilities related to our Venezuelan operations. As a result of these factors, we concluded that, effective December 31, 2017, we did not meet the accounting criteria for consolidation of these subsidiaries, and therefore we would transition to the cost method of accounting as of December 31, 2017. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share). We continue to operate and serve our Venezuelan issuers, acquirers, merchants and account holders with our products and services. We do not believe this accounting change will have a significant impact on our consolidated financial statements in future periods. See Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Financial Results

Revenue

Revenue Description

Our business model involves four participants in addition to us: account holders, merchants, issuers (the account holders' financial institutions) and acquirers (the merchants' financial institutions). We generate revenues from assessing our customers based on the GDV of activity on the products that carry our brands, from the fees that we charge our customers for providing transaction processing and from other payment-related products and services. Our revenue is based upon transactional information accumulated by our systems or reported by our customers. Our primary revenue billing currencies are the U.S. dollar, euro, Brazilian real and the British pound.

The price structure for our products and services is complex and is dependent on the nature of volumes, types of transactions and type of products and services we offer to our customers. Our net revenue can be significantly impacted by the following:

- domestic or cross-border transactions
- signature-based or PIN-based transactions
- geographic region or country in which the transaction occurs
- volumes/transactions subject to tiered rates
- processed or not processed by us
- amount of usage of our other products or services
- amount of rebates and incentives provided to customers

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We classify our net revenue into the following five categories:

1. **Domestic assessments** are fees charged to issuers and acquirers based primarily on the dollar volume of activity on cards and other devices that carry our brands where the merchant country and the issuer country are the same. Domestic assessments include items such as card assessments, which are fees charged on the number of cards issued or assessments for specific purposes, such as acceptance development or market development programs.

2. **Cross-border volume fees** are charged to issuers and acquirers based on the dollar volume of activity on cards and other devices that carry our brands where the merchant country and the issuer country are different. In general, a cross-border transaction generates higher revenue than a domestic transaction since cross-border fees are higher than domestic fees, and may include fees for currency conversion.

3. **Transaction processing** revenue is earned for both domestic and cross-border transactions and is primarily based on the number of transactions. Transaction processing includes the following:

   - *Switched transactions* include the following products and services:

     - *Authorization* is the process by which a transaction is routed to the issuer for approval. In certain circumstances, such as when the issuer's systems are unavailable or cannot be contacted, Mastercard or others, on behalf of the issuer approve in accordance with either the issuer's instructions or applicable rules (also known as "stand-in").

     - *Clearing* is the determination and exchange of financial transaction information between issuers and acquirers after a transaction has been successfully conducted at the point of interaction. We clear transactions among customers through our central and regional processing systems.

     - *Settlement* is facilitating the exchange of funds between parties.

   - *Connectivity fees* are charged to issuers, acquirers and other financial institutions for network access, equipment and the transmission of authorization and settlement messages. These fees are based on the size of the data being transmitted and the number of connections to our network.

   - *Other Processing fees* include issuer and acquirer processing solutions; payment gateways for e-commerce merchants; mobile gateways for mobile initiated transactions; and safety and security.

4. **Other revenues:** Other revenues consist of other payment-related products and services and are primarily associated with the following:

   - *Consulting, data analytic and research fees* are primarily generated by Mastercard Advisors, our professional advisory services group.

- *Safety and security services fees* are for products and services we offer to prevent, detect and respond to fraud and to ensure the safety of transactions made on our products. We work with issuers, merchants and governments to help deploy standards for safe and secure transactions for the global payments system.

- *Loyalty and rewards solutions fees* are charged to issuers for benefits provided directly to consumers with Mastercard-branded cards, such as access to a global airline lounge network, global and local concierge services, individual insurance coverages, emergency card replacement, emergency cash advance services and a 24-hour cardholder service center. For merchants, we provide targeted offers and rewards campaigns and management services for publishing offers, as well as opportunities for holders of co-brand or loyalty cards and rewards program members to obtain rewards points faster.

- *Program management services* provided to prepaid card issuers consist of foreign exchange margin, commissions, load fees, and ATM withdrawal fees paid by cardholders on the sale and encashment of prepaid cards.

- *Real-time account-based payment services* relating to ACH and other ACH related services.

- We also charge for a variety of other payment-related products and services, including account and transaction enhancement services, rules compliance and publications.

5. **Rebates and incentives (contra-revenue):** Rebates and incentives are provided to certain of our customers and are recorded as contra-revenue.

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Revenue Analysis

Gross revenue increased 18% and 14%, or 17% and 15% on a currency neutral basis, in 2017 and 2016, respectively, versus the prior year. The increase in both 2017 and 2016 was primarily driven by an increase in transactions, dollar volume of activity on cards carrying our brands for both domestic and cross-border transactions and other payment-related products and services.

Rebates and incentives increased 22% and 20% in 2017 and 2016, respectively, or 22% on a currency neutral basis in both periods. The increases in rebates and incentives in 2017 and 2016 were primarily due to the impact from new and renewed agreements and increased volumes.

Our net revenue increased 16% and 11%, or 15% and 13% on a currency neutral basis, respectively, versus the prior year.

The significant components of our net revenue were as follows:

	For the Years Ended December 31,			Percent Increase (Decrease)	
	2017	2016	2015	2017	2016
	(in millions, except percentages)				
Domestic assessments	$ 5,130	$ 4,411	$ 4,086	16%	8%
Cross-border volume	4,174	3,568	3,225	17%	11%
Transaction processing	6,188	5,143	4,345	20%	18%
Other revenues	2,853	2,431	1,991	17%	22%
Gross revenue	18,345	15,553	13,647	18%	14%
Rebates and incentives (contra-revenue)	(5,848)	(4,777)	(3,980)	22%	20%
Net revenue	$ 12,497	$ 10,776	$ 9,667	16%	11%

The following table summarizes the primary drivers of net revenue growth:

	For the Years Ended December 31,									
	Volume		Acquisitions		Foreign Currency [1]		Other [2]		Total	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Domestic assessments	10%	11%	—%	— %	1%	(2%)	6% [3]	(1%) [3]	16%	8%
Cross-border volume	14%	11%	—%	— %	—%	(3%)	3%	2 %	17%	11%
Transaction processing	15%	14%	1%	— %	1%	— %	4%	5 %	20%	18%
Other revenues	**	**	7%	3 %	1%	— %	9% [4]	19 % [4]	17%	22%
Rebates and incentives	10%	8%	—%	— %	1%	(2%)	11% [5]	14 % [5]	22%	20%
Net revenue	11%	11%	2%	1 %	1%	(1%)	2%	1 %	16%	11%

Note: Table may not sum due to rounding
** Not applicable
1 Represents the foreign currency translational and transactional impact versus the prior year.

2 Includes impact from pricing and other non-volume based fees.
3 Includes impact of the allocation of revenue to service deliverables, which are recorded in other revenue when services are performed.
4 Includes impacts from Advisor fees, safety and security fees, loyalty and reward solution fees and other payment-related products and services.
5 Includes the impact from timing of new, renewed and expired agreements.

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The following table provides a summary of the trend in volume and transaction growth:

	Years Ended December 31,			
	2017		2016	
	Growth (USD)	Growth (Local)	Growth (USD)	Growth (Local)
Mastercard-branded GDV [1]	9%	9%	6%	9%
Asia Pacific/Middle East/Africa	9%	10%	7%	11%
Canada	13%	10%	6%	10%
Europe	10%	10%	5%	10%
Latin America	18%	16%	2%	15%
United States	5%	5%	6%	6%
Cross-border Volume [1]		15%		12%
Switched Transactions Growth		17%		16%

[1] Excludes volume generated by Maestro and Cirrus cards.

In 2016, our GDV was impacted by the EU Interchange Fee Regulation related to card payments which became effective in June 2016. The regulation requires that we no longer collect fees on domestic European Economic Area payment transactions that do not use our network brand. Prior to that, we collected a de minimis assessment fee in a few countries, particularly France, on transactions with Mastercard co-badged cards if the brands of domestic networks (as opposed to Mastercard) were used. As a result, the non-Mastercard co-badged volume is no longer being included.

The following table reflects GDV growth rates for Europe and Worldwide Mastercard. For comparability purposes, we adjusted growth rates for the impact of Article 8 of the EU Interchange Fee Regulation related to card payments, to exclude the prior period co-badged volume processed by other networks.

	For the Years Ended December 31,	
	2017	2016
	Growth (Local)	
GDV [1]		
Worldwide as reported	9%	9%
Worldwide as adjusted for EU Regulation	10%	11%
Europe as reported	10%	10%
Europe as adjusted for EU Regulation	16%	18%

[1] Excludes volume generated by Maestro and Cirrus cards.

A significant portion of our revenue is concentrated among our five largest customers. In 2017, the net revenue from these customers was approximately $2.9 billion, or 23%, of total net revenue. The loss of any of these customers or their significant card programs could adversely impact our revenue. In addition, as part of our business strategy, among other efforts, we enter into business agreements with customers. These agreements can be terminated in a variety of circumstances. See our risk factor in “Risk Factor - Business Risks” in Part I, Item 1A for further discussion.

Operating Expenses

Operating expenses increased 17% and 9% in 2017 and 2016, respectively, versus the prior year. Excluding the impact of the Special Items, adjusted operating expenses increased 16% and 10%, or 16% and 12% on a currency neutral basis, in 2017 and 2016, respectively. Acquisitions contributed 6 percentage points of growth in 2017.

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The components of operating expenses were as follows:

	Year ended December 31,			Increase (Decrease)	
	2017	2016	2015	2017	2016
	($ in millions)				
General and administrative	$ 4,526	$ 3,714	$ 3,341	22 %	11 %
Advertising and marketing	898	811	821	11 %	(1 %)
Depreciation and amortization	436	373	366	17 %	2 %
Provision for litigation settlement	15	117	61	**	**
Total operating expenses	5,875	5,015	4,589	17 %	9 %
Special Items[1]	(182)	(117)	(140)	(1 %)	1 %
Adjusted total operating expenses (excluding Special Items[1])	$ 5,693	$ 4,898	$ 4,449	16 %	10 %

Note: Table may not sum due to rounding.
** Not meaningful.
1 See "Non-GAAP Financial Information" for further information on Special Items.

The following table summarizes the primary drivers of changes in operating expenses in 2017 and 2016:

	For the Years Ended December 31,									
	Operational		Special Items [1]		Acquisitions		Foreign Currency [2]		Total	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
General and administrative	11 %	15 %	5 %	(3 %)	6 %	1 %	1 %	(1 %)	22 %	11 %
Advertising and marketing	9 %	— %	— %	— %	1 %	— %	1 %	(1 %)	11 %	(1 %)
Depreciation and amortization	— %	— %	— %	— %	17 %	4 %	— %	(2 %)	17 %	2 %
Provision for litigation settlements	**	**	**	**	**	**	**	**	**	**
Total operating expenses	10 %	11 %	1 %	(1 %)	6 %	1 %	1 %	(1 %)	17 %	9 %

Note: Table may not sum due to rounding.
** Not meaningful.
1 See "Non-GAAP Financial Information" for further information on Special Items.
2.Represents the foreign currency translational and transactional impact versus the prior year.

General and Administrative

General and administrative expenses increased 22% and 11% in 2017 and 2016, respectively, versus the prior year. Excluding the impact of Special Items, adjusted general and administrative expenses increased 17% and 14% in 2017 and 2016, respectively, versus the prior year. Acquisitions contributed 6 percentage points and 1 percentage point of growth in 2017 and 2016, respectively.

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The significant components of our general and administrative expenses were as follows:

	For the Years Ended December 31,			Percent Increase (Decrease)	
	2017	2016	2015	2017	2016
	(in millions, except percentages)				
Personnel	$ 2,687	$ 2,225	$ 2,105	21%	6%
Professional fees	355	337	310	5%	9%
Data processing and telecommunications	504	420	362	20%	16%
Foreign exchange activity	106	34	(82)	**	**
Other	874	698	646	25%	8%
General and administrative expenses	4,526	3,714	3,341	22%	11%
Special Item [1]	(167)	—	(79)	(5)%	3%
Adjusted general and administrative expenses (excluding Special Item) [1]	$ 4,359	$ 3,714	$ 3,262	17%	14%

Note: Table may not sum due to rounding.
** Not meaningful.
[1] See "Non-GAAP Financial Information" for further information on Special Items.

The primary drivers of changes in general and administrative expenses in 2017 and 2016 were:

- Personnel expenses increased 21% and 6% in 2017 and 2016, respectively, versus the prior year. Excluding the impact of U.S. Employee Pension Plan Settlement Charge of $79 million recorded in 2015, personnel expense grew 10% for 2016 versus 2015. The 2017 and 2016 increases were driven by a higher number of employees to support our continued investment in the areas of real-time account payments, digital, services, data analytics and geographic expansion. The impact of acquisitions contributed 6 and 1 percentage points of growth for 2017 and 2016, respectively.

- Professional fees consist primarily of third-party services, legal costs to defend our outstanding litigation and the evaluation of regulatory developments that impact our industry and brand. The increase in 2017 was primarily due to merger and acquisition related consulting costs. The increase in 2016 was primarily due to higher legal costs to defend litigation.

- Data processing and telecommunication charges consist of expenses to support our global payments network infrastructure, expenses to operate and maintain our computer systems and other telecommunication systems. These expenses increased in both 2017 and 2016 due to capacity growth of our business and higher third-party processing costs.

- Foreign exchange activity includes gains and losses on foreign exchange derivative contracts and the impact of remeasurement of assets and liabilities denominated in foreign currencies. See Note 20 (Foreign Exchange Risk Management) to the consolidated financial statements

included in Part II, Item 8 for further discussion. During 2017, foreign exchange activity negatively impacted general and administrative expense growth by 2 percentage points versus the comparable period in 2016, due to greater losses from foreign exchange derivative contracts versus the prior year. During 2016, foreign exchange activity negatively impacted general and administrative expense growth by 4 percentage points versus the comparable period in 2015, due to the impact from foreign exchange derivative contracts and the lapping of balance sheet remeasurement gains in the prior year.

- Other expenses include costs to provide loyalty and rewards solutions, travel and meeting expenses and rental expense for our facilities and other miscellaneous charges. Other expenses increased 25% and 8% in 2017 and 2016, respectively, versus the prior year. In 2017, other expenses increased due to the impact of the Venezuelan Charge of $167 million. In 2016, other expenses increased primarily due to higher cardholder services and loyalty costs.

Advertising and Marketing

In 2017, advertising and marketing expenses increased 11% versus 2016, mainly due to higher marketing spend primarily related to Masterpass. Advertising and marketing expenses decreased 1% in 2016, mainly due to lower sponsorship promotions compared to 2015.

Depreciation and Amortization

Depreciation and amortization expenses increased 17% and 2% in 2017 and 2016, respectively, versus the prior year. The increase in 2017 was primarily due to the impact of acquisitions. In 2016, the increase was primarily due to higher depreciation from capital investments partially offset by certain intangibles becoming fully amortized.

Provision for Litigation Settlements

During 2017 and 2016, we recorded pre-tax charges of $15 million and $117 million related to litigations with merchants in Canada and the U.K., respectively. During 2015, we recorded a pre-tax charge of $61 million related to litigations with merchants in the U.K. See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Other Income (Expense)

Other income (expense) is comprised primarily of investment income, interest expense, our share of income (losses) from equity method investments and other gains and losses. Total other expense decreased $15 million to $100 million in 2017 versus $115 million in 2016 due to lower impairment charges taken on certain investments last year and a gain on an investment in the current year, partially offset by higher interest expense from debt issued in the fourth quarter of 2016. Total other expense decreased $5 million to $115 million in 2016 versus $120 million in 2015 due to lower impairment charges taken on certain investments and higher investment income in 2016, partially offset by higher interest expense from debt issued in 2015 and 2016.

Income Taxes

On December 22, 2017, in the U.S., the TCJA was signed into law. The TCJA, represents significant changes to the U.S. internal revenue code and, among other things:

- lowers the corporate income tax rate from 35% to 21%
- imposes a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax")
- provides for a 100% dividends received deduction on dividends from foreign affiliates
- requires a current inclusion in U.S. federal taxable income of earnings of foreign affiliates that are determined to be global intangible low taxed income or "GILTI"
- creates the base erosion anti-abuse tax, or "BEAT"
- provides for an effective tax rate of 13.125% for certain income derived from outside of the U.S. (referred to as foreign derived intangible income or "FDII")
- introduces further limitations on the deductibility of executive compensation
- permits 100% expensing of qualifying fixed assets acquired after September 27, 2017
- limits the deductibility of interest expense in certain situations

- eliminates the domestic production activities deduction

While the effective date of the law for most of the above provisions is January 1, 2018, GAAP requires the resulting tax effects be accounted for in the reporting period of enactment. The impact of the TCJA is discussed further below and in Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8.

The effective income tax rates for the years ended December 31, 2017, 2016 and 2015 were 40.0%, 28.1% and 23.2%, respectively.

The effective income tax rate for 2017 was higher than the effective income tax rate for 2016 primarily due to additional tax expense of $873 million attributable to the TCJA, which includes $825 million of provisional charges related to the Transition Tax, the remeasurement of our net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding the reinvestment of foreign earnings, as well as $48 million in additional tax expense due to a foregone foreign tax credit benefit on current year repatriations. Excluding the impact of the TCJA and other Special Items, the 2017 adjusted effective income tax rate improved by 1.3 percentage points to 26.8% from 28.1% in 2016 primarily due to a more favorable geographical mix of taxable earnings, partially offset by a lower U.S. foreign tax credit benefit.

The effective income tax rate for 2016 was higher than the effective income tax rate for 2015 primarily due to benefits associated with the impact of settlements with tax authorities in multiple jurisdictions in 2015, the lapping of a discrete benefit relating to

certain foreign taxes that became eligible to be claimed as credits in the United States in 2015, and a higher U.S. foreign tax credit benefit associated with the repatriation of current year foreign earnings in 2015. These items were partially offset by a more favorable geographic mix of taxable earnings in 2016.

The provision for income taxes differs from the amount of income tax determined by applying the U.S. federal statutory income tax rate of 35% to pretax income for the years ended December 31, as a result of the following:

	For the Years Ended December 31,					
	2017		2016		2015	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 6,522		$ 5,646		$ 4,958	
Federal statutory tax	2,283	35.0 %	1,976	35.0 %	1,735	35.0 %
State tax effect, net of federal benefit	43	0.7 %	22	0.4 %	27	0.5 %
Foreign earnings	(380)	(5.8%)	(188)	(3.3%)	(144)	(2.9%)
Impact of foreign tax credits [1]	(27)	(0.4%)	(141)	(2.5%)	(281)	(5.7%)
Impact of settlements with tax authorities	—	— %	—	— %	(147)	(2.9%)
Transition Tax	629	9.6 %	—	— %	—	— %
Remeasurement of U.S. deferred taxes	157	2.4 %	—	— %	—	— %
Other, net	(98)	(1.5%)	(82)	(1.5%)	(40)	(0.8%)
Income tax expense	$ 2,607	40.0 %	$ 1,587	28.1 %	$ 1,150	23.2 %

[1] Included within the impact of foreign tax credits are repatriation benefits of current year foreign earnings of $0 million, $116 million and $172 million, in addition to other foreign tax credit benefits which become eligible in the United States of $27 million, $25 million and $109 million for 2017, 2016 and 2015, respectively.

Our GAAP effective income tax rates for 2017, 2016 and 2015 were affected by the tax benefits related to the Special Items as previously discussed.

As of December 31, 2017, a provisional amount of the U.S. federal and state and local income taxes of $36 million has been provided on a substantial amount of our undistributed foreign earnings. This deferred tax charge has been established primarily on the estimated foreign exchange gain which will be recognized when such earnings are repatriated. We expect that foreign withholding taxes associated with these future repatriated earnings will not be material. Based upon the ongoing review of business requirements and capital needs of our non-U.S. subsidiaries, we believe a portion of these undistributed earnings that have already been subject to tax in the U.S. will be necessary to fund current and future growth of the related businesses and will remain indefinitely reinvested outside of the U.S. In 2018, we will complete our analysis of global working capital and cash needs to determine the amount we consider indefinitely reinvested. We will disclose such amount in the period in which such analysis is completed, as well as, if practicable, any potential tax cost that would arise if the amounts were remitted back to the U.S.

Our unrecognized tax benefits related to positions taken during the current and prior periods were $183 million and $169 million, as of December 31, 2017 and 2016, respectively, all of which would reduce our effective tax rate if recognized. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion. Within the next twelve months, we believe that the resolution of certain federal, foreign and state and local tax examinations is reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. It is not possible to provide a range of the potential change until the examinations progress further or the related statute of limitations expire. During 2015, our unrecognized tax benefits related to tax positions taken during the current and prior periods decreased by $183 million. This decrease was primarily due to settlements with tax authorities in multiple jurisdictions. Further, the information gained related to these matters was considered in measuring uncertain tax benefits recognized for the periods subsequent to the periods settled.

During 2014, we implemented an initiative to better align our legal entity and tax structure with our operational footprint outside of the U.S. This initiative resulted in a one-time taxable gain in Belgium relating to the transfer of intellectual property to a related foreign entity in the United Kingdom. We believe this improved alignment has resulted in greater flexibility and efficiency with regard to the global deployment of cash, as well as ongoing benefits in our effective income tax rate. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

In 2010, in connection with the expansion of our operations in the Asia Pacific, Middle East and Africa region, our subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL"), received an incentive grant from the Singapore Ministry of Finance. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

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Liquidity and Capital Resources

We rely on existing liquidity, cash generated from operations and access to capital to fund our global operations, credit and settlement exposure, capital expenditures, investments in our business and current and potential obligations. The following table summarizes the cash, cash equivalents, investments and credit available to us at December 31:

	2017	2016
	(in billions)	
Cash, cash equivalents and investments [1]	$ 7.8	$ 8.3
Unused line of credit	3.8	3.8

[1] Investments include available-for-sale securities and short-term held-to-maturity securities. At December 31, 2017 and 2016, this amount excludes restricted cash related to the U.S. merchant class litigation settlement of $546 million and $543 million, respectively. This amount also excludes restricted security deposits held for customers of $1 billion at December 31, 2017 and 2016.

Cash, cash equivalents and investments held by our foreign subsidiaries was $4.8 billion and $3.8 billion at December 31, 2017 and 2016, respectively, or 62% and 45% as of such dates. As described further in Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8, as a result of the enactment of the TCJA, among other things, we recorded a provisional amount of $629 million in tax expense due to the Transition Tax, which is payable over the next 8 years. In addition, we have changed our assertion regarding the indefinite reinvestment of foreign earnings outside the U.S. for certain of our foreign affiliates. As a result of this assertion change, we have recognized a provisional deferred tax liability of $36 million. It is our present intention to indefinitely reinvest a portion of our historic undistributed accumulated earnings associated with certain foreign subsidiaries outside of the United States. Based upon the ongoing review of business requirements and capital needs of our non-U.S. subsidiaries, we believe a portion of these undistributed earnings that have already been subject to tax in the U.S. will be necessary to fund current and future growth of the related businesses and will remain indefinitely reinvested outside of the U.S. In 2018, we will complete our analysis of global working capital and cash needs to determine the amount we consider indefinitely reinvested. We will disclose such amount in the period in which such analysis is completed, as well as, if practicable, any potential tax cost that would arise if the amounts were remitted back to the U.S.

Our liquidity and access to capital could be negatively impacted by global credit market conditions. We guarantee the settlement of many Mastercard, Cirrus and Maestro-branded transactions between our issuers and acquirers. See Note 19 (Settlement and Other Risk Management) to the consolidated financial statements in Part II, Item 8 for a description of these guarantees. Historically, payments under these guarantees have not been significant; however, historical trends may not be an indication of potential future losses. The risk of loss on these guarantees is specific to individual customers, but may also be driven significantly by regional or global economic conditions, including, but not limited to the health of the financial institutions in a country or region.

Our liquidity and access to capital could also be negatively impacted by the outcome of any of the legal or regulatory proceedings to which we are a party. For additional discussion of these and other risks facing our business, see our risk factor in “Risk Factors - Legal and Regulatory Risks” in Part I, Item 1A and Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8; and Part II, Item 7 (Business Environment).

Cash Flow

The table below shows a summary of the cash flows from operating, investing and financing activities for the years ended December 31:

	2017	2016	2015
		(in millions)	
Cash Flow Data:			
Net cash provided by operating activities	$ 5,555	$ 4,535	$ 4,101
Net cash used in investing activities	(1,779)	(1,167)	(715)
Net cash used in financing activities	(4,764)	(2,344)	(2,516)

Net cash provided by operating activities increased $1.0 billion in 2017 versus 2016, primarily due to higher net income as adjusted for non-cash items including deferred payments associated with the TCJA. Net cash provided by operating activities in 2016 versus 2015, increased by $434 million, primarily due to higher net income as adjusted for non-cash items and accrued expenses, partially offset by higher prepaid taxes.

Net cash used in investing activities increased $612 million in 2017 versus 2016, primarily due to acquisitions and investments in nonmarketable equity investments, partially offset by higher net proceeds of investment securities. Net cash used in investing activities increased $452 million in 2016 versus 2015, primarily due to lower sales and maturities of our investment securities, partially offset by cash used for acquisition activities in the prior year.

Net cash used in financing activities increased $2.4 billion in 2017 versus 2016, primarily due to proceeds from debt issued in the prior year, increased cash used in the repurchases of our Class A common stock and higher dividends paid. Net cash used in financing activities decreased $172 million in 2016 versus 2015, primarily due to higher proceeds from debt, partially offset by higher dividends paid.

The table below shows a summary of select balance sheet data at December 31:

	2017	2016
	(in millions)	
Balance Sheet Data:		
Current assets	$ 13,797	$ 13,228
Current liabilities	8,793	7,206
Long-term liabilities	6,968	5,785
Equity	5,497	5,684

We believe that our existing cash, cash equivalents and investment securities balances, our cash flow generating capabilities, our borrowing capacity and our access to capital resources are sufficient to satisfy our future operating cash needs, capital asset purchases, outstanding commitments and other liquidity requirements associated with our existing operations and potential obligations.

Debt and Credit Availability

Our long-term debt was $5.4 billion and $5.2 billion at December 31, 2017 and 2016, respectively, with the earliest maturity of principal occurring in 2019.

We have a commercial paper program (the "Commercial Paper Program"), under which we are authorized to issue up to $3.75 billion in outstanding notes, with maturities up to 397 days from the date of issuance. In conjunction with the Commercial Paper Program, we have entered into a committed unsecured $3.75 billion revolving credit facility (the "Credit Facility") which expires in October 2022.

Borrowings under the Commercial Paper Program and the Credit Facility are to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. In addition, we may borrow and repay amounts under these facilities for business continuity purposes. We had no borrowings outstanding under the Commercial Paper Program or the Credit Facility at December 31, 2017 and 2016.

See Note 12 (Debt) to the consolidated financial statements included in Part II, Item 8 for further discussion on the Notes, the Commercial Paper Program and the Credit Facility.

In June 2015, we filed a universal shelf registration statement to provide additional access to capital, if needed. Pursuant to the shelf registration statement, we may from time to time offer to sell debt securities, preferred stock, Class A common stock, depository shares, purchase contracts, units or warrants in one or more offerings.

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Dividends and Share Repurchases

We have historically paid quarterly dividends on our outstanding Class A common stock and Class B common stock. Subject to legally available funds, we intend to continue to pay a quarterly cash dividend. However, 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. The following table summarizes the annual, per share dividends paid in the years reflected:

	Years Ended December 31,		
	2017	2016	2015
	(in millions, except per share data)		
Cash dividend, per share	$ 0.88	$ 0.76	$ 0.64
Cash dividends paid	$ 942	$ 837	$ 727

On December 4, 2017, our Board of Directors declared a quarterly cash dividend of $0.25 per share paid on February 9, 2018 to holders of record on January 9, 2018 of our Class A common stock and Class B common stock. The aggregate amount of this dividend was $263 million.

On February 5, 2018, our Board of Directors declared a quarterly cash dividend of $0.25 per share payable on May 9, 2018 to holders of record on April 9, 2018 of our Class A common stock and Class B common stock. The aggregate amount of this dividend is estimated to be $263 million.

Repurchased shares of our common stock are considered treasury stock. The timing and actual number of additional shares repurchased will depend on a variety of factors, including the operating needs of the business, legal requirements, price and economic and market conditions. In December 2017, our Board of Directors approved a share repurchase program authorizing us to repurchase up to $4 billion of our Class A common stock. This program is effective after completion of the share repurchase program authorized in December 2016.

The following table summarizes our share repurchase authorizations of its Class A common stock through December 31, 2017, as well as historical purchases:

	Authorization Dates			
	December 2017	December 2016	December 2015	Total
	(in millions, except average price data)			
Board authorization	$ 4,000	$ 4,000	$ 4,000	$ 12,000
Remaining authorization at December 31, 2016	$ —	$ 4,000	$ 996	$ 4,996
Dollar-value of shares repurchased in 2017	$ —	$ 2,766	$ 996	$ 3,762
Remaining authorization at December 31, 2017	$ 4,000	$ 1,234	$ —	$ 5,234
Shares repurchased in 2017	—	21.0	9.1	30.1
Average price paid per share in 2017	$ —	$ 131.97	$ 109.16	$ 125.05

See Note 13 (Stockholders' Equity) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Off-Balance Sheet Arrangements

We have no off-balance sheet debt, other than lease arrangements and other commitments as presented in the Future Obligations table that follows.

Future Obligations

The following table summarizes our obligations as of December 31, 2017 that are expected to impact liquidity and cash flow in future periods. We believe we will be able to fund these obligations through cash generated from operations and our cash balances.

	Payments Due by Period				
	Total	2018	2019 - 2020	2021 - 2022	2023 and thereafter
			(in millions)		
Debt	$ 5,477	$ —	$ 500	$ 1,489	$ 3,488
Interest on debt	1,453	136	256	238	823
Capital leases	12	4	8	—	—
Operating leases	201	64	77	26	34
Other obligations [1]					
Sponsorship, licensing and other [2]	875	388	376	110	1
Employee benefits [3]	260	83	55	41	81
Transition Tax [4]	629	52	100	100	377
Redeemable non-controlling interests [5]	78	—	78	—	—
Total [6]	$ 8,985	$ 727	$ 1,450	$ 2,004	$ 4,804

1 The table does not include the $709 million provision as of December 31, 2017 related to litigation in the U.S. and the U.K. since the payments are not fixed and determinable. See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion. The table also does not include the $219 million provision as of December 31, 2017 related to the contingent consideration attributable to acquisitions made in 2017 (primarily based on the achievement of 2018 revenue targets) which are not fixed and determinable. See Note 5 (Fair Value and Investment Securities) to the consolidated financial statements included in Part II, Item 8 for further discussion.

2 Amounts primarily relate to sponsorships to promote the Mastercard brand. Future cash payments that will become due to our customers under agreements which provide pricing rebates on our standard fees and other incentives in exchange for transaction volumes are not included in the table because the amounts due are contingent on future performance. We have accrued $3.3 billion as of December 31, 2017 related to customer and merchant agreements.

3 Amounts relate to severance liabilities along with expected funding requirements for defined benefit pension and postretirement plans.

4 Amounts relate to the provisional U.S. tax liability on the Transition Tax on accumulated non-U.S. earnings of U.S entities. See Note 17 (Income Taxes) to the consolidated financial statements included in Part II, Item 8 for further discussion.

5 Amount relates to the fixed-price put option for the Vocalink remaining shareholders to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter. See Note 2 (Acquisitions) to the consolidated financial statements included in Part II, Item 8 for further discussion.

6 We have recorded a liability for unrecognized tax benefits of $183 million at December 31, 2017. Within the next twelve months, we believe that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. It is not possible to provide a range of the potential change until the examinations progress further or the related statute of limitations expire. These amounts have been excluded from the table since the settlement period of this liability cannot be reasonably estimated. The timing of these payments will ultimately depend on the progress of tax examinations with the various authorities.

Seasonality

We do not experience meaningful seasonality. No individual quarter in 2017, 2016 or 2015 accounted for more than 30% of net revenue.

Critical Accounting Estimates

The application of GAAP requires us to make estimates and assumptions about certain items and future events that directly affect our reported financial condition. We have established detailed policies and control procedures to provide reasonable assurance that the methods used to make estimates and assumptions are well controlled and are applied consistently from period to period. The accounting estimates and assumptions discussed in this section are those that we consider to be the most critical to its financial statements. An accounting estimate is considered critical if both (a) the nature of the estimate or assumption is material due to the levels of subjectivity and judgment involved, and (b) the impact within a reasonable range of outcomes of the estimate and assumption is material to our financial condition. Senior management has discussed the development, selection and disclosure of these estimates with the Audit Committee of our Board of Directors. Our significant accounting policies, including recent accounting pronouncements, are described in Note 1 (Summary of Significant Accounting Policies) to the consolidated financial statements included in Part II, Item 8.

Revenue Recognition

Application of the various accounting principles in GAAP related to the measurement and recognition of revenue requires us to make judgments and estimates. Specifically, complex arrangements with nonstandard terms and conditions may require significant contract interpretation to determine the appropriate accounting. Domestic assessment revenue requires an estimate of our customers' performance in order to recognize this revenue. Rebates and incentives are recorded as a reduction to gross revenue based on these estimates. We consider various factors in estimating customer performance, including a review of specific transactions, historical experience with that customer and market and economic conditions. Differences between actual results and our estimates are adjusted in the period the customer reports actual performance. If our customers' actual performance is not consistent with our estimates of their performance, net revenue may be materially different.

Loss Contingencies

We are currently involved in various claims and legal proceedings. We regularly review the status of each significant matter and assesses its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. Significant judgment is required in both the determination of probability and whether an exposure is reasonably estimable. Our judgments are subjective based on the status of the legal or regulatory proceedings, the merits of our defenses and consultation with in-house and outside legal counsel. Because of uncertainties related to these matters, accruals are based only on the best information available at the time. As additional information becomes available, we reassess the potential liability related to its pending claims and litigation and may revise its estimates. Due to the inherent uncertainties of the legal and regulatory process in the multiple jurisdictions in which we operate, our judgments may be materially different than the actual outcomes. See Note 18 (Legal and Regulatory Proceedings) to the consolidated financial statements included in Part II, Item 8 for further discussion.

Income Taxes

In calculating our effective income tax rate, we need to make estimates regarding the timing and amount of taxable and deductible items which will adjust the pretax income earned in various tax jurisdictions. Through our interpretation of local tax regulations, adjustments to pretax income for income earned in various tax jurisdictions are reflected within various tax filings. Although we believe that our estimates and judgments discussed herein are reasonable, actual results may be materially different than the estimated amounts.

We record a valuation allowance to reduce our deferred tax assets to the amount that is more likely than not to be realized. Significant judgment is required in determining the valuation allowance. We consider projected future taxable income and ongoing tax planning strategies in assessing the need for the valuation allowance. If it is determined that we are able to realize deferred tax assets in excess of the net carrying value or to the extent we are unable to realize a deferred tax asset, we would adjust the valuation allowance in the period in which such a determination is made, with a corresponding increase or decrease to earnings.

We record tax liabilities for uncertain tax positions taken, or expected to be taken, which may not be sustained or may only be partially sustained, upon examination by the relevant taxing authorities. We consider all relevant facts and current authorities in the tax law in assessing whether any benefit resulting from an uncertain tax position is more likely than not to be sustained

and, if so, how current law impacts the amount reflected within these financial statements. If upon examination, we realize a tax benefit which is not fully sustained or is more favorably sustained, this would decrease or increase earnings in the period. In certain situations, we will have offsetting tax credits or taxes in other jurisdictions.

We have changed our assertion regarding the indefinite reinvestment of foreign earnings outside the U.S. for certain of our foreign affiliates. As a result of the TCJA and the one-time deemed repatriation tax on untaxed accumulated foreign earnings, a provisional amount of U.S. federal and state and local income taxes have been provided on all of our undistributed foreign earnings. Future distributions from foreign affiliates from earnings which have not already been taxed in the U.S. will be eligible for a 100% dividends received deduction. Beginning in 2018, deferred taxes will be established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. Ultimately, the working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

On December 22, 2017, SEC staff issued Staff Accounting Bulletin No. 118 - Income Tax Accounting Implications of the Tax Cuts and Jobs Act ("SAB 118") which allows registrants to record provisional amounts during a measurement period, which is not to extend beyond one year. Accordingly, amounts recorded may require further adjustments due to evolving analysis and interpretations of law, including issuance by the Internal Revenue Service (the "IRS") and The Department of Treasury ("Treasury") of Notices, regulations and, potentially, direct discussions with Treasury, as well as interpretations of how accounting for income taxes should be applied to the TCJA. Consistent with SAB 118, we were able to make reasonable estimates and we have incorporated provisional amounts for the impact of the Transition Tax. This tax is on previously untaxed accumulated and current earnings and profits of our foreign subsidiaries. To compute the tax, we must determine the amount of post-1986 earnings and profits of relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. Further, we were able to make reasonable estimates and have recorded provisional amounts related to the remeasurement of our net deferred tax asset in the U.S. and the change in assertion regarding the indefinite reinvestment of foreign earnings. As with the Transition Tax, these amounts may require further adjustments during the measurement period due to evolving analysis and interpretations of law, including issuance by the IRS and Treasury of Notices and regulations, and, potentially, direct discussions with Treasury, as well as interpretations of how accounting for income taxes should be applied.

Valuation of Assets

The valuation of assets acquired in a business combination and asset impairment reviews require the use of significant estimates and assumptions. The acquisition method of accounting for business combinations requires us to estimate the fair value of assets acquired, liabilities assumed, and any non-controlling interest in the acquiree to properly allocate purchase price consideration. Impairment testing for assets, other than goodwill and indefinite-lived intangible assets, requires the allocation of cash flows to those assets or group of assets and if required, an estimate of fair value for the assets or group of assets.

We evaluate goodwill and indefinite-lived intangible assets for impairment on an annual basis or sooner if indicators of impairment exist. Goodwill is tested for impairment at the reporting unit level utilizing a quantitative assessment. We use the market capitalization for estimating the fair value of its reporting unit. If the fair value exceeds the carrying value, goodwill is not impaired. If the carrying value exceeds the fair value, then goodwill is impaired and the

excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate all relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. In performing the qualitative assessment, we consider relevant events and conditions, including but not limited to, macroeconomic trends, industry and market conditions, overall financial performance, cost factors, company-specific events, and legal and regulatory factors. If the qualitative assessment indicates that it is more likely than not that the fair value of the indefinite-lived intangible asset is less than their carrying amounts, we must perform a quantitative impairment test.

Our estimates in the valuation of these assets are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable. These valuations require the use of management's assumptions, which would not reflect unanticipated events and circumstances that may occur.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as interest rates, foreign currency exchange rates and equity price risk. Our exposure to market risk from changes in interest rates, foreign exchange rates and equity price risk is limited. Management establishes and oversees the implementation of policies governing our funding, investments and use of derivative financial instruments. We monitor risk exposures on an ongoing basis. The effect of a hypothetical 10% adverse change in foreign exchange rates could result in a fair value loss of approximately $109 million on our foreign currency derivative contracts outstanding at December 31, 2017 related to the hedging program. A 100 basis point adverse change in interest rates would not have a material impact on our investments at December 31, 2017 and 2016. In addition, there was no material equity price risk at December 31, 2017 or 2016.

Foreign Exchange Risk

Our settlement activities are subject to foreign exchange risk resulting from foreign exchange rate fluctuations. This risk is typically limited to the one business day between setting the foreign exchange rates and clearing the financial transactions. We enter into foreign currency contracts to manage risk associated with anticipated receipts and disbursements which are either transacted in a non-functional currency or valued based on a currency other than the functional currencies of the entity.

We may also enter into foreign currency derivative contracts to offset possible changes in value due to foreign exchange fluctuations of earnings, assets and liabilities denominated in currencies other than the functional currency of the entity. The objective of these activities is to reduce our exposure to transaction gains and losses resulting from fluctuations of foreign currencies against our functional and reporting currencies, principally the U.S. dollar and euro.

Foreign currency exposures are managed together through our foreign exchange risk management activities, which are discussed further in Note 20 (Foreign Exchange Risk Management) to the consolidated financial statements included in Part II, Item 8. The terms of the forward contracts are generally less than 18 months.

As of December 31, 2017, the majority of derivative contracts to hedge foreign currency fluctuations had been entered into with our customers. Our derivative contracts are summarized below:

	December 31, 2017		December 31, 2016	
	Notional	Estimated Fair Value	Notional	Estimated Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 27	$ —	$ 37	$ (2)
Commitments to sell foreign currency	968	(26)	777	18
Options to sell foreign currency	27	2	—	—

We also use foreign currency denominated debt to hedge a portion of our net investment in foreign operations against adverse movements in exchange rates, with changes in the translated value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). We have designated our euro-denominated debt as a

net investment hedge for a portion of our net investment in European foreign operations. Our euro-denominated debt is vulnerable to changes in the euro to U.S. dollar exchange rates. The principal amounts of our euro-denominated debt as well as the effective interest rates and scheduled annual maturities of the principal is included in Note 12 (Debt) to the consolidated financial statements included in Part II, Item 8.

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Interest Rate Risk

Our interest rate sensitive assets are our investments in fixed income securities, which we generally hold as available-for-sale investments. Our policy is to invest in high quality securities, while providing adequate liquidity and maintaining diversification to avoid significant exposure. The fair value and maturity distribution of our available-for-sale investments for fixed income securities as of December 31 was as follows:

			Maturity					
Financial Instrument	**Summary Terms**	**Fair Market Value at December 31, 2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023 and there-after**
			(in millions)					
Municipal securities	Fixed / Variable Interest	$ 17	$ 12	$ 5	$ —	$ —	$ —	$ —
Government and agency securities	Fixed / Variable Interest	185	87	59	16	23	—	—
Corporate securities	Fixed / Variable Interest	876	212	277	287	76	23	1
Asset-backed securities	Fixed / Variable Interest	70	3	24	35	8	—	—
Total		$ 1,148	$ 314	$ 365	$ 338	$ 107	$ 23	$ 1

			Maturity					
Financial Instrument	**Summary Terms**	**Fair Market Value at December 31, 2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022 and there-after**
			(in millions)					
Municipal securities	Fixed / Variable Interest	$ 59	$ 46	$ 10	$ 3	$ —	$ —	$ —
Government and agency securities	Fixed / Variable Interest	166	72	64	4	—	21	5
Corporate securities	Fixed / Variable Interest	855	317	220	180	119	19	—
Asset-backed securities	Fixed / Variable Interest	80	2	20	49	7	2	—
Total		$ 1,160	$ 437	$ 314	$ 236	$ 126	$ 42	$ 5

We also have time deposits that are classified as held-to-maturity securities. At December 31, 2017 and 2016, the cost which approximates fair value, of our short-term held-to-maturity securities was $700 million and $452 million, respectively. In addition, at December 31, 2016, we held $61 million of long-term held-to-maturity securities. We did not hold any long-term held-to-maturity securities at December 31, 2017.

At December 31, 2017, we have U.S. dollar-denominated and euro-denominated debt, which is subject to interest rate risk. The principal amounts of this debt as well as the effective interest rates and scheduled annual maturities of the principal is included in Note 12 (Debt) to the consolidated financial statements included in Part II, Item 8. See “Future Obligations” for estimated interest payments due by period relating to the U.S. dollar-denominated and euro-denominated debt.

At December 31, 2017, we have the Commercial Paper Program and the Credit Facility which provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by our customers. Borrowing rates under the Commercial Paper Program are based on market conditions. Borrowing rates under the Credit Facility are variable rates, which are applied to the borrowing based on terms and conditions set forth in the agreement. See Note 12 (Debt) to the consolidated financial statements in Part II, Item 8 for additional information on the Credit Facility and the Commercial Paper Program. We had no borrowings under the Commercial Paper Program or the Credit Facility at December 31, 2017 and 2016.

Equity Price Risk

We did not have significant equity price risk as of December 31, 2017 and 2016.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MASTERCARD INCORPORATED

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Mastercard Incorporated	
As of December 31, 2017 and 2016 and for the years ended December 31, 2017, 2016 and 2015	
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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Mastercard Incorporated ("Mastercard") is responsible for establishing and maintaining adequate internal control over financial reporting. 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 reporting purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. As required by Section 404 of the Sarbanes-Oxley Act of 2002, management has assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2017. In making its assessment, management has utilized the criteria set forth in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that, based on its assessment, Mastercard's internal control over financial reporting was effective as of December 31, 2017. The effectiveness of Mastercard's internal control over financial reporting as of December 31, 2017 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears on the next page.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
of Mastercard Incorporated:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Mastercard Incorporated and its subsidiaries as of December 31, 2017 and 2016 and the related consolidated statements of operations, comprehensive income, changes in equity and cash flows for each of the three years in the period ended December 31, 2017, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (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, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

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 in the 2017 Annual Report under Item 8 on page 58. 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.

/s/ PricewaterhouseCoopers LLP

New York, New York
February 14, 2018

We have served as the Company's auditor since 1989.

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MASTERCARD INCORPORATED
CONSOLIDATED BALANCE SHEET

	December 31,	
	2017	2016
	(in millions, except per share data)	
ASSETS		
Cash and cash equivalents	$ 5,933	$ 6,721
Restricted cash for litigation settlement	546	543
Investments	1,849	1,614
Accounts receivable	1,969	1,416
Settlement due from customers	1,375	1,093
Restricted security deposits held for customers	1,085	991
Prepaid expenses and other current assets	1,040	850
Total Current Assets	13,797	13,228
Property, plant and equipment, net	829	733
Deferred income taxes	250	307
Goodwill	3,035	1,756
Other intangible assets, net	1,120	722
Other assets	2,298	1,929
Total Assets	$ 21,329	$ 18,675
LIABILITIES, REDEEMABLE NON-CONTROLLING INTERESTS AND EQUITY		
Accounts payable	$ 933	$ 609
Settlement due to customers	1,343	946
Restricted security deposits held for customers	1,085	991
Accrued litigation	709	722
Accrued expenses	3,931	3,318
Other current liabilities	792	620
Total Current Liabilities	8,793	7,206
Long-term debt	5,424	5,180
Deferred income taxes	106	81
Other liabilities	1,438	524
Total Liabilities	15,761	12,991
Commitments and Contingencies		
Redeemable Non-controlling Interests	71	—
Stockholders' Equity		
Class A common stock, $0.0001 par value; authorized 3,000 shares, 1,382 and 1,374 shares issued and 1,040 and 1,062 outstanding, respectively	—	—
Class B common stock, $0.0001 par value; authorized 1,200 shares, 14 and 19 issued and outstanding, respectively	—	—
Additional paid-in-capital	4,365	4,183
Class A treasury stock, at cost, 342 and 312 shares, respectively	(20,764)	(17,021)
Retained earnings	22,364	19,418

Accumulated other comprehensive income (loss)	(497)	(924)
Total Stockholders' Equity	5,468	5,656
Non-controlling interests	29	28
Total Equity	5,497	5,684
Total Liabilities, Redeemable Non-controlling Interests and Equity	$ 21,329	$ 18,675

The accompanying notes are an integral part of these consolidated financial statements.

MASTERCARD INCORPORATED

CONSOLIDATED STATEMENT OF OPERATIONS

	For the Years Ended December 31,		
	2017	2016	2015
	(in millions, except per share data)		
Net Revenue	$ 12,497	$ 10,776	$ 9,667
Operating Expenses			
General and administrative	4,526	3,714	3,341
Advertising and marketing	898	811	821
Depreciation and amortization	436	373	366
Provision for litigation settlements	15	117	61
Total operating expenses	5,875	5,015	4,589
Operating income	6,622	5,761	5,078
Other Income (Expense)			
Investment income	56	43	25
Interest expense	(154)	(95)	(61)
Other income (expense), net	(2)	(63)	(84)
Total other income (expense)	(100)	(115)	(120)
Income before income taxes	6,522	5,646	4,958
Income tax expense	2,607	1,587	1,150
Net Income	$ 3,915	$ 4,059	$ 3,808
Basic Earnings per Share	$ 3.67	$ 3.70	$ 3.36
Basic Weighted-Average Shares Outstanding	1,067	1,098	1,134
Diluted Earnings per Share	$ 3.65	$ 3.69	$ 3.35
Diluted Weighted-Average Shares Outstanding	1,072	1,101	1,137

The accompanying notes are an integral part of these consolidated financial statements.

MASTERCARD INCORPORATED
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	For the Years Ended December 31,		
	2017	2016	2015
		(in millions)	
Net Income	$ 3,915	$ 4,059	$ 3,808
Other comprehensive income (loss):			
Foreign currency translation adjustments	565	(275)	(460)
Income tax effect	2	(11)	27
Foreign currency translation adjustments, net of income tax effect	567	(286)	(433)
Translation adjustments on net investment hedge	(236)	60	(40)
Income tax effect	83	(22)	14
Translation adjustments on net investment hedge, net of income tax effect	(153)	38	(26)
Defined benefit pension and other postretirement plans	17	(1)	(19)
Income tax effect	(2)	—	7
Defined benefit pension and other postretirement plans, net of income tax effect	15	(1)	(12)
Reclassification adjustment for defined benefit pension and other postretirement plans	(2)	(1)	80
Income tax effect	1	—	(29)
Reclassification adjustment for defined benefit pension and other postretirement plans, net of income tax effect	(1)	(1)	51
Investment securities available-for-sale	(3)	3	(11)
Income tax effect	2	(1)	—
Investment securities available-for-sale, net of income tax effect	(1)	2	(11)
Reclassification adjustment for investment securities available-for-sale	—	—	15
Income tax effect	—	—	—
Reclassification adjustment for investment securities available-for-sale, net of income tax effect	—	—	15
Other comprehensive income (loss), net of income tax effect	427	(248)	(416)
Comprehensive Income	$ 4,342	$ 3,811	$ 3,392

The accompanying notes are an integral part of these consolidated financial statements.

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MASTERCARD INCORPORATED
CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

	Common Stock			Accumulated Other Comprehensive Income (Loss)	Additional Paid-In Capital	Class A Treasury Stock	Non-Controlling Interests	Total
	Class A	Class B	Retained Earnings					
	(in millions, except per share data)							
Balance at December 31, 2014	$ —	$ —	$ 13,169	$ (260)	$ 3,876	$ (9,995)	$ 34	$ 6,824
Net income	—	—	3,808	—	—	—	—	3,808
Activity related to non-controlling interests	—	—	—	—	—	—	—	—
Other comprehensive income (loss), net of tax	—	—	—	(416)	—	—	—	(416)
Cash dividends declared on Class A and Class B common stock, $0.67 per share	—	—	(755)	—	—	—	—	(755)
Purchases of treasury stock	—	—	—	—	—	(3,532)	—	(3,532)
Share-based payments	—	—	—	—	128	5	—	133
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2015	—	—	16,222	(676)	4,004	(13,522)	34	6,062
Net income	—	—	4,059	—	—	—	—	4,059
Activity related to non-controlling interests	—	—	—	—	—	—	(6)	(6)
Other comprehensive income (loss), net of tax	—	—	—	(248)	—	—	—	(248)
Cash dividends declared on Class A and Class B common stock, $0.79 per share	—	—	(863)	—	—	—	—	(863)
Purchases of treasury stock	—	—	—	—	—	(3,503)	—	(3,503)
Share-based payments	—	—	—	—	179	4	—	183
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2016	—	—	19,418	(924)	4,183	(17,021)	28	5,684
Net income	—	—	3,915	—	—	—	—	3,915
	—	—	—	—	—	—	1	1

Activity related to non-controlling interests								
Other comprehensive income (loss), net of tax	—	—	—	427	—	—	—	427
Cash dividends declared on Class A and Class B common stock, $0.91 per share	—	—	(969)	—	—	—	—	(969)
Purchases of treasury stock	—	—	—	—	—	(3,747)	—	(3,747)
Share-based payments	—	—	—	—	182	4	—	186
Conversion of Class B to Class A common stock	—	—	—	—	—	—	—	—
Balance at December 31, 2017	$ —	$ —	$ 22,364	$ (497)	$4,365	$ (20,764)	$ 29	$ 5,497

The accompanying notes are an integral part of these consolidated financial statements.

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MASTERCARD INCORPORATED

CONSOLIDATED STATEMENT OF CASH FLOWS

	For the Years Ended December 31,		
	2017	2016	2015
		(in millions)	
Operating Activities			
Net income	$ 3,915	$ 4,059	$ 3,808
Adjustments to reconcile net income to net cash provided by operating activities:			
Amortization of customer and merchant incentives	1,001	860	764
Depreciation and amortization	437	373	366
Share-based compensation	176	149	122
Tax benefit for share-based payments	—	(48)	(42)
Deferred income taxes	86	(20)	(16)
Venezuela charge	167	—	—
Other	59	29	(81)
Changes in operating assets and liabilities:			
Accounts receivable	(445)	(338)	(35)
Settlement due from customers	(281)	(10)	(98)
Prepaid expenses	(1,402)	(1,073)	(802)
Accrued litigation and legal settlements	(15)	17	(63)
Accounts payable	290	145	49
Settlement due to customers	394	66	(186)
Accrued expenses	589	520	325
Long-term taxes payable	577	—	—
Net change in other assets and liabilities	7	(194)	(10)
Net cash provided by operating activities	5,555	4,535	4,101
Investing Activities			
Purchases of investment securities available-for-sale	(714)	(957)	(974)
Purchases of investments held-to-maturity	(1,145)	(867)	(918)
Proceeds from sales of investment securities available-for-sale	304	277	703
Proceeds from maturities of investment securities available-for-sale	500	339	542
Proceeds from maturities of investments held-to-maturity	1,020	456	857
Purchases of property, plant and equipment	(300)	(215)	(177)
Capitalized software	(123)	(167)	(165)
Acquisition of businesses, net of cash acquired	(1,175)	—	(584)
Investment in nonmarketable equity investments	(147)	(31)	2
Other investing activities	1	(2)	(1)
Net cash used in investing activities	(1,779)	(1,167)	(715)
Financing Activities			
Purchases of treasury stock	(3,762)	(3,511)	(3,518)
Proceeds from debt	—	1,972	1,735
Payment of debt	(64)	—	—
Dividends paid	(942)	(837)	(727)
Tax benefit for share-based payments	—	48	42
Tax withholdings related to share-based payments	(47)	(51)	(58)
Cash proceeds from exercise of stock options	57	37	27

Other financing activities	(6)	(2)	(17)
Net cash used in financing activities	(4,764)	(2,344)	(2,516)
Effect of exchange rate changes on cash and cash equivalents	200	(50)	(260)
Net (decrease) increase in cash and cash equivalents	(788)	974	610
Cash and cash equivalents - beginning of period	6,721	5,747	5,137
Cash and cash equivalents - end of period	$ 5,933	$ 6,721	$ 5,747

The accompanying notes are an integral part of these consolidated financial statements.

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MASTERCARD INCORPORATED
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. *Summary of Significant Accounting Policies*

Organization

Mastercard Incorporated and its consolidated subsidiaries, including Mastercard International Incorporated ("Mastercard International" and together with Mastercard Incorporated, "Mastercard" or the "Company"), is a technology company in the global payments industry that connects consumers, financial institutions, merchants, governments, digital partners, businesses and other organizations worldwide, enabling them to use electronic forms of payment instead of cash and checks. The Company facilitates the switching (authorization, clearing and settlement) of payment transactions, and delivers related products and services. The Company makes payments easier and more efficient by creating a wide range of payment solutions and services through a family of well-known brands, including Mastercard®, Maestro® and Cirrus®. The recent acquisition of VocaLink Holdings Limited ("Vocalink") has expanded the Company's capability to process automated clearing house ("ACH") transactions, among other things. As a multi-rail network, Mastercard now offers customers one partner to turn to for their payment needs for both domestic and cross-border transactions. The Company also provides value-added offerings such as safety and security products, information services and consulting, loyalty and reward programs and issuer and acquirer processing. The Company's networks are designed to ensure safety and security for the global payments system.

A typical transaction on the Company's core network involves four participants in addition to the Company: account holder (an individual who holds a card or uses another device enabled for payment), merchant, issuer (the account holders' financial institution) and acquirer (the merchant's financial institution). The Company does not issue cards, extend credit, determine or receive revenue from interest rates or other fees charged to account holders by issuers, or establish the rates charged by acquirers in connection with merchants' acceptance of the Company's branded products. In most cases, account holder relationships belong to, and are managed by, the Company's financial institution customers.

Mastercard generates revenues from assessing its customers based on the gross dollar volume ("GDV") of activity on the products that carry its brands, from the fees charged to customers for providing transaction processing and from other payment-related products and services.

Significant Accounting Policies

Consolidation and basis of presentation - The consolidated financial statements include the accounts of Mastercard and its majority-owned and controlled entities, including any variable interest entities ("VIEs") for which the Company is the primary beneficiary. Investments in VIEs for which the Company is not considered the primary beneficiary are not consolidated and are accounted for as equity method or cost method investments and recorded in other assets on the consolidated balance sheet. At December 31, 2017 and 2016, there were no significant VIEs which required consolidation and the investments were not considered material to the consolidated financial statements. Intercompany transactions and balances have been eliminated in consolidation. Certain prior period amounts have been reclassified to conform to the 2017 presentation. The Company follows accounting principles generally accepted in the United States of America ("GAAP").

Prior to December 31, 2017, the Company included the financial results from its Venezuela subsidiaries in the consolidated financial statements using the consolidation method of accounting. Due to increasing foreign exchange regulations in Venezuela restricting access to U.S. dollars, an other-than-temporary lack of exchangeability between the Venezuelan

bolivar and U.S. dollar has impacted the ability to manage risk, process cross-border transactions and satisfy U.S. dollar denominated liabilities related to operations in Venezuela. As a result of these factors, Mastercard concluded that effective December 31, 2017, it did not meet the accounting criteria for consolidation of these Venezuelan subsidiaries, and therefore would transition to the cost method of accounting as of December 31, 2017. This accounting change resulted in a pre-tax charge of $167 million ($108 million after tax, or $0.10 per diluted share) included in general and administrative expenses in the consolidated statement of operations.

Non-controlling interests represent the equity interest not owned by the Company and are recorded for consolidated entities in which the Company owns less than 100% of the interests. Changes in a parent's ownership interest while the parent retains its controlling interest are accounted for as equity transactions, and upon loss of control, retained ownership interests are remeasured at fair value, with any gain or loss recognized in earnings. For 2017, 2016 and 2015, losses from non-controlling interests were de minimis and, as a result, amounts are included on the consolidated statement of operations within other income (expense).

The Company accounts for investments in common stock or in-substance common stock under the equity method of accounting when it has the ability to exercise significant influence over the investee, generally when it holds between 20% and 50% ownership

in the entity. In addition, investments in flow-through entities such as limited partnerships and limited liability companies are also accounted for under the equity method when the Company has the ability to exercise significant influence over the investee, generally when the investment ownership percentage is equal to or greater than 5% of the outstanding ownership interest. The excess of the cost over the underlying net equity of investments accounted for under the equity method is allocated to identifiable tangible and intangible assets and liabilities based on fair values at the date of acquisition. The amortization of the excess of the cost over the underlying net equity of investments and Mastercard's share of net earnings or losses of entities accounted for under the equity method of accounting is included in other income (expense) on the consolidated statement of operations.

The Company accounts for investments in common stock or in-substance common stock under the cost method of accounting when it does not exercise significant influence, generally when it holds less than 20% ownership in the entity or when the interest in a limited partnership or limited liability company is less than 5% and the Company has no significant influence over the operation of the investee. Investments in companies that Mastercard does not control, but that are not in the form of common stock or in-substance common stock, are also accounted for under the cost method of accounting. Investments for which the equity method or cost method of accounting is used are recorded in other assets on the consolidated balance sheet.

Use of estimates - The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods. Future events and their effects cannot be predicted with certainty; accordingly, accounting estimates require the exercise of judgment. The accounting estimates used in the preparation of the Company's consolidated financial statements may change as new events occur, as more experience is acquired, as additional information is obtained and as the Company's operating environment changes. Actual results may differ from these estimates.

Revenue recognition - Revenue is recognized when persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price is fixed or determinable, and collectibility is reasonably assured. Revenue is generally derived from transactional information accumulated by Mastercard's systems or reported by customers. The Company's revenue is based on the volume of activity on cards that carry the Company's brands, the number of transactions processed or the nature of other payment-related products and services.

Volume-based revenue (domestic assessments and cross-border volume fees) is recorded as revenue in the period it is earned, which is when the related volume is generated on the cards. Certain volume-based revenue is based upon information reported by customers. Transaction-based revenue is primarily based on the number and type of transactions and is recognized as revenue in the same period as the related transactions occur. Other payment-related products and services are recognized as revenue in the same period as the related transactions occur or services are rendered.

Mastercard has business agreements with certain customers that provide for rebates or other support when the customers meet certain volume hurdles as well as other support incentives such as marketing, which are tied to performance. Rebates and incentives are recorded as a reduction of revenue either when the revenue is recognized by the Company or at the time the rebate or incentive is earned by the customer. Rebates and incentives are calculated based upon estimated performance and the terms of the related business

agreements. In addition, Mastercard may make payments to a customer directly related to entering into an agreement, which are generally deferred and amortized over the life of the agreement on a straight-line basis.

Business combinations - The Company accounts for business combinations under the acquisition method of accounting. The Company measures the tangible and intangible identifiable assets acquired, liabilities assumed, and any non-controlling interest in the acquiree, at their fair values at the acquisition date. Acquisition-related costs are expensed as incurred and are included in general and administrative expenses. Any excess of purchase price over the fair value of net assets acquired, including identifiable intangible assets, is recorded as goodwill.

Goodwill and other intangible assets - Indefinite-lived intangible assets consist of goodwill, which represents the synergies expected to arise after the acquisition date and the assembled workforce, and customer relationships. Finite-lived intangible assets consist of capitalized software costs, trademarks, tradenames, customer relationships and other intangible assets. Intangible assets with finite useful lives are amortized over their estimated useful lives, on a straight-line basis, which range from one to twenty years. Capitalized software includes internal and external costs incurred directly related to the design, development and testing phases of each capitalized software project.

Impairment of assets - Goodwill and indefinite-lived intangible assets are not amortized and are tested annually for impairment in the fourth quarter, or sooner when circumstances indicate an impairment may exist. The impairment evaluation for goodwill utilizes a quantitative assessment. If the fair value of a reporting unit exceeds the carrying value, goodwill is not impaired. If the

fair value of the reporting unit is less than its carrying value, then goodwill is impaired and the excess of the reporting unit's carrying value over the fair value is recognized as an impairment charge. Impairment charges, if any, are recorded in general and administrative expenses on the consolidated statement of operations.

The impairment test for indefinite-lived intangible assets consists of a qualitative assessment to evaluate relevant events and circumstances that could affect the significant inputs used to determine the fair value of indefinite-lived intangible assets. If the qualitative assessment indicates that it is more likely than not that indefinite-lived intangible assets are impaired, then a quantitative assessment is required.

Long-lived assets, other than goodwill and indefinite-lived intangible assets, are tested for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable. If the carrying value of the asset cannot be recovered from estimated future cash flows, undiscounted and without interest, the fair value of the asset is calculated using the present value of estimated net future cash flows. If the carrying amount of the asset exceeds its fair value, an impairment is recorded.

Litigation - The Company is a party to certain legal and regulatory proceedings with respect to a variety of matters. The Company evaluates the likelihood of an unfavorable outcome of all legal or regulatory proceedings to which it is a party and accrues a loss contingency when the loss is probable and reasonably estimable. These judgments are subjective based on the status of the legal or regulatory proceedings, the merits of its defenses and consultation with in-house and external legal counsel. Legal costs are expensed as incurred and recorded in general and administrative expenses on the consolidated statement of operations.

Settlement and other risk management - Mastercard's rules guarantee the settlement of many of the Mastercard, Cirrus and Maestro-branded transactions between its issuers and acquirers. Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days. In the event that Mastercard effects a payment on behalf of a failed customer, Mastercard may seek an assignment of the underlying receivables of the failed customer. Customers may be charged for the amount of any settlement loss incurred during the ordinary course activities of the Company.

The Company also enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable.

The Company accounts for each of its guarantees by recording the guarantee at its fair value at the inception or modification date through earnings.

Income taxes - The Company follows an asset and liability based approach in accounting for income taxes as required under GAAP. Deferred income tax assets and liabilities are recorded to reflect the tax consequences on future years of temporary differences between the financial statement carrying amounts and income tax bases of assets and liabilities. Deferred income taxes are displayed separately as noncurrent assets and liabilities on the consolidated balance sheet. Valuation allowances are provided against assets which are not

more likely than not to be realized. The Company recognizes all material tax positions, including uncertain tax positions in which it is more likely than not that the position will be sustained based on its technical merits and if challenged by the relevant taxing authorities. At each balance sheet date, unresolved uncertain tax positions are reassessed to determine whether subsequent developments require a change in the amount of recognized tax benefit. The allowance for uncertain tax positions is recorded in other current and noncurrent liabilities on the consolidated balance sheet.

The Company records interest expense related to income tax matters as interest expense in its consolidated statement of operations. The Company includes penalties related to income tax matters in the income tax provision.

On December 22, 2017, in the U.S., "An Act to provide for reconciliation pursuant to titles II and V of the concurrent resolution on the budget for fiscal year 2018", a comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "TCJA"), was enacted into law. Prior to the enactment of the TCJA, the Company did not historically provide for U.S. federal income tax and foreign withholding taxes on undistributed earnings from non-U.S. subsidiaries as such earnings were intended to be reinvested indefinitely outside of the U.S. The foreign earnings that the Company had repatriated to the United States, for periods prior to the enactment of the TCJA, were limited to the amount of current year foreign earnings and not made out of historic undistributed accumulated earnings. As of December 31, 2017, the Company has changed its assertion regarding the indefinite reinvestment of foreign earnings outside the U.S. for certain foreign affiliates. As a result of the TCJA and a one-time

deemed repatriation tax on untaxed accumulated foreign earnings, a provisional amount of U.S. federal and state and local income taxes have been provided on all undistributed foreign earnings. Future distributions from foreign affiliates from earnings which have not already been taxed in the U.S. will be eligible for a 100% dividends received deduction. Beginning in 2018, deferred taxes will be established on the estimated foreign exchange gains or losses for foreign earnings that are not considered permanently reinvested, which will be recognized through cumulative translation adjustments as incurred. The working capital requirements of foreign affiliates will determine the amount of cash to be remitted from respective jurisdictions.

Cash and cash equivalents - Cash and cash equivalents include certain investments with daily liquidity and with a maturity of three months or less from the date of purchase. Cash equivalents are recorded at cost, which approximates fair value.

Restricted cash - The Company classifies cash and cash equivalents as restricted when the cash is unavailable for withdrawal or usage for general operations. Restrictions may include legally restricted deposits, contracts entered into with others, or the Company's statements of intention with regard to particular deposits.

Fair value - The Company measures certain financial assets and liabilities at fair value on a recurring basis by estimating the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. The Company classifies these recurring fair value measurements into a three-level hierarchy ("Valuation Hierarchy").

The Valuation Hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. A financial instrument's categorization within the Valuation Hierarchy is based upon the lowest level of input that is significant to the fair value measurement. The three levels of the Valuation Hierarchy are as follows:

- Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets and inputs that are observable for the asset or liability.
- Level 3 - inputs to the valuation methodology are unobservable and cannot be directly corroborated by observable market data.

Certain assets are measured at fair value on a nonrecurring basis. The Company's assets measured at fair value on a nonrecurring basis include property, plant and equipment, nonmarketable equity investments, goodwill and other intangible assets. These assets are subject to impairment evaluation and if impaired, would be adjusted to fair value.

The valuation methods for goodwill and other intangible assets acquired in business combinations involve assumptions concerning comparable company multiples, discount rates, growth projections and other assumptions of future business conditions. The Company uses various valuation techniques to determine fair value, primarily discounted cash flows analysis, relief-from-royalty, and multi-period excess earnings for estimating the fair value of its intangible assets. The Company's uses market capitalization for estimating the fair value of its reporting unit. As the assumptions employed to measure these assets are based on

management's judgment using internal and external data, these fair value determinations are classified in Level 3 of the Valuation Hierarchy.

Contingent consideration - Certain business combinations involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones. These liabilities are classified within Level 3 of the Valuation Hierarchy as the inputs used to measure fair value are unobservable and require management's judgment. The fair value of the contingent consideration at the acquisition date and subsequent periods is determined utilizing an income approach based on a Monte Carlo technique and is recorded in other current liabilities and other liabilities on the consolidated balance sheet. Changes to projected performance milestones of the acquired businesses could result in a higher or lower contingent consideration liability. Measurement period adjustments, if any, to the preliminary estimated fair value of contingent consideration as of the acquisition date will be recorded to goodwill, however, changes in fair value as a result of updated assumptions will be recorded in general and administrative expenses on the consolidated statement of operations.

Investment securities - The Company classifies investments in debt and equity securities as available-for-sale. Available-for-sale securities that are available to meet the Company's current operational needs are classified as current assets. Available-for-sale securities that are not available to meet the Company's current operational needs are classified as non-current assets on the consolidated balance sheet.

The investments in debt and equity securities are carried at fair value, with unrealized gains and losses, net of applicable taxes, recorded as a separate component of accumulated other comprehensive income (loss) on the consolidated statement of comprehensive income. Net realized gains and losses on debt and equity securities are recognized in investment income on the consolidated statement of operations. The specific identification method is used to determine realized gains and losses.

The Company evaluates its debt and equity securities for other-than-temporary impairment on an ongoing basis. When there has been a decline in fair value of a debt or equity security below the amortized cost basis, the Company recognizes an other-than-temporary impairment if: (1) it has the intent to sell the security; (2) it is more likely than not that it will be required to sell the security before recovery of the amortized cost basis; or (3) it does not expect to recover the entire amortized cost basis of the security. The credit loss component of the impairment would be recognized in other income (expense), net on the consolidated statement of operations while the non-credit loss would remain in accumulated other comprehensive income (loss) until realized from a sale or an other-than-temporary impairment.

The Company classifies time deposits with maturities greater than 3 months as held-to-maturity. Held-to-maturity securities that mature within one year are classified as current assets while held-to-maturity securities with maturities of greater than one year are classified as non-current assets. Time deposits are carried at amortized cost on the consolidated balance sheet and are intended to be held until maturity.

Derivative financial instruments - The Company records all derivatives at fair value. The Company's foreign exchange forward and option contracts are included in Level 2 of the Valuation Hierarchy as the fair value of these contracts are based on inputs, which are observable based on broker quotes for the same or similar instruments. Changes in the fair value of derivative instruments are reported in current-period earnings. The Company's derivative contracts hedge foreign exchange risk and are not entered into for trading or speculative purposes. The Company did not have any derivative contracts accounted for under hedge accounting as of December 31, 2017 and 2016.

The Company has numerous investments in its foreign subsidiaries. The net assets of these subsidiaries are exposed to volatility in foreign currency exchange rates. The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates. The effective portion of the foreign currency gains and losses related to the foreign currency denominated debt are reported in accumulated other comprehensive income (loss) on the consolidated balance sheet as part of the cumulative translation adjustment component of equity. The ineffective portion, if any, is recognized in earnings in the current period. The Company evaluates the effectiveness of the net investment hedge each quarter.

Settlement due from/due to customers - The Company operates systems for clearing and settling payment transactions among customers. Net settlements are generally cleared daily among customers through settlement cash accounts by wire transfer or other bank clearing means. However, some transactions may not settle until subsequent business days, resulting in amounts due from and due to customers.

Restricted security deposits held for customers - Mastercard requires collateral from certain customers for settlement of their transactions. The majority of collateral for settlement is in the form of standby letters of credit and bank guarantees which are not recorded on the consolidated balance sheet. Additionally, Mastercard holds cash deposits and certificates of

deposit from certain customers of Mastercard as collateral for settlement of their transactions, which are recorded as assets on the consolidated balance sheet. These assets are fully offset by corresponding liabilities included on the consolidated balance sheet.

Property, plant and equipment - Property, plant and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the assets. Depreciation of leasehold improvements and amortization of capital leases is included in depreciation and amortization expense on the consolidated balance sheet.

The useful lives of the Company's assets are as follows:

Asset Category	**Estimated Useful Life**
Buildings	30 years
Building equipment	10 - 15 years
Furniture and fixtures and equipment	3 - 5 years
Leasehold improvements	Shorter of life of improvement or lease term
Capital leases	Shorter of life of the asset or lease term

Leases - The Company enters into operating and capital leases for the use of premises and equipment. Rent expense related to lease agreements that contain lease incentives is recorded on a straight-line basis over the term of the lease.

Pension and other postretirement plans - The Company recognizes the funded status of its single-employer defined benefit pension plans or postretirement plans as assets or liabilities on its consolidated balance sheet and recognizes changes in the funded status in the year in which the changes occur through accumulated other comprehensive income (loss). The funded status is measured as the difference between the fair value of plan assets and the benefit obligation at December 31, the measurement date. The fair value of plan assets represents the current market value of the pension assets. Overfunded plans are aggregated and recorded in long-term other assets, while underfunded plans are aggregated and recorded as accrued expenses and long-term other liabilities on the consolidated balance sheet.

Net periodic pension and postretirement benefit cost/(income) is recognized in general and administrative expenses on the consolidated statement of operations. These costs include service costs, interest cost, expected return on plan assets, amortization of prior service costs or credits and gains or losses previously recognized as a component of accumulated other comprehensive income (loss).

Defined contribution plans - The Company's contributions to defined contribution plans are recorded when employees render service to the Company. The charge is recorded in general and administrative expenses on the consolidated statement of operations.

Advertising and marketing - The cost of media advertising is expensed when the advertising takes place. Advertising production costs are expensed as incurred. Promotional items are expensed at the time the promotional event occurs. Sponsorship costs are recognized over the period of benefit.

Foreign currency remeasurement and translation - Monetary assets and liabilities are remeasured to functional currencies using current exchange rates in effect at the balance sheet date. Non-monetary assets and liabilities are recorded at historical exchange rates. Revenue and expense accounts are remeasured at the weighted-average exchange rate for the period. Resulting exchange gains and losses related to remeasurement are included in general and administrative expenses on the consolidated statement of operations.

Where a non-U.S. currency is the functional currency, translation from that functional currency to U.S. dollars is performed for balance sheet accounts using current exchange rates in effect at the balance sheet date and for revenue and expense accounts using a weighted-average exchange rate for the period. Resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss).

Treasury stock - The Company records the repurchase of shares of its common stock at cost on the trade date of the transaction. These shares are considered treasury stock, which is a reduction to stockholders' equity. Treasury stock is included in authorized and issued shares but excluded from outstanding shares.

Share-based payments - The Company measures share-based compensation expense at the grant date, based on the estimated fair value of the award and uses the straight-line method of attribution, net of estimated forfeitures, for expensing awards over the requisite employee service period. The Company estimates the fair value of its non-qualified stock option awards ("Options") using a Black-Scholes valuation model. The fair value of restricted stock units

("RSUs") is determined and fixed on the grant date based on the Company's stock price, adjusted for the exclusion of dividend equivalents. The Monte Carlo simulation valuation model is used to determine the grant date fair value of performance stock units ("PSUs") granted. All share-based compensation expenses are recorded in general and administrative expenses on the consolidated statement of operations.

Redeemable non-controlling interests - The Company's business combinations may include provisions allowing non-controlling equity owners the ability to require the Company purchase additional interests in the subsidiary at their discretion. These interests are initially recorded at fair value and in subsequent reporting periods are accreted or adjusted to their estimated redemption value. These adjustments to the redemption value will impact retained earnings or additional paid-in capital on the consolidated balance sheet, but will not impact the consolidated statement of operations. The redeemable non-controlling interests are considered temporary and reported outside of permanent equity on the consolidated balance sheet at the greater of the carrying amount adjusted for the non-controlling interest's share of net income (loss) or its redemption value.

Earnings per share - The Company calculates basic earnings per share ("EPS") by dividing net income by the weighted-average number of common shares outstanding during the year. Diluted EPS is calculated by dividing net income by the weighted-average number of common shares outstanding during the year, adjusted for the potentially dilutive effect of stock options and unvested stock units using the treasury stock method. The Company may be required to calculate EPS using the two-class method as a

result of its redeemable non-controlling interests. If redemption value exceeds the fair value of the redeemable non-controlling interests, the excess would be a reduction to net income for the EPS calculation. For 2017, 2016 and 2015, there was no impact to EPS for adjustments related to redeemable non-controlling interests.

Recent accounting pronouncements

Derivatives and Hedging - In August 2017, the Financial Accounting Standards Board (the "FASB") issued accounting guidance to improve and simplify existing guidance to allow companies to better reflect their risk management activities in the financial statements. The guidance expands the ability to hedge nonfinancial and financial risk components, eliminates the requirement to separately measure and recognize hedge ineffectiveness and eases requirements of an entity's assessment of hedge effectiveness. This guidance is effective for periods beginning after December 15, 2018 and early adoption is permitted. The Company currently does not account for its foreign currency derivative contracts under hedge accounting and does not expect the standard to have an impact to the Company. For a more detailed discussion of the Company's foreign exchange risk management activities, refer to Note 20 (Foreign Exchange Risk Management).

Net periodic pension cost and net periodic postretirement benefit cost - In March 2017, the FASB issued accounting guidance to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost. Under this guidance, the service cost component is required to be reported in the same line item as other compensation costs arising from services rendered by employees during the period. The other components of the net periodic benefit costs are required to be presented in the consolidated statement of operations separately from the service cost component and outside of operating income. This guidance is required to be applied retrospectively. This guidance is effective for periods beginning after December 15, 2017, and interim periods within those years, with early adoption permitted. The Company will adopt this guidance effective January 1, 2018. The Company does not expect the impacts of this standard to be material. Refer to Note 11 (Pension, Postretirement and Savings Plans) for the components of the Company's net periodic pension cost and net periodic postretirement benefit costs.

Goodwill impairment - In January 2017, the FASB issued accounting guidance to simplify how companies are required to test goodwill for impairment. Under this guidance, step 2 of the goodwill impairment test has been eliminated. Step 2 of the goodwill impairment test required companies to determine the implied fair value of the reporting unit's goodwill. Under this guidance, companies will perform their annual, or interim, goodwill impairment test by comparing the reporting unit's carrying value, including goodwill, to its fair value. An impairment charge would be recorded if the reporting unit's carrying value exceeds its fair value. This guidance is required to be applied prospectively and is effective for periods beginning after December 15, 2019, with early adoption permitted. The Company adopted this guidance effective January 1, 2017 and there was no impact from the adoption of the new accounting guidance on its consolidated financial statements.

Restricted cash - In November 2016, the FASB issued accounting guidance to address diversity in the classification and presentation of changes in restricted cash on the consolidated statement of cash flows. Under this guidance, companies will be required to present restricted cash and restricted cash equivalents with cash and cash equivalents when reconciling the beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows. This guidance is required to be applied retrospectively and is effective for periods beginning after December 15, 2017, with early adoption permitted. The Company will adopt this guidance effective January 1, 2018. Upon adoption of this standard,

the Company will include restricted cash, which currently consists primarily of restricted cash for litigation settlement and restricted security deposits held for customers in its reconciliation of beginning-of-period and end-of-period amounts shown on the consolidated statement of cash flows.

Intra-entity asset transfers - In October 2016, the FASB issued accounting guidance to simplify the accounting for income tax consequences of intra-entity transfers of assets other than inventory. Under this guidance, companies will be required to recognize the income tax consequences of an intra-entity asset transfer when the transfer occurs. This guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the period of adoption. The guidance is effective for periods beginning after December 15, 2017 and early adoption is permitted. The Company will adopt this guidance effective January 1, 2018. The Company is in the process of evaluating the impacts this guidance will have on its consolidated financial statements. However, the Company expects that it will recognize a cumulative-effect adjustment to retained earnings upon adoption of the new guidance related to certain tax activity resulting from intra-entity asset transfers occurring before the date of adoption. For a more detailed discussion of an intra-entity transfer of intellectual property that occurred in 2014, refer to Note 17 (Income Taxes).

Share-based payments - In March 2016, the FASB issued accounting guidance related to share-based payments to employees. The Company adopted this guidance on January 1, 2017. The adoption had the following impacts on the consolidated financial statements:

- The Company is required to recognize the excess tax benefits and deficiencies from share-based awards on the consolidated statement of operations in the period in which they occurred rather than in additional paid-in-capital on the consolidated balance sheet. For the year ended December 31, 2017, the Company recorded excess tax benefits of $49 million within income tax expense on the consolidated statement of operations. The Company is also required to revise its calculation of diluted weighted-average shares outstanding by excluding the tax effects from the assumed proceeds available to repurchase shares. For the year ended December 31, 2017, diluted weighted-average shares outstanding included an additional 1 million shares as a result of the change in this calculation. For the year ended December 31, 2017, the net impact of adoption resulted in an increase of $0.04 to diluted EPS. Lastly, the Company is required to change the classification of these tax effects on the consolidated statement of cash flows and classify them as an operating activity rather than as a financing activity. Each of these above items have been adopted prospectively.

- Retrospectively, the Company is required to change its classification of cash paid for employees' withholding tax related to equity awards as a financing activity rather than as an operating activity on the consolidated statement of cash flows. As a result of this change in classification, cash provided by operating activities and cash used in financing activities on the consolidated statement of cash flows increased by $51 million and $58 million for the years ended December 31, 2016 and 2015, respectively.

- This guidance allows a company-wide accounting policy election either to continue estimating forfeitures each period or to account for forfeitures as they occur. The Company elected to continue its existing practice to estimate the number of awards that will be forfeited. There was no impact on its consolidated financial statements.

Leases - In February 2016, the FASB issued accounting guidance that will change how companies account for and present lease arrangements. This guidance requires companies to recognize leased assets and liabilities for both financing and operating leases. This guidance is effective for periods after December 15, 2018 and early adoption is permitted. Companies are required to adopt the guidance using a modified retrospective method. The Company expects to adopt this guidance effective January 1, 2019. The Company is in the process of evaluating the potential effects this guidance will have on its consolidated financial statements.

Revenue recognition - In May 2014, the FASB issued accounting guidance that provides a single, comprehensive revenue recognition model for all contracts with customers and supersedes most of the existing revenue recognition requirements. Under this guidance, an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. In August 2015, the FASB issued accounting guidance that delayed the effective date of this standard by one year, making this guidance effective for fiscal years beginning after December 15, 2017. The Company will adopt this guidance effective January 1, 2018 under the modified retrospective transition

method by recognizing the cumulative effect of initially applying the new standard as an increase to the opening balance of retained earnings. The comparative information will not be restated and will be reported under the accounting standards in effect for those periods. This new revenue guidance will primarily impact the timing of certain incentives which will be recognized over the life of the contract versus as earned by the customer. In addition, the Company will account for certain market development fund contributions and expenditures on a gross basis, instead of net, resulting in an increase to both revenues and expenses. Upon adoption of the standard, the estimated impact on the Company's consolidated financial statements is expected to be an increase of approximately $300 million in net revenue and $200 million in operating expenses in 2018. This estimate could change and is dependent upon how customer deals will be executed throughout 2018.

Note 2. *Acquisitions*

In 2017, the Company acquired businesses for total consideration of $1.5 billion, representing both cash and contingent consideration. For the businesses acquired, Mastercard allocated the values associated with the assets, liabilities and redeemable non-controlling interests based on their respective fair values on the acquisition dates. Refer to Note 1 (Summary of Significant Accounting Policies), for the valuation techniques Mastercard utilizes to fair value the assets and liabilities acquired in business combinations. The residual value allocated to goodwill is not expected to be deductible for local tax purposes.

For acquisitions occurring in 2017, the Company is evaluating and finalizing the purchase price accounting; however, the preliminary estimated fair values of the purchase price allocations in aggregate, as of the acquisition dates, are noted below:

	(in millions)
Cash consideration	$ 1,286
Contingent consideration	202
Redeemable non-controlling interests	69
Gain on previously held minority interest	14
Total fair value of businesses acquired	$ 1,571
Assets:	
Cash and cash equivalents	$ 111
Other current assets	110
Other intangible assets	488
Goodwill	1,136
Other assets	91
Total assets	1,936
Liabilities:	
Short-term debt[1]	64
Other current liabilities	170
Net pension liability	66
Other liabilities	65
Total liabilities	365
Net assets acquired	$ 1,571

[1] The short-term debt assumed through acquisitions was repaid during the second quarter of 2017.

The following table summarizes the identified intangible assets acquired:

	Acquisition Date Fair Value	Weighted-Average Useful Life
	(in millions)	(Years)
Developed technologies	$ 319	7.5
Customer relationships	166	9.9
Other	3	1.4
Other intangible assets	$ 488	8.3

For the businesses acquired in 2017, the largest acquisition relates to Vocalink, a payment systems and ATM switching platform operator, located principally in the U.K. On April 28, 2017, Mastercard acquired 92.4% controlling interest in Vocalink for cash consideration of £719 million ($929 million as of the acquisition date). In addition, the Vocalink sellers have the potential to earn additional contingent consideration up to £169 million (approximately $228 million as of December 31, 2017) if certain revenue targets are met in 2018. Refer to Note 5 (Fair Value and Investment Securities) for additional information related to the fair value of contingent consideration.

A majority of Vocalink's shareholders have retained a 7.6% ownership for at least three years, which is recorded as redeemable non-controlling interests on the consolidated balance sheet. These remaining shareholders have a put option to sell their ownership interest to Mastercard on the third and fifth anniversaries of the transaction and quarterly thereafter (the "Third Anniversary Option" and "Fifth Anniversary Option", respectively). The Third Anniversary Option is exercisable at a fixed price of £58 million (approximately $78 million as of December 31, 2017) ("Fixed Price"). The Fifth Anniversary Option is exercisable at the greater of the Fixed Price or fair value. Additionally, Mastercard has a call option to purchase the remaining interest from Vocalink's shareholders on the fifth anniversary of the transaction and quarterly thereafter, which is exercisable at the greater of the Fixed Price or fair value. The fair value of the redeemable non-controlling interests was determined utilizing a market approach, which extrapolated the consideration transferred that was discounted for lack of control and marketability. The rollforward of redeemable non-controlling interests was not included as the activity was not considered to be material.

In 2015, the Company acquired two businesses for $609 million in cash. For these acquisitions, the Company recorded $481 million as goodwill representing the aggregate excess of the purchase consideration over the fair value of the net assets acquired. A portion of the goodwill related to the 2015 acquisitions is expected to be deductible for local tax purposes.

The consolidated financial statements include the operating results of the acquired businesses from the dates of their respective acquisition. Pro forma information related to the acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

Note 3. *Earnings Per Share*

The components of basic and diluted EPS for common shares for each of the years ended December 31 were as follows:

	2017	2016	2015
	(in millions, except per share data)		
Numerator			
Net income	$ 3,915	$ 4,059	$ 3,808
Denominator			
Basic weighted-average shares outstanding	1,067	1,098	1,134
Dilutive stock options and stock units	5	3	3
Diluted weighted-average shares outstanding [1]	1,072	1,101	1,137
Earnings per Share			
Basic	$ 3.67	$ 3.70	$ 3.36
Diluted	$ 3.65	$ 3.69	$ 3.35

Note: Table may not sum due to rounding.
[1] For the years presented, the calculation of diluted EPS excluded a minimal amount of anti-dilutive share-based payment awards.

Note 4. *Supplemental Cash Flows*

The following table includes supplemental cash flow disclosures for each of the years ended December 31:

	2017	2016	2015
	(in millions)		
Cash paid for income taxes, net of refunds	$ 1,893	$ 1,579	$ 1,097
Cash paid for interest	135	74	44
Cash paid for legal settlements	47	101	124
Non-cash investing and financing activities			
Dividends declared but not yet paid	263	238	212
Capital leases and other	30	3	10
Fair value of assets acquired, net of cash acquired	1,825	—	626
Fair value of liabilities assumed related to acquisitions	365	—	42

Note 5. *Fair Value and Investment Securities*

Financial Instruments - Recurring Measurements

The Company classifies its fair value measurements of financial instruments within the Valuation Hierarchy. There were no transfers made among the three levels in the Valuation Hierarchy for 2017.

MASTERCARD INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The distribution of the Company's financial instruments measured at fair value on a recurring basis within the Valuation Hierarchy were as follows:

	December 31, 2017				December 31, 2016			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	(in millions)							
Assets								
Investment securities available for sale [1]:								
Municipal securities	$ —	$ 17	$ —	$ 17	$ —	$ 59	$ —	$ 59
Government and agency securities	81	104	—	185	49	117	—	166
Corporate securities	—	876	—	876	—	855	—	855
Asset-backed securities	—	70	—	70	—	80	—	80
Equity securities	1	—	—	1	2	—	—	2
Derivative instruments 2:								
Foreign currency derivative assets	—	6	—	6	—	29	—	29
Deferred compensation plan 3:								
Deferred compensation assets	55	—	—	55	—	—	—	—
Liabilities								
Derivative instruments 2:								
Foreign currency derivative liabilities	$ —	$ (30)	$ —	$ (30)	$ —	$ (13)	$ —	$ (13)
Deferred compensation plan 4:								
Deferred compensation liabilities	(54)	—	—	(54)	(43)	—	—	(43)

1 The Company's U.S. government securities and marketable equity securities are classified within Level 1 of the Valuation Hierarchy as the fair values are based on unadjusted quoted prices for identical assets in active markets. The fair value of the Company's available-for-sale municipal securities, government and agency securities, corporate securities and asset-backed securities are based on observable inputs such as quoted prices, benchmark yields and issuer spreads for similar assets in active markets and are therefore included in Level 2 of the Valuation Hierarchy.

2 The Company's foreign currency derivative asset and liability contracts have been classified within Level 2 of the Valuation Hierarchy as the fair value is based on observable inputs such as broker quotes relating to foreign currency exchange rates for similar derivative instruments. See Note 20 (Foreign Exchange Risk Management) for further details.

3 The Company has a nonqualified deferred compensation plan where assets are invested primarily in mutual funds held in a rabbi trust, which is restricted for payments to participants of the plan. The Company has elected to use the fair value option for these mutual funds, which are measured using quoted prices of identical instruments in active markets and are included in prepaid expenses and other current assets on the consolidated balance sheet. The Company had previously invested in corporate-owned life insurance contracts that were recorded at cash surrender value. The contracts were terminated during the third quarter of 2017.

4 The deferred compensation liabilities are measured at fair value based on the quoted prices of identical instruments to the investment vehicles selected by the participants. They are included in other liabilities on the consolidated balance sheet.

Settlement and Other Guarantee Liabilities

The Company estimates the fair value of its settlement and other guarantees using market assumptions for relevant though not directly comparable undertakings, as the latter are not observable in the market given the proprietary nature of such guarantees. At December 31, 2017 and 2016, the carrying value and fair value of settlement and other guarantee liabilities were not material and accordingly are not included in the Valuation Hierarchy table above. Settlement and other guarantee liabilities are classified within Level 3 of the Valuation Hierarchy as their valuation requires substantial judgment and estimation of factors that are not observable in the market. For additional information regarding the Company's settlement and other guarantee liabilities, see Note 19 (Settlement and Other Risk Management).

Financial Instruments - Non-Recurring Measurements

Held-to-Maturity Securities

Investments on the consolidated balance sheet include both available-for-sale and short-term held-to-maturity securities. Held-to-maturity securities are not measured at fair value on a recurring basis and are not included in the Valuation Hierarchy table above. At December 31, 2017 and 2016, the Company held $700 million and $452 million, respectively, of short-term held-to-maturity securities. In addition, at December 31, 2016, the Company held $61 million of long-term held-to-maturity securities included in other assets on the consolidated balance sheet. The Company did not hold any long-term held-to-maturity securities at December 31, 2017. The cost of these securities approximates fair value.

Nonmarketable Equity Investments

The Company's nonmarketable equity investments are measured at fair value at initial recognition and for impairment testing. These investments are classified within Level 3 of the Valuation Hierarchy due to the absence of quoted market prices, the inherent lack of liquidity, and the fact that inputs used to measure fair value are unobservable and require management's judgment. The Company uses discounted cash flows and market assumptions to estimate the fair value of its nonmarketable equity investments when certain events or circumstances indicate that impairment may exist. These investments are included in other assets on the consolidated balance sheet and in Note 6 (Prepaid Expenses and Other Assets).

Debt

The Company estimates the fair value of its long-term debt based on market quotes. These debt instruments are not traded in active markets and are classified as Level 2 of the Valuation Hierarchy. At December 31, 2017, the carrying value and fair value of long-term debt was $5.4 billion and $5.7 billion, respectively. At December 31, 2016, the carrying value and fair value of long-term debt was $5.2 billion and $5.3 billion, respectively.

Other Financial Instruments

Certain financial instruments are carried on the consolidated balance sheet at cost, which approximates fair value due to their short-term, highly liquid nature. These instruments include cash and cash equivalents, restricted cash, accounts receivable, settlement due from customers, restricted security deposits held for customers, accounts payable, settlement due to customers and other accrued liabilities.

Non-Financial Instruments

Certain assets are measured at fair value on a nonrecurring basis for purposes of initial recognition and impairment testing. The Company's non-financial assets measured at fair value on a nonrecurring basis include property, plant and equipment, goodwill and other intangible assets. These assets are subject to fair value adjustments in certain circumstances, such as when there is evidence of impairment.

The contingent consideration attributable to acquisitions made in 2017 is primarily based on the achievement of 2018 revenue targets. The activity of the Company's contingent consideration liability for 2017 was as follows:

	(in millions)
Balance at December 31, 2016	$ —
Preliminary estimated fair value as of acquisition date for businesses acquired	202
Net change in valuation	7
Foreign currency translation	10
Balance at December 31, 2017	$ 219

Amortized Costs and Fair Values – Available-for-Sale Investment Securities

The major classes of the Company's available-for-sale investment securities, for which unrealized gains and losses are recorded as a separate component of other comprehensive income (loss) on the consolidated statement of comprehensive income, and their respective amortized cost basis and fair values as of December 31, 2017 and 2016 were as follows:

	December 31, 2017				December 31, 2016			
	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value	Amortized Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
	(in millions)							
Municipal securities	$ 17	$ —	$ —	$ 17	$ 59	$ —	$ —	$ 59
Government and agency securities	185	—	—	185	165	1	—	166
Corporate securities	875	2	(1)	876	853	3	(1)	855
Asset-backed securities	70	—	—	70	80	—	—	80
Equity securities	—	1	—	1	2	—	—	2
Total	$1,147	$ 3	$ (1)	$ 1,149	$1,159	$ 4	$ (1)	$ 1,162

The Company's available-for-sale investment securities held at December 31, 2017 and 2016, primarily carried a credit rating of A-, or better. The municipal securities are primarily comprised of tax-exempt bonds and are diversified across states and sectors. Government and agency securities include U.S. government bonds, U.S. government sponsored agency bonds and foreign government bonds with similar credit quality to that of the U.S. government bonds. Corporate securities are comprised of commercial paper and corporate bonds. The asset-backed securities are investments in bonds which are collateralized primarily by automobile loan receivables.

Investment Maturities:

The maturity distribution based on the contractual terms of the Company's investment securities at December 31, 2017 was as follows:

	Available-For-Sale	
	Amortized Cost	Fair Value
	(in millions)	
Due within 1 year	$ 314	$ 314
Due after 1 year through 5 years	832	833
Due after 5 years through 10 years	1	1
Due after 10 years	—	—
No contractual maturity [1]	—	1
Total	$ 1,147	$ 1,149

[1] Equity securities have been included in the No contractual maturity category, as these securities do not have stated maturity dates.

Investment Income

Investment income primarily consists of interest income generated from cash, cash equivalents and investments. Gross realized gains and losses are recorded within investment income on the Company's consolidated statement of operations. The gross realized gains and losses from the sales of available-for-sale securities for 2017, 2016 and 2015 were not significant.

Note 6. *Prepaid Expenses and Other Assets*

Prepaid expenses and other current assets consisted of the following at December 31:

	2017	2016
	(in millions)	
Customer and merchant incentives	$ 464	$ 479
Prepaid income taxes	77	118
Other	499	253
Total prepaid expenses and other current assets	$ 1,040	$ 850

Other assets consisted of the following at December 31:

	2017	2016
	(in millions)	
Customer and merchant incentives	$ 1,434	$ 1,134
Nonmarketable equity investments	249	132
Prepaid income taxes	352	325
Income taxes receivable	178	175
Other	85	163
Total other assets	$ 2,298	$ 1,929

Customer and merchant incentives represent payments made or amounts to be paid to customers and merchants under business agreements. Costs directly related to entering into such an agreement are generally deferred and amortized over the life of the agreement. Amounts to be paid for these incentives and the related liability were included in accrued expenses and other liabilities.

Nonmarketable equity investments represent the Company's cost and equity method investments. For the year ended December 31, 2017, the Company invested $147 million in nonmarketable cost method equity investments.

Non-current prepaid income taxes, included in the other asset table above, primarily consists of taxes paid in 2014 relating to the deferred charge resulting from the reorganization of the Company's legal entity and tax structure to better align with its business footprint of its non-U.S. operations. See Note 17 (Income Taxes) for further discussion of this deferred charge.

Note 7. *Property, Plant and Equipment*

Property, plant and equipment consisted of the following at December 31:

	2017	2016
	(in millions)	
Building, building equipment and land	$ 455	$ 534
Equipment	841	606
Furniture and fixtures	81	63
Leasehold improvements	166	133
Property, plant and equipment	1,543	1,336
Less: accumulated depreciation and amortization	(714)	(603)

Property, plant and equipment, net	$ 829	$ 733

As of December 31, 2017 and 2016, capital leases of $32 million and $23 million, respectively, were included in equipment. Accumulated amortization of these capital leases was $18 million and $16 million as of December 31, 2017 and 2016, respectively.

Depreciation and amortization expense for the above property, plant and equipment was $185 million, $151 million and $131 million for 2017, 2016 and 2015, respectively.

Note 8. *Goodwill*

The changes in the carrying amount of goodwill for the years ended December 31, 2017 and 2016 were as follows:

	2017	2016
	(in millions)	
Beginning balance	$ 1,756	$ 1,891
Additions	1,136	8
Foreign currency translation	143	(143)
Ending balance	$ 3,035	$ 1,756

The Company had no accumulated impairment losses for goodwill at December 31, 2017. Based on annual impairment testing, the Company's goodwill is not impaired.

Note 9. *Other Intangible Assets*

The following table sets forth net intangible assets, other than goodwill, at December 31:

	2017			2016		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(in millions)					
Amortized intangible assets						
Capitalized software	$ 1,572	$ (888)	$ 684	$ 1,210	$ (768)	$ 442
Trademarks and tradenames	30	(29)	1	26	(22)	4
Customer relationships	473	(214)	259	283	(162)	121
Other	27	(26)	1	23	(22)	1
Total	2,102	(1,157)	945	1,542	(974)	568
Unamortized intangible assets						
Customer relationships	175	—	175	154	—	154
Total	$ 2,277	$ (1,157)	$ 1,120	$ 1,696	$ (974)	$ 722

The increase in the gross carrying amount of amortized intangible assets in 2017 was primarily related to the businesses acquired in 2017. See Note 2 (Acquisitions) for further details. Certain intangible assets, including amortizable and unamortizable customer relationships and trademarks and tradenames, are denominated in foreign currencies. As such, the change in intangible assets includes a component attributable to foreign currency translation. Based on the qualitative assessment performed in 2017, it was determined that the Company's indefinite-lived intangible assets were not impaired.

Amortization on the assets above amounted to $252 million, $221 million and $235 million in 2017, 2016 and 2015, respectively. The following table sets forth the estimated future amortization expense on amortizable intangible assets on the consolidated balance sheet at December 31, 2017 for the years ending December 31:

	(in millions)
2018	$ 257
2019	214
2020	147
2021	82
2022 and thereafter	245
	$ 945

Note 10. *Accrued Expenses and Accrued Litigation*

Accrued expenses consisted of the following at December 31:

	2017	2016
	(in millions)	
Customer and merchant incentives	$ 2,648	$ 2,286
Personnel costs	613	496
Advertising	88	71
Income and other taxes	194	161
Other	388	304
Total accrued expenses	$ 3,931	$ 3,318

As of December 31, 2017 and 2016, the Company's provision for litigation was $709 million and $722 million, respectively. These amounts are not included in the accrued expenses table above and are separately reported as accrued litigation on the consolidated balance sheet. See Note 18 (Legal and Regulatory Proceedings) for further discussion of the U.S. and Canadian merchant class litigations.

Note 11. *Pension, Postretirement and Savings Plans*

The Company and certain of its subsidiaries maintain various pension, postretirement, savings and other postemployment benefit plans that cover substantially all employees worldwide.

Defined Contribution Plans

The Company sponsors defined contribution retirement plans. The primary plan is the Mastercard Savings Plan, a 401(k) plan for substantially all of the Company's U.S. employees, which is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), as amended. In addition, the Company has several defined contribution plans outside of the U.S. The Company's total expense for its defined contribution plans was $84 million, $73 million and $61 million in 2017, 2016 and 2015, respectively.

Defined Benefit and Other Postretirement Plans

In 2015, the Company terminated its non-contributory, qualified, U.S. defined benefit pension plan (the "U.S. Employee Pension Plan"). Participants had the option to receive a lump sum distribution or to participate in an annuity with a third-party insurance company. As a result of this termination, the Company settled its obligation for $287 million, which resulted in a pension settlement charge of $79 million recorded in general and administrative expense during 2015.

The Company also sponsors pension and postretirement plans for non-U.S. employees (the "non-U.S. Plans") that cover various benefits specific to their country of employment.

In April 2017, the Company acquired a majority interest in Vocalink. Vocalink has a defined benefit pension plan (the "Vocalink Plan") which is closed to new entrants and future accruals as of July 21, 2013, however, plan participants' obligations are adjusted for future salary changes. The Company has agreed to make contributions of £15 million

(approximately $20 million as of December 31, 2017) annually until March 2020. See Note 2 (Acquisitions) for additional information on the Vocalink acquisition.

The term "Pension Plans" includes the non-U.S. Plans, the Vocalink Plan and the U.S. Employee Pension Plan.

The Company maintains a postretirement plan providing health coverage and life insurance benefits for substantially all of its U.S. employees hired before July 1, 2007 (the "Postretirement Plan").

MASTERCARD INCORPORATED

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

The Company uses a December 31 measurement date for the Pension Plans and its Postretirement Plan (collectively the "Plans"). The Company recognizes the funded status of its Plans, measured as the difference between the fair value of the plan assets and the projected benefit obligation, in the consolidated balance sheet. The following table sets forth the Plans' funded status, key assumptions and amounts recognized in the Company's consolidated balance sheet at December 31:

	Pension Plans		Postretirement Plan	
	2017	2016	2017	2016
	(in millions, except percentages)			
Change in benefit obligation				
Benefit obligation at beginning of year	$ 46	$ 36	$ 59	$ 59
Benefit obligation acquired during the year	410	—	—	—
Service cost	9	10	1	1
Interest cost	8	1	2	2
Actuarial (gain) loss	(44)	2	3	1
Benefits paid	(12)	(2)	(4)	(4)
Transfers in	3	1	—	—
Foreign currency translation	48	(2)	—	—
Benefit obligation at end of year	468	46	61	59
Change in plan assets				
Fair value of plan assets at beginning of year	33	27	—	—
Fair value of plan assets acquired during the year	344	—	—	—
Actual gain (loss) on plan assets	(4)	1	—	—
Employer contributions	23	7	4	4
Benefits paid	(12)	(2)	(4)	(4)
Transfers in	3	1	—	—
Foreign currency translation	40	(1)	—	—
Fair value of plan assets at end of year	427	33	—	—
Funded status at end of year	$ (41)	$ (13)	$ (61)	$ (59)
Amounts recognized on the consolidated balance sheet consist of:				
Other liabilities, short-term	$ —	$ —	$ (3)	$ (3)
Other liabilities, long-term	(41)	(13)	(58)	(56)
	$ (41)	$ (13)	$ (61)	$ (59)

Accumulated other comprehensive income consists of:				
Net actuarial (gain) loss	$ (22)	$ —	$ (5)	$ (10)
Prior service credit	—	—	(8)	(10)
Balance at end of year	$ (22)	$ —	$ (13)	$ (20)

Weighted-average assumptions used to determine end of year benefit obligations				
Discount rate				
Non-U.S. Plans	1.80 %	1.60 %	*	*
Vocalink Plan	2.80 %	*	*	*
Postretirement Plan	*	*	3.50 %	4.00 %
Rate of compensation increase				
Non-U.S. Plans	2.60 %	2.59 %	*	*
Vocalink Plan	3.85 %	*	*	*
Postretirement Plan	*	*	3.00 %	3.00 %

* Not applicable

Each of the Pension Plans had benefit obligations in excess of plan assets at December 31, 2017 and 2016. Information on the Pension Plans were as follows:

	2017	2016
	(in millions)	
Projected benefit obligation	$ 468	$ 46
Accumulated benefit obligation	428	46
Fair value of plan assets	427	33

Components of net periodic benefit cost recorded in general and administrative expenses were as follows for the Plans for each of the years ended December 31:

	Pension Plans			Postretirement Plan		
	2017	2016	2015	2017	2016	2015
	(in millions)					
Service cost	$ 9	$ 10	$ 9	$ 1	$ 1	$ 1
Interest cost	8	1	1	2	2	3
Expected return on plan assets	(13)	(1)	(1)	—	—	—
Curtailment gain	—	—	1	—	—	—
Amortization of actuarial loss	—	—	—	—	—	—
Amortization of prior service credit	—	—	—	(2)	(1)	—
Pension settlement charge	—	—	79	—	—	—
Net periodic benefit cost	$ 4	$ 10	$ 89	$ 1	$ 2	$ 4

Other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

	Pension Plans			Postretirement Plan		
	2017	2016	2015	2017	2016	2015
	(in millions)					
Curtailment gain	$ —	$ —	$ (1)	$ —	$ —	$ —
Current year actuarial (gain) loss	(22)	1	—	5	—	8
Current year prior service credit	—	—	—	—	—	11
Amortization of prior service credit	—	—	—	2	1	—
Pension settlement charge	—	—	(79)	—	—	—
Total recognized in other comprehensive income (loss)	$ (22)	$ 1	$ (80)	$ 7	$ 1	$ 19
	$ (18)	$ 11	$ 9	$ 8	$ 3	$ 23

Total recognized in net periodic benefit cost and other comprehensive income (loss)						

The estimated amounts that are expected to be amortized from accumulated other comprehensive income into net periodic benefit cost in 2018 are as follows:

	Pension Plans	Postretirement Plan
	(in millions)	
Prior service credit	$ —	$ (1)

Assumptions

Weighted-average assumptions used to determine net periodic benefit cost were as follows for the years ended December 31:

	Pension Plans			Postretirement Plan		
	2017	2016	2015	2017	2016	2015
Discount rate						
Non-U.S. Plans	1.60 %	1.85 %	2.00 %	*	*	*
Vocalink Plan	2.50 %	*	*	*	*	*
Postretirement Plan	*	*	*	4.00 %	4.25 %	4.00 %
Expected return on plan assets						
Non-U.S. Plans	3.25 %	3.25 %	3.25 %	*	*	*
Vocalink Plan	4.75 %	*	*	*	*	*
Postretirement Plan	*	*	*	*	*	*
Rate of compensation increase						
Non-U.S. Plans	2.59 %	2.64 %	2.92 %	*	*	*
Vocalink Plan	3.95 %	*	*	*	*	*
Postretirement Plan	*	*	*	3.00 %	3.00 %	3.00 %

* Not applicable

The Company's discount rate assumptions are based on yield curves derived from high quality corporate bonds, which are matched to the expected cash flows to each of the respective Plans.

The expected return on plan assets assumptions are derived using the current and expected asset allocations of the Pension Plan assets and considering historical as well as expected returns on various classes of plan assets.

The assumed health care cost trend rates at December 31 for the Postretirement Plan were as follows:

	2017	2016
Health care cost trend rate assumed for next year	6.50 %	7.00 %
Ultimate trend rate	5.00 %	5.00 %
Year that the rate reaches the ultimate trend rate	3	4

The assumed health care cost trend rates have a significant effect on the amounts reported for the Postretirement Plan. A one-percentage point change in assumed health care cost trend rates for 2017 would have a $5 million increase and $4 million decrease effect with a one-percentage point increase and decrease, respectively, in the benefit obligation. The effect on total service and interest cost components would be less than $1 million.

Assets

Plan assets are managed with a long-term perspective intended to ensure that there is an adequate level of assets to support benefit payments to participants over the life of the Pension Plans. The Vocalink Plan assets are managed within the following target asset allocations: non-government fixed income 37%, government securities (including U.K. governmental bonds) 28%, investment funds 25% and other 10%. The investment funds are currently comprised of approximately 40% derivatives, 30% equity, 15% fixed income and 15% other. For the non-U.S. Plans the assets are concentrated 100% in Insurance Contracts.

The Valuation Hierarchy of the Pension Plans' assets is determined using a consistent application of the categorization measurements for the Company's financial instruments. See Note 1 (Summary of Significant Accounting Policies) for additional information.

Cash and cash equivalents and other public investment vehicles (including certain mutual funds and government and agency securities) are valued at quoted market prices, which represent the net asset value of the shares held by the Vocalink Plan, and are therefore included in Level 1 of the Valuation Hierarchy. Certain other mutual funds (including commingled funds),

governmental and agency securities and insurance contracts are valued at unit values provided by investment managers, which are based on the fair value of the underlying investments utilizing public information, independent external valuation from third-party services or third-party advisors, and are therefore included in Level 2 of the Valuation Hierarchy. Asset-backed securities are classified as Level 3 due to a lack of observable inputs in measuring fair value. A separate roll-forward of Level 3 plan assets measured at fair value is not presented as activities during 2017 and 2016 were immaterial.

The following tables set forth by level, within the Valuation Hierarchy, the Pension Plans' assets at fair value as of December 31, 2017 and 2016:

	December 31, 2017			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)			
Cash and cash equivalents	$ 21	$ —	$ —	$ 21
Government and agency securities	21	95	—	116
Mutual funds	146	28	—	174
Insurance contracts	—	45	—	45
Asset-backed securities	—	—	31	31
Other	2	16	22	40
Total	$ 190	$ 184	$ 53	$ 427

	December 31, 2016			
	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Fair Value
	(in millions)			
Insurance contracts	$ —	$ 33	$ —	$ 33
Total	$ —	$ 33	$ —	$ 33

The following table summarizes expected benefit payments through 2026 for the Pension Plans and the Postretirement Plans, including those payments expected to be paid from the Company's general assets. Since the majority of the benefit payments for the Pension Plans are made in the form of lump-sum distributions, actual benefit payments may differ from expected benefit payments.

	Pension Plans	Postretirement Plan
	(in millions)	
2018	$ 11	$ 3
2019	15	3
2020	10	3
2021	10	4
2022	11	4

2023- 2026 45 14

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Note 12. *Debt*

Long-term debt consisted of the following at December 31:

Notes	Issuance Date	Interest Payment Terms	Maturity Date	Aggregate Principal Amount	Stated Interest Rate	Effective Interest Rate	2017	2016
					(in millions, except percentages)			
2016 USD Notes	November 2016	Semi-annually	2021	$ 650	2.000 %	2.236 %	$ 650	$ 650
			2026	750	2.950 %	3.044 %	750	750
			2046	600	3.800 %	3.893 %	600	600
				$2,000				
2015 Euro Notes	December 2015	Annually	2022	€ 700	1.100 %	1.265 %	839	738
			2027	800	2.100 %	2.189 %	958	843
			2030	150	2.500 %	2.562 %	180	158
				€1,650				
2014 USD Notes	March 2014	Semi-annually	2019	$ 500	2.000 %	2.178 %	500	500
			2024	1,000	3.375 %	3.484 %	1,000	1,000
				$1,500				
							5,477	5,239
Less: Unamortized discount and debt issuance costs							(53)	(59)
Long-term debt							$ 5,424	$ 5,180

The net proceeds, after deducting the original issue discount, underwriting discount and offering expenses, from the issuance of the 2016 USD Notes, the 2015 Euro Notes and the 2014 USD Notes (collectively the "Notes"), were $1.969 billion, $1.723 billion and $1.484 billion, respectively.

The Company is not subject to any financial covenants under the Notes. The Notes may be redeemed in whole, or in part, at the Company's option at any time for a specified make-whole amount. The Notes are senior unsecured obligations and would rank equally with any future unsecured and unsubordinated indebtedness. The proceeds of the Notes are to be used for general corporate purposes.

Scheduled annual maturities of the principal portion of long-term debt outstanding at December 31, 2017 are summarized below. Amounts exclude capital lease obligations disclosed in Note 16 (Commitments).

	(in millions)
2018	$ —

2019	500
2020	—
2021	650
2022	839
Thereafter	3,488
Total	$ 5,477

In November 2015, the Company established a commercial paper program (the "Commercial Paper Program"). Under which it is authorized to issue up to $3.75 billion in outstanding notes, with maturities up to 397 days from the date of issuance. The Commercial Paper Program is available in U.S. dollars.

In conjunction with the Commercial Paper Program, the Company entered into a committed unsecured $3.75 billion revolving credit facility (the "Credit Facility"). Borrowings under the Credit Facility are available in U.S. dollars and/or euros. In October 2017, the Company extended the Credit Facility for an additional year to October 2022. The extension did not result in any material changes to the terms and conditions of the Credit Facility. The facility fee and borrowing cost under the Credit Facility

are based upon the Company's credit rating. At December 31, 2017, the applicable facility fee was 8 basis points on the average daily commitment (whether or not utilized). In addition to the facility fee, interest on borrowings under the Credit Facility would be charged at the London Interbank Offered Rate ("LIBOR") plus an applicable margin of 79.5 basis points, or an alternative base rate. The Credit Facility contains customary representations, warranties, events of default and affirmative and negative covenants, including a financial covenant limiting the maximum level of consolidated debt to earnings before interest, taxes, depreciation and amortization ("EBITDA"). Mastercard was in compliance in all material respects with the covenants of the Credit Facility at December 31, 2017 and 2016. The majority of Credit Facility lenders are customers or affiliates of customers of Mastercard.

Borrowings under the Commercial Paper Program and the Credit Facility are used to provide liquidity for general corporate purposes, including providing liquidity in the event of one or more settlement failures by the Company's customers. The Company may borrow and repay amounts under the Commercial Paper Program and Credit Facility from time to time. Mastercard had no borrowings under the Credit Facility and the Commercial Paper Program at December 31, 2017 and 2016.

In June 2015, the Company filed a universal shelf registration statement to provide additional access to capital, if needed. Pursuant to the shelf registration statement, the Company may from time to time offer to sell debt securities, preferred stock, Class A common stock, depository shares, purchase contracts, units or warrants in one or more offerings.

Note 13. *Stockholders' Equity*

Classes of Capital Stock

Mastercard's amended and restated certificate of incorporation authorizes the following classes of capital stock:

Class	Par Value Per Share	Authorized Shares (in millions)	Dividend and Voting Rights
A	$0.0001	3,000	One vote per share Dividend rights
B	$0.0001	1,200	Non-voting Dividend rights
Preferred	$0.0001	300	No shares issued or outstanding at December 31, 2017 and 2016, respectively. Dividend and voting rights are to be determined by the Board of Directors of the Company upon issuance.

Ownership and Governance Structure

Equity ownership and voting power of the Company's shares were allocated as follows as of December 31:

	2017		2016	
	Equity Ownership	General Voting Power	Equity Ownership	General Voting Power
	88.0 %	89.2 %	87.7 %	89.3 %

Public Investors (Class A stockholders)				
Principal or Affiliate Customers (Class B stockholders)	1.4 %	— %	1.8 %	— %
Mastercard Foundation (Class A stockholders)	10.6 %	10.8 %	10.5 %	10.7 %

Class B Common Stock Conversions

Shares of Class B common stock are convertible on a one-for-one basis into shares of Class A common stock. Entities eligible to hold Mastercard's Class B common stock are defined in the Company's amended and restated certificate of incorporation (generally the Company's principal or affiliate customers), and they are restricted from retaining ownership of shares of Class A common stock. Class B stockholders are required to subsequently sell or otherwise transfer any shares of Class A common stock received pursuant to such a conversion.

Mastercard Foundation

In connection and simultaneously with its 2006 initial public offering (the "IPO"), the Company issued and donated 135 million newly authorized shares of Class A common stock to Mastercard Foundation. Mastercard Foundation is a private charitable foundation incorporated in Canada that is controlled by directors who are independent of the Company and its principal customers. Under the terms of the donation, Mastercard Foundation became able to resell the donated shares in May 2010 to the extent necessary to meet charitable disbursement requirements dictated by Canadian tax law. Under Canadian tax law, Mastercard Foundation is generally required to disburse at least 3.5% of its assets not used in administration each year for qualified charitable disbursements. However, Mastercard Foundation obtained permission from the Canadian tax authorities to defer the giving requirements until 2021. Mastercard Foundation, at its discretion, may decide to meet its disbursement obligations on an annual basis or to settle previously accumulated obligations during any given year. Mastercard Foundation will be permitted to sell all of its remaining shares beginning May 1, 2027.

Stock Repurchase Programs

The Company's Board of Directors have approved share repurchase programs authorizing the Company to repurchase shares of its Class A Common Stock. These programs become effective after the completion of the previously authorized share repurchase program.

The following table summarizes the Company's share repurchase authorizations of its Class A common stock through December 31, 2017, as well as historical purchases:

Board authorization dates	December 2017	December 2016	December 2015	December 2014	December 2013	
Date program became effective	N/A [1]	April 2017	February 2016	January 2015	January 2014	Total
	(in millions, except average price data)					
Board authorization	$ 4,000	$ 4,000	$ 4,000	$ 3,750	$ 3,500	$ 19,250
Dollar-value of shares repurchased in 2015	$ —	$ —	$ —	$ 3,243	$ 275	$ 3,518
Remaining authorization at December 31, 2015	$ —	$ —	$ 4,000	$ 507	$ —	$ 4,507
Dollar-value of shares repurchased in 2016	$ —	$ —	$ 3,004	$ 507	$ —	$ 3,511
Remaining authorization at December 31, 2016	$ —	$ 4,000	$ 996	$ —	$ —	$ 4,996
Dollar-value of shares repurchased in 2017	$ —	$ 2,766	$ 996	$ —	$ —	$ 3,762
Remaining authorization at December 31, 2017	$ 4,000	$ 1,234	$ —	$ —	$ —	$ 5,234
Shares repurchased in 2015	—	—	—	35.1	3.2	38.3
Average price paid per share in 2015	$ —	$ —	$ —	$ 92.39	$ 84.31	$ 91.70

Shares repurchased in 2016	—	—	31.2	5.7	—	36.9
Average price paid per share in 2016	$ —	$ —	$ 96.15	$ 89.76	$ —	$ 95.18
Shares repurchased in 2017	—	21.0	9.1	—	—	30.1
Average price paid per share in 2017	$ —	$131.97	$109.16	$ —	$ —	$ 125.05
Cumulative shares repurchased through December 31, 2017	—	21.0	40.4	40.8	45.8	148.0
Cumulative average price paid per share	$ —	$131.97	$ 99.10	$ 92.03	$ 76.42	$ 94.78

[1] The December share repurchase program will become effective after completion of the December 2016 share repurchase program.

The following table presents the changes in the Company's outstanding Class A and Class B common stock for the years ended December 31:

	Outstanding Shares	
	Class A	Class B
	(in millions)	
Balance at December 31, 2014	1,115.4	37.2
Purchases of treasury stock	(38.3)	—
Share-based payments	2.0	—
Conversion of Class B to Class A common stock	15.9	(15.9)
Balance at December 31, 2015	1,095.0	21.3
Purchases of treasury stock	(36.9)	—
Share-based payments	2.3	—
Conversion of Class B to Class A common stock	2.0	(2.0)
Balance at December 31, 2016	1,062.4	19.3
Purchases of treasury stock	(30.1)	—
Share-based payments	2.2	—
Conversion of Class B to Class A common stock	5.2	(5.2)
Balance at December 31, 2017	1,039.7	14.1

Note 14. *Accumulated Other Comprehensive Income (Loss)*

The changes in the balances of each component of accumulated other comprehensive income (loss), net of tax, for the years ended December 31, 2017 and 2016 were as follows:

	Foreign Currency Translation Adjustments[1]	Translation Adjustments on Net Investment Hedge	Defined Benefit Pension and Other Postretirement Plans[2]	Investment Securities Available-for-Sale[3]	Accumulated Other Comprehensive Income (Loss)
			(in millions)		
Balance at December 31, 2015	$ (663)	$ (26)	$ 13	$ —	$ (676)
Other comprehensive income (loss)	(286)	38	(2)	2	(248)
Balance at December 31, 2016	(949)	12	11	2	(924)
Other comprehensive income (loss)	567	(153)	14	(1)	427
Balance at December 31, 2017	$ (382)	$ (141)	$ 25	$ 1	$ (497)

1 During 2016, the increase in other comprehensive loss related to foreign currency translation adjustments was driven primarily by the devaluation of the British pound and euro. During 2017, the decrease in other comprehensive loss related to foreign currency translation adjustments was driven primarily by the appreciation of the euro.

2 During 2016, deferred gains related to the Company's postretirement plans, reclassified from accumulated other comprehensive income (loss) to earnings, were $1 million before and after tax. During 2017, the decrease in other comprehensive loss related to the Company's postretirement plan was driven by a tax deferred gain primarily related to a defined benefit pension plan, acquired as part of Vocalink. See Note 11 (Pension, Postretirement and Savings Plans) for additional information. In addition, deferred gains related to the Company's postretirement plans, reclassified from accumulated other comprehensive income (loss) to earnings, were $2 million before tax and $1 million after tax.

[3] During 2016 and 2017, gains and losses on available-for-sale investment securities, reclassified from accumulated other comprehensive income (loss) to investment income, were not significant.

Note 15. *Share-Based Payments*

In May 2006, the Company implemented the Mastercard Incorporated 2006 Long Term Incentive Plan, which was amended and restated as of June 5, 2012 (the "LTIP"). The LTIP is a stockholder-approved plan that permits the grant of various types of equity awards to employees.

The Company has granted Options, RSUs and PSUs under the LTIP. The Options, which expire ten years from the date of grant, generally vest ratably over four years from the date of grant. The RSUs and PSUs generally vest after three years. The Company uses the straight-line method of attribution for expensing equity awards. Compensation expense is recorded net of estimated forfeitures. Estimates are adjusted as appropriate.

For all awards granted prior to March 2017, a participant's unvested awards are forfeited upon termination of employment. For all awards granted on or after March 1, 2017, in the event of termination due to job elimination (as defined by the Company), a participant will retain a pro-rata portion of the unvested awards for services performed through the date of termination. In the event a participant terminates employment due to disability or retirement more than six months (seven months for those granted on or after March 1, 2017) after receiving the award, the participant retains all of their awards without providing additional service to the Company. Retirement eligibility is dependent upon age and years of service. Compensation expense is recognized over the shorter of the vesting periods stated in the LTIP or the date the individual becomes eligible to retire but not less than six months (or seven months for grants awarded on or after March 1, 2017).

There are approximately 116 million shares of Class A common stock authorized for equity awards under the LTIP. Although the LTIP permits the issuance of shares of Class B common stock, no such shares have been authorized for issuance. Shares issued as a result of Option exercises and the conversions of RSUs and PSUs were funded primarily with the issuance of new shares of Class A common stock.

Stock Options

The fair value of each Option is estimated on the date of grant using a Black-Scholes option pricing model. The following table presents the weighted-average assumptions used in the valuation and the resulting weighted-average fair value per option granted for the years ended December 31:

	2017	2016	2015
Risk-free rate of return	2.0%	1.3%	1.5%
Expected term (in years)	5.00	5.00	5.00
Expected volatility	19.3%	23.3%	20.6%
Expected dividend yield	0.8%	0.8%	0.7%
Weighted-average fair value per Option granted	$ 21.23	$ 18.58	$ 17.29

The risk-free rate of return was based on the U.S. Treasury yield curve in effect on the date of grant. The expected term and the expected volatility were based on historical Mastercard information. The expected dividend yields were based on the Company's expected annual dividend rate on the date of grant.

The following table summarizes the Company's option activity for the year ended December 31, 2017:

	Options	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in millions)		(in years)	(in millions)

Outstanding at January 1, 2017	8.3	$	65		
Granted	1.7	$	112		
Exercised	(1.3)	$	43		
Forfeited/expired	(0.1)	$	98		
Outstanding at December 31, 2017	8.6	$	77	6.6	$ 639
Exercisable at December 31, 2017	4.6	$	59	5.2	$ 424
Options vested and expected to vest at December 31, 2017	8.5	$	77	6.6	$ 634

As of December 31, 2017, there was $32 million of total unrecognized compensation cost related to non-vested Options. The cost is expected to be recognized over a weighted-average period of 2.2 years.

Restricted Stock Units

The following table summarizes the Company's RSU activity for the year ended December 31, 2017:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2017	4.1	$ 86	
Granted	1.4	$ 112	
Converted	(1.2)	$ 76	
Forfeited	(0.2)	$ 95	
Outstanding at December 31, 2017	4.1	$ 97	$ 623
RSUs vested and expected to vest at December 31, 2017	4.0	$ 97	$ 599

The fair value of each RSU is the closing stock price on the New York Stock Exchange of the Company's Class A common stock on the date of grant, adjusted for the exclusion of dividend equivalents. Upon vesting, a portion of the RSU award may be withheld to satisfy the minimum statutory withholding taxes. The remaining RSUs will be settled in shares of the Company's Class A common stock after the vesting period. As of December 31, 2017, there was $156 million of total unrecognized compensation cost related to non-vested RSUs. The cost is expected to be recognized over a weighted-average period of 1.8 years.

Performance Stock Units

The following table summarizes the Company's PSU activity for the year ended December 31, 2017:

	Units	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
	(in millions)		(in millions)
Outstanding at January 1, 2017	0.4	$ 90	
Granted	0.2	$ 126	
Converted	(0.1)	$ 78	
Outstanding at December 31, 2017	0.5	$ 105	$ 74
PSUs vested and expected to vest at December 31, 2017	0.5	$ 105	$ 72

Since 2013, PSUs containing performance and market conditions have been issued. Performance measures used to determine the actual number of shares that vest after three years include net revenue growth, EPS growth, and relative total shareholder return ("TSR"). Relative TSR is considered a market condition, while net revenue and EPS growth are considered performance conditions. The Monte Carlo simulation valuation model is used to determine the grant-date fair value.

Compensation expenses for PSUs are recognized over the requisite service period if it is probable that the performance target will be achieved and subsequently adjusted if the probability assessment changes. As of December 31, 2017, there was $13 million of total unrecognized compensation cost related to non-vested PSUs. The cost is expected to be recognized over a weighted-average period of 1.6 years.

Additional Information

The following table includes additional share-based payment information for each of the years ended December 31:

	2017	2016	2015
	(in millions, except weighted-average fair value)		
Share-based compensation expense: Options, RSUs and PSUs	$ 176	$ 148	$ 122
Income tax benefit recognized for equity awards	57	49	41
Income tax benefit realized related to Options exercised	36	31	19
Options:			
Total intrinsic value of Options exercised	106	86	57
RSUs:			
Weighted-average grant-date fair value of awards granted	112	91	88
Total intrinsic value of RSUs converted into shares of Class A common stock	131	122	135
PSUs:			
Weighted-average grant-date fair value of awards granted	126	92	99
Total intrinsic value of PSUs converted into shares of Class A common stock	13	25	24

Note 16. *Commitments*

At December 31, 2017, the Company had the following future minimum payments due under non-cancelable agreements:

	Total	Capital Leases	Operating Leases	Sponsorship, Licensing & Other
		(in millions)		
2018	$ 456	$ 4	$ 64	$ 388
2019	265	4	36	225
2020	196	4	41	151
2021	98	—	20	78
2022	38	—	6	32
Thereafter	35	—	34	1
Total	$ 1,088	$ 12	$ 201	$ 875

Included in the table above are capital leases with a net present value of minimum lease payments of $11 million. In addition, at December 31, 2017, $20 million of the future minimum payments in the table above for sponsorship, licensing and other agreements was accrued. Consolidated rental expense for the Company's leased office space was $77 million, $62 million and $52 million for 2017, 2016 and 2015, respectively. Consolidated lease

expense for automobiles, computer equipment and office equipment was $22 million, $19 million and $17 million for 2017, 2016 and 2015, respectively.

Note 17. *Income Taxes*

On December 22, 2017, in the U.S., the TCJA was enacted into law. The TCJA represents significant changes to the U.S. internal revenue code and, among other things:

- lowers the corporate income tax rate from 35% to 21%
- imposes a one-time deemed repatriation tax on accumulated foreign earnings (the "Transition Tax")
- provides for a 100% dividends received deduction on dividends from foreign affiliates
- requires a current inclusion in U.S. federal taxable income of earnings of foreign affiliates that are determined to be global intangible low taxed income or "GILTI"
- creates the base erosion anti-abuse tax, or "BEAT"

- provides for an effective tax rate of 13.125% for certain income derived from outside of the U.S. (referred to as foreign derived intangible income or "FDII")
- introduces further limitations on the deductibility of executive compensation
- permits 100% expensing of qualifying fixed assets acquired after September 27, 2017
- limits the deductibility of interest expense in certain situations
- eliminates the domestic production activities deduction

While the effective date of the law for most provisions is January 1, 2018, GAAP requires the resulting tax effects be accounted for in the reporting period of enactment. This includes the Transition Tax, the remeasurement of the Company's net deferred tax asset balance in the U.S., the dilution of foreign tax credit benefits on the repatriation of current year foreign earnings and the recognition of a deferred tax liability resulting from the change in the Company's indefinite reinvestment assertion for certain foreign affiliates. The impact of the TCJA is discussed further below. Also, on December 22, 2017, SEC staff issued Staff Accounting Bulletin No. 118 - Income Tax Accounting Implications of the Tax Cuts and Jobs Act ("SAB 118") which will allow registrants to record provisional amounts during a measurement period, which is not to extend beyond one year. Accordingly, amounts reflected below may require further adjustments due to evolving analysis and interpretations of law, including issuance by the Internal Revenue Service (the "IRS") and The Department of Treasury ("Treasury") of Notices, regulations and, potentially, direct discussions with Treasury, as well as interpretations of how accounting for income taxes should be applied to the TCJA.

The domestic and foreign components of income before income taxes for the years ended December 31 are as follows:

	2017	2016	2015
		(in millions)	
United States	$ 3,482	$ 3,736	$ 3,399
Foreign	3,040	1,910	1,559
Income before income taxes	$ 6,522	$ 5,646	$ 4,958

The total income tax provision for the years ended December 31 is comprised of the following components:

	2017	2016	2015
		(in millions)	
Current			
Federal	$ 1,704	$ 1,074	$ 677
State and local	65	36	45
Foreign	752	497	444
	2,521	1,607	1,166
Deferred			
Federal	134	(6)	4

State and local	1	(2)	(3)
Foreign	(49)	(12)	(17)
	86	(20)	(16)
Income tax expense	$ 2,607	$ 1,587	$ 1,150

As of December 31, 2017, a provisional amount of U.S. federal and state and local income taxes of $36 million has been provided on a substantial amount of the Company's undistributed foreign earnings. This deferred tax charge has been established primarily on the estimated foreign exchange gain which will be recognized when such earnings are repatriated. The Company expects that foreign withholding taxes associated with these future repatriated earnings will not be material. Based upon the ongoing review of business requirements and capital needs of the Company's non-U.S. subsidiaries, the Company believes a portion of these undistributed earnings that have already been subject to tax in the U.S. will be necessary to fund current and future growth of the related businesses and will remain indefinitely reinvested outside of the U.S. In 2018, the Company will complete its analysis of global working capital and cash needs to determine the amount it considers indefinitely reinvested. It will disclose such amount in the period in which such analysis is completed, as well as, if practicable, any potential tax cost that would arise if the amounts were remitted back to the U.S.

The provision for income taxes differs from the amount of income tax determined by applying the U.S. federal statutory income tax rate of 35% to pretax income for the years ended December 31, as a result of the following:

	2017		2016		2015	
	Amount	Percent	Amount	Percent	Amount	Percent
	(in millions, except percentages)					
Income before income taxes	$ 6,522		$ 5,646		$ 4,958	
Federal statutory tax	2,283	35.0 %	1,976	35.0 %	1,735	35.0 %
State tax effect, net of federal benefit	43	0.7 %	22	0.4 %	27	0.5 %
Foreign earnings	(380)	(5.8%)	(188)	(3.3%)	(144)	(2.9%)
Impact of foreign tax credits [1]	(27)	(0.4%)	(141)	(2.5%)	(281)	(5.7%)
Impact of settlements with tax authorities	—	— %	—	— %	(147)	(2.9%)
Transition Tax	629	9.6 %	—	— %	—	— %
Remeasurement of U.S. deferred taxes	157	2.4 %	—	— %	—	— %
Other, net	(98)	(1.5%)	(82)	(1.5%)	(40)	(0.8%)
Income tax expense	$ 2,607	40.0 %	$ 1,587	28.1 %	$ 1,150	23.2 %

[1] Included within the impact of foreign tax credits are repatriation benefits of current year foreign earnings of $0 million, $116 million and $172 million, in addition to other foreign tax credit benefits which become eligible in the United States of $27 million, $25 million and $109 million for 2017, 2016 and 2015, respectively.

Effective Income Tax Rate

The effective income tax rates for the years ended December 31, 2017, 2016 and 2015 were 40.0%, 28.1% and 23.2%, respectively. The effective income tax rate for 2017 was higher than the effective income tax rate for 2016 primarily due to additional tax expense of $873 million attributable to the TCJA, which includes provisional amounts of $825 million related to the Transition Tax, the remeasurement of the Company's net deferred tax asset balance in the U.S. and the recognition of a deferred tax liability related to a change in assertion regarding the indefinite reinvestment of a substantial amount of the Company's foreign earnings, as well as $48 million due to a foregone foreign tax credit benefit on current year repatriations. In addition, the Company's effective income tax rate versus the prior year was impacted by a more favorable geographic mix of taxable earnings in 2017, partially offset by a lower U.S. foreign tax credit benefit.

There are provisional current and noncurrent components of the Company's liability for the Transition Tax. The Transition Tax will be paid over 8 annual installments commencing April 15, 2018. Approximately $52 million and $577 million of the total amount due is recorded in other current liabilities and other liabilities, respectively, on the consolidated balance sheet at December 31, 2017. Under the TCJA, for purposes of IRS examination of the Transition Tax, the statute of limitations is extended to six years.

Consistent with SAB 118, the Company was able to make reasonable estimates and has incorporated provisional amounts for the impact of the Transition Tax. This tax is on previously untaxed accumulated and current earnings and profits of the Company's foreign subsidiaries. To compute the tax, the Company must determine the amount of post-1986 earnings and profits of relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. The Company was able to make reasonable estimates and has recorded provisional amounts of $629 million related to the Transition Tax, $157 million charge for the remeasurement of the Company's net deferred tax asset in the U.S. and $36 million related to the change in assertion regarding the indefinite reinvestment of foreign earnings. However, these amounts may require further adjustments during the measurement period due to evolving analysis and interpretations of law, including issuance by the IRS and Treasury of Notices and regulations, and, potentially, direct discussions with Treasury, as well as interpretations of how accounting for income taxes should be applied.

The effective income tax rate for 2016 was higher than the effective income tax rate for 2015 primarily due to benefits associated with the impact of settlements with tax authorities in multiple jurisdictions in 2015, the lapping of a discrete benefit relating to certain foreign taxes that became eligible to be claimed as credits in the United States in 2015, and a higher U.S. foreign tax credit benefit associated with the repatriation of current year foreign earnings in 2015. These items were partially offset by a more favorable geographic mix of taxable earnings in 2016.

During 2014, the Company implemented an initiative to better align its legal entity and tax structure with its operational footprint outside of the U.S. This initiative resulted in a one-time taxable gain in Belgium relating to the transfer of intellectual property

to a related foreign entity in the United Kingdom. Management believes this improved alignment has resulted in greater flexibility and efficiency with regard to the global deployment of cash, as well as ongoing benefits in the Company's effective income tax rate. The Company recorded a deferred charge related to the income tax expense on intercompany profits that resulted from the transfer. The tax associated with the transfer is deferred and amortized utilizing a 25-year life. This deferred charge is included in other current assets and other assets on the consolidated balance sheet at December 31, 2017 in the amounts of $17 million and $352 million, respectively. The comparable amounts included in other current assets and other assets were $15 million and $325 million, respectively, at December 31, 2016, with the difference driven by changes in foreign exchange rates and current period amortization.

In October 2016, the FASB issued accounting guidance to simplify the accounting for income tax consequences of intra-entity transfers of assets other than inventory. Under this guidance, companies will be required to recognize the income tax consequences of an intra-entity asset transfer when the transfer occurs. The guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the period of adoption. The Company will adopt this accounting guidance on January 1, 2018. The aforementioned deferred charge of $369 million at December 31, 2017, will be written off to retained earnings as a component of the cumulative-effect adjustment. In addition, deferred taxes will also be a component of the cumulative-effect adjustment whereby the Company expects to record a $186 million deferred tax asset in this regard. See Note 1 (Summary of Significant Accounting Policies) for additional information related to this guidance.

In 2010, in connection with the expansion of the Company's operations in the Asia Pacific, Middle East and Africa region, the Company's subsidiary in Singapore, Mastercard Asia Pacific Pte. Ltd. ("MAPPL") received an incentive grant from the Singapore Ministry of Finance. The incentive had provided MAPPL with, among other benefits, a reduced income tax rate for the 10-year period commencing January 1, 2010 on taxable income in excess of a base amount. The Company continued to explore business opportunities in this region, resulting in an expansion of the incentives being granted by the Ministry of Finance, including a further reduction to the income tax rate on taxable income in excess of a revised fixed base amount commencing July 1, 2011 and continuing through December 31, 2025. Without the incentive grant, MAPPL would have been subject to the statutory income tax rate on its earnings. For 2017, 2016 and 2015, the impact of the incentive grant received from the Ministry of Finance resulted in a reduction of MAPPL's income tax liability of $104 million, or $0.10 per diluted share, $49 million, or $0.04 per diluted share, and $47 million, or $0.04 per diluted share, respectively.

Deferred Taxes

Deferred tax assets and liabilities represent the expected future tax consequences of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The components of deferred tax assets and liabilities at December 31 are as follows:

	2017	2016
	(in millions)	
Deferred Tax Assets		
Accrued liabilities	$ 158	$ 174
Compensation and benefits	127	273
State taxes and other credits	28	41
Net operating and capital losses	105	81
Unrealized gain/loss - 2015 Euro Notes	48	—
Recoverable basis of deconsolidated entities	35	—
Other items	83	79
Less: Valuation allowance	(91)	(91)
Total Deferred Tax Assets	493	557
Deferred Tax Liabilities		
Prepaid expenses and other accruals	48	46
Intangible assets	151	105
Property, plant and equipment	83	155
Unrealized gain/loss - 2015 Euro Notes	—	7
Previously taxed earnings and profits	36	—
Other items	31	18
Total Deferred Tax Liabilities	349	331
Net Deferred Tax Assets	$ 144	$ 226

As a result of the TCJA, the December 31, 2017 deferred tax balance has been reduced by $157 million during 2017 through the provisional remeasurement of the U.S. deferred tax assets and liabilities.

Both the 2017 and 2016 valuation allowances relate primarily to the Company's ability to recognize tax benefits associated with certain foreign net operating losses. The net activity related to the valuation allowance balance at December 31, 2017 from the December 31, 2016 balance is attributable to an increase from additional foreign losses offset by a reduction, due to remeasurement of the deferred tax attribute, for capital loss and capital asset impairments in the United States. The recognition of the foreign losses is dependent upon the future taxable income in such jurisdictions and the ability under tax law in these jurisdictions to utilize net operating losses following a change in control. The recognition of losses with regard to capital loss and impairments is dependent upon the recognition of future capital gains in the United States.

A reconciliation of the beginning and ending balance for the Company's unrecognized tax benefits for the years ended December 31, is as follows:

	2017	2016	2015
		(in millions)	
Beginning balance	$ 169	$ 181	$ 364
Additions:			
Current year tax positions	21	20	20
Prior year tax positions	9	13	10
Reductions:			
Prior year tax positions	(1)	(28)	(151)
Settlements with tax authorities	(4)	(2)	(53)
Expired statute of limitations	(11)	(15)	(9)
Ending balance	$ 183	$ 169	$ 181

The entire unrecognized tax benefit of $183 million, if recognized, would reduce the effective tax rate. During 2015, there was a reduction to the balance of the Company's unrecognized tax benefits. This was primarily due to settlements with tax authorities in multiple jurisdictions. Further, the information gained related to these matters was considered in measuring uncertain tax benefits recognized for the periods subsequent to the periods settled.

The Company is subject to tax in the United States, Belgium, Singapore, the United Kingdom and various other foreign jurisdictions, as well as state and local jurisdictions. Uncertain tax positions are reviewed on an ongoing basis and are adjusted after considering facts and circumstances, including progress of tax audits, developments in case law and closing of statutes of limitation. Within the next twelve months, the Company believes that the resolution of certain federal, foreign and state and local examinations are reasonably possible and that a change in estimate, reducing unrecognized tax benefits, may occur. While such a change may be significant, it is not possible to provide a range of the potential change until the examinations progress further or the related statutes of limitation expire. The Company has effectively settled its U.S. federal income tax obligations through 2008, with the exception of transfer pricing issues which are settled through 2011. With limited exception, the Company is no longer subject to state and local or foreign examinations by tax authorities for years before 2010.

It is the Company's policy to account for interest expense related to income tax matters as interest expense in its consolidated statement of operations, and to include penalties related to income tax matters in the income tax provision. The Company recorded tax-related interest expense of $1 million in 2017 and tax-related interest income of $4 million and $3 million in 2016 and 2015, respectively, in its consolidated statement of operations. At December 31, 2017 and 2016, the Company had a net income tax-related interest payable of $10 million and $9 million, respectively, in its consolidated balance sheet. At December 31, 2017 and 2016, the amounts the Company had recognized for penalties payable in its consolidated balance sheet were not material.

Other Impacts of the TCJA

As mentioned above, the TCJA imposes significant changes to U.S. tax law. The Company expects to pay a marginal amount of GILTI. However, in accordance with FASB guidance, the Company's policy will be to recognize GILTI in the period it arises and it will not recognize a deferred charge with regard to GILTI. The Company does not expect to be subject to the BEAT. The Company expects to recognize income in the U.S. that will qualify as FDII and be taxed at the lower 13.125% effective tax rate. The Company will be eligible to expense qualifying fixed assets acquired after September 27, 2017, will be impacted by the additional limitations imposed on the deductibility of executive compensation, and does not expect to be impacted by the limitations placed on the deductibility of interest expense. Finally, the Company will lose its domestic production activities deduction.

Note 18. *Legal and Regulatory Proceedings*

Mastercard is a party to legal and regulatory proceedings with respect to a variety of matters in the ordinary course of business. Some of these proceedings are based on complex claims involving substantial uncertainties and unascertainable damages. Accordingly, except as discussed below, it is not possible to determine the probability of loss or estimate damages, and therefore, Mastercard has not established reserves for any of these proceedings. When the Company determines that a loss is both probable and reasonably estimable, Mastercard records a liability and discloses the amount of the liability if it is material. When a material

loss contingency is only reasonably possible, Mastercard does not record a liability, but instead discloses the nature and the amount of the claim, and an estimate of the loss or range of loss, if such an estimate can be made. Unless otherwise stated below with respect to these matters, Mastercard cannot provide an estimate of the possible loss or range of loss based on one or more of the following reasons: (1) actual or potential plaintiffs have not claimed an amount of monetary damages or the amounts are unsupportable or exaggerated, (2) the matters are in early stages, (3) there is uncertainty as to the outcome of pending appeals or motions, (4) there are significant factual issues to be resolved, (5) the existence in many such proceedings of multiple defendants or potential defendants whose share of any potential financial responsibility has yet to be determined, and/or (6) there are novel legal issues presented. Furthermore, except as identified with respect to the matters below, Mastercard does not believe that the outcome of any individual existing legal or regulatory proceeding to which it is a party will have a material adverse effect on its results of operations, financial condition or overall business. However, an adverse judgment or other outcome or settlement with respect to any proceedings discussed below could result in fines or payments by Mastercard and/or could require Mastercard to change its business practices. In addition, an adverse outcome in a regulatory proceeding could lead to the filing of civil damage claims and possibly result in significant damage awards. Any of these events could have a material adverse effect on Mastercard's results of operations, financial condition and overall business.

Interchange Litigation and Regulatory Proceedings

Mastercard's interchange fees and other practices are subject to regulatory and/or legal review and/or challenges in a number of jurisdictions, including the proceedings described below. When taken as a whole, the resulting decisions, regulations and legislation with respect to interchange fees and acceptance practices may have a material adverse effect on the Company's prospects for future growth and its overall results of operations, financial position and cash flows.

United States. In June 2005, the first of a series of complaints were filed on behalf of merchants (the majority of the complaints were styled as class actions, although a few complaints were filed on behalf of individual merchant plaintiffs) against Mastercard International, Visa U.S.A., Inc., Visa International Service Association and a number of financial institutions. Taken together, the claims in the complaints were generally brought under both Sections 1 and 2 of the Sherman Act, which prohibit monopolization and attempts or conspiracies to monopolize a particular industry, and some of these complaints contain unfair competition law claims under state law. The complaints allege, among other things, that Mastercard, Visa, and certain financial institutions conspired to set the price of interchange fees, enacted point of sale acceptance rules (including the no surcharge rule) in violation of antitrust laws and engaged in unlawful tying and bundling of certain products and services. The cases were consolidated for pre-trial proceedings in the U.S. District Court for the Eastern District of New York in MDL No. 1720. The plaintiffs filed a consolidated class action complaint that seeks treble damages.

In July 2006, the group of purported merchant class plaintiffs filed a supplemental complaint alleging that Mastercard's initial public offering of its Class A Common Stock in May 2006 (the "IPO") and certain purported agreements entered into between Mastercard and financial institutions in connection with the IPO: (1) violate U.S. antitrust laws and (2) constituted a fraudulent conveyance because the financial institutions allegedly attempted to release, without adequate consideration, Mastercard's right to assess them for Mastercard's litigation liabilities. The class plaintiffs sought treble damages and injunctive relief including, but not limited to, an order reversing and unwinding the IPO.

In February 2011, Mastercard and Mastercard International entered into each of: (1) an omnibus judgment sharing and settlement sharing agreement with Visa Inc., Visa U.S.A. Inc. and Visa International Service Association and a number of financial institutions; and (2) a Mastercard settlement and judgment sharing agreement with a number of financial institutions. The agreements provide for the apportionment of certain costs and liabilities which Mastercard, the Visa parties and the financial institutions may incur, jointly and/or severally, in the event of an adverse judgment or settlement of one or all of the cases in the merchant litigations. Among a number of scenarios addressed by the agreements, in the event of a global settlement involving the Visa parties, the financial institutions and Mastercard, Mastercard would pay 12% of the monetary portion of the settlement. In the event of a settlement involving only Mastercard and the financial institutions with respect to their issuance of Mastercard cards, Mastercard would pay 36% of the monetary portion of such settlement.

In October 2012, the parties entered into a definitive settlement agreement with respect to the merchant class litigation (including with respect to the claims related to the IPO) and the defendants separately entered into a settlement agreement with the individual merchant plaintiffs. The settlements included cash payments that were apportioned among the defendants pursuant to the omnibus judgment sharing and settlement sharing agreement described above. Mastercard also agreed to provide class members with a short-term

reduction in default credit interchange rates and to modify certain of its business practices, including its "no surcharge" rule. The court granted final approval of the settlement in December 2013, and objectors to the settlement appealed that decision to the U.S. Court of Appeals for the Second Circuit. In June 2016, the court of appeals vacated the class action certification, reversed the settlement approval and sent the case back to the district court for further proceedings. The court of appeals' ruling was based primarily on whether the merchants were adequately represented by counsel in the settlement.

Prior to the reversal of the settlement approval, merchants representing slightly more than 25% of the Mastercard and Visa purchase volume over the relevant period chose to opt out of the class settlement. Mastercard had anticipated that most of the larger merchants who opted out of the settlement would initiate separate actions seeking to recover damages, and over 30 opt-out complaints have been filed on behalf of numerous merchants in various jurisdictions. Mastercard has executed settlement agreements with a number of opt-out merchants. Mastercard believes these settlement agreements are not impacted by the ruling of the court of appeals. The defendants have consolidated all of these matters (except for two state court actions) in front of the same federal district court that approved the merchant class settlement. In July 2014, the district court denied the defendants' motion to dismiss the opt-out merchant complaints for failure to state a claim. Deposition discovery commenced in December 2016 and the parties in the class action are in mediation.

As of December 31, 2017, Mastercard had accrued a liability of $708 million as a reserve for both the merchant class litigation and the filed and anticipated opt-out merchant cases. As of December 31, 2017 and 2016, Mastercard had $546 million and $543 million, respectively, in a qualified cash settlement fund related to the merchant class litigation and classified as restricted

cash on its consolidated balance sheet. Mastercard believes the reserve for both the merchant class litigation and the filed and anticipated opt-out merchants represents its best estimate of its probable liabilities in these matters at December 31, 2017. The portion of the accrued liability relating to both the opt-out merchants and the merchant class litigation settlement does not represent an estimate of a loss, if any, if the matters were litigated to a final outcome. Mastercard cannot estimate the potential liability if that were to occur.

Canada. In December 2010, a proposed class action complaint was commenced against Mastercard in Quebec on behalf of Canadian merchants. The suit essentially repeated the allegations and arguments of a previously filed application by the Canadian Competition Bureau to the Canadian Competition Tribunal (dismissed in Mastercard's favor) concerning certain Mastercard rules related to point-of-sale acceptance, including the "honor all cards" and "no surcharge" rules. The Quebec suit sought compensatory and punitive damages in unspecified amounts, as well as injunctive relief. In the first half of 2011, additional purported class action lawsuits were commenced in British Columbia and Ontario against Mastercard, Visa and a number of large Canadian financial institutions. The British Columbia suit sought compensatory damages in unspecified amounts, and the Ontario suit sought compensatory damages of $5 billion on the basis of alleged conspiracy and various alleged breaches of the Canadian Competition Act. Additional purported class action complaints were commenced in Saskatchewan and Alberta with claims that largely mirror those in the other suits. In June 2017, Mastercard entered into a class settlement agreement to resolve all of the Canadian class action litigation. The settlement, which is subject to court approval in each applicable province, requires Mastercard to make a cash payment and modify its "no surcharge" rule. During the first quarter of 2017, the Company recorded a provision for litigation of $15 million related to this matter.

Europe. In July 2015, the European Commission issued a Statement of Objections related to Mastercard's interregional interchange fees and central acquiring rules within the European Economic Area. The Statement of Objections, which follows an investigation opened in 2013, includes preliminary conclusions concerning the alleged anticompetitive effects of these practices. The European Commission has indicated it intends to seek fines if these conclusions are subsequently confirmed. In April 2016, Mastercard submitted a response to the Statement of Objections disputing the European Commission's preliminary conclusions and participated in a related oral hearing in May 2016. Since that time, Mastercard has remained in discussions with the European Commission. Although the Statement of Objections does not quantify the level of fines, based upon recent interactions with the European Commission, it is possible that they could be substantial, potentially in excess of $1 billion if the European Commission were to issue a negative decision. Fines may be less than this amount in the event of a negotiated resolution. Due to the uncertainty of numerous legal issues, including the potential for a negotiated resolution, Mastercard cannot estimate a possible range of loss at this time, although Mastercard expects to obtain greater clarity with respect to these issues in the first half of 2018.

In the United Kingdom, beginning in May 2012, a number of retailers filed claims or threatened litigation against Mastercard seeking damages for alleged anti-competitive conduct with respect to Mastercard's cross-border interchange fees and its U.K. and Ireland domestic interchange fees (the "U.K. Merchant claimants"), with claimed purported damages exceeding $1 billion. The U.K. Merchant claimants (including all resolved matters) represent approximately 40% of Mastercard's U.K. interchange volume over the relevant damages period. Additional merchants have filed or threatened litigation with respect to interchange rates in Europe (the "Pan-European claimants") for purported damages exceeding $1 billion. Mastercard submitted statements of defense to the retailers' claims disputing liability and

damages. In June 2015, Mastercard entered into a settlement with one of the U.K. Merchant claimants for $61 million, recorded as a provision for litigation settlement. Following the conclusion of a trial for liability and damages for one of the U.K. merchant cases, in July 2016, the tribunal issued a judgment against Mastercard for damages. Mastercard recorded a litigation provision of $107 million in the second quarter of 2016 that includes the amount of the judgment and estimated legal fees and costs. Mastercard has been granted permission to appeal this judgment. In the fourth quarter of 2016, Mastercard recorded a charge of $10 million relating to settlements with multiple U.K. Merchant claimants.

In January 2017, Mastercard received a liability judgment in its favor on all significant matters in a separate action brought by ten of the U.K. Merchant claimants, who had been seeking in excess of $500 million in damages. Subsequently, Mastercard settled with six of these claimants to resolve their claims, with no financial payments required by Mastercard. Three of the U.K. Merchant claimants are appealing the judgment.

In September 2016, a proposed collective action was filed in the United Kingdom on behalf of U.K. consumers seeking damages for intra-EEA and domestic U.K. interchange fees that were allegedly passed on to consumers by merchants between 1992 and 2008. The complaint, which seeks to leverage the European Commission's 2007 decision on intra-EEA interchange fees, claims damages in an amount that exceeds £14 billion (approximately $19 billion as of December 31, 2017). In July 2017, the court denied the plaintiffs' application for the case to proceed as a collective action. The plaintiffs' request for permission to appeal this decision was denied, which they have appealed. The plaintiffs have also filed a separate request for judicial review of the court's denial of their collective action.

ATM Non-Discrimination Rule Surcharge Complaints

In October 2011, a trade association of independent Automated Teller Machine ("ATM") operators and 13 independent ATM operators filed a complaint styled as a class action lawsuit in the U.S. District Court for the District of Columbia against both Mastercard and Visa (the "ATM Operators Complaint"). Plaintiffs seek to represent a class of non-bank operators of ATM terminals that operate in the United States with the discretion to determine the price of the ATM access fee for the terminals they operate. Plaintiffs allege that Mastercard and Visa have violated Section 1 of the Sherman Act by imposing rules that require ATM operators to charge non-discriminatory ATM surcharges for transactions processed over Mastercard's and Visa's respective networks that are not greater than the surcharge for transactions over other networks accepted at the same ATM. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees. Plaintiffs have not quantified their damages although they allege that they expect damages to be in the tens of millions of dollars.

Subsequently, multiple related complaints were filed in the U.S. District Court for the District of Columbia alleging both federal antitrust and multiple state unfair competition, consumer protection and common law claims against Mastercard and Visa on behalf of putative classes of users of ATM services (the "ATM Consumer Complaints"). The claims in these actions largely mirror the allegations made in the ATM Operators Complaint, although these complaints seek damages on behalf of consumers of ATM services who pay allegedly inflated ATM fees at both bank and non-bank ATM operators as a result of the defendants' ATM rules. Plaintiffs seek both injunctive and monetary relief equal to treble the damages they claim to have sustained as a result of the alleged violations and their costs of suit, including attorneys' fees. Plaintiffs have not quantified their damages although they allege that they expect damages to be in the tens of millions of dollars.

In January 2012, the plaintiffs in the ATM Operators Complaint and the ATM Consumer Complaints filed amended class action complaints that largely mirror their prior complaints. In February 2013, the district court granted Mastercard's motion to dismiss the complaints for failure to state a claim. On appeal, the Court of Appeals reversed the district court's order in August 2015 and sent the case back for further proceedings.

U.S. Liability Shift Litigation

In March 2016, a proposed U.S. merchant class action complaint was filed in federal court in California alleging that Mastercard, Visa, American Express and Discover (the "Network Defendants"), EMVCo, and a number of issuing banks (the "Bank Defendants") engaged in a conspiracy to shift fraud liability for card present transactions from issuing banks to merchants not yet in compliance with the standards for EMV chip cards in the United States (the "EMV Liability Shift"), in violation of the Sherman Act and California law. Plaintiffs allege damages equal to the value of all chargebacks for which class members became liable as a result of the EMV Liability Shift on October 1, 2015. The plaintiffs seek treble damages, attorney's fees and costs and an injunction against future violations of governing law, and the defendants have filed a motion to dismiss. In September 2016, the court denied the Network Defendants' motion to dismiss the complaint, but granted such a motion for EMVCo and the Bank Defendants. In May 2017, the court transferred the case to New York so that discovery could be coordinated with the U.S. merchant class interchange litigation described above.

Note 19. *Settlement and Other Risk Management*

Mastercard's rules guarantee the settlement of many of the Mastercard, Cirrus and Maestro branded transactions between its issuers and acquirers ("settlement risk"). Settlement exposure is the outstanding settlement risk to customers under Mastercard's rules due to the difference in timing between the payment transaction date and subsequent settlement. While the term and amount of the guarantee are unlimited, the duration of settlement exposure is short term and typically limited to a few days. Gross settlement exposure is estimated using the average daily card volume during the quarter multiplied by the estimated number of days to settle. The Company has global risk management policies and procedures, which include risk standards, to provide a framework for managing the Company's settlement risk. Customer-reported transaction data and the transaction clearing data underlying the settlement exposure calculation may be revised in subsequent reporting periods.

In the event that Mastercard effects a payment on behalf of a failed customer, Mastercard may seek an assignment of the underlying receivables of the failed customer. Customers may be charged for the amount of any settlement loss incurred during the ordinary course activities of the Company.

The Company has global risk management policies and procedures aimed at managing the settlement exposure. These risk management procedures include interaction with the bank regulators of countries in which it operates, requiring customers to make adjustments to settlement processes, and requiring collateral from customers. As part of its policies, Mastercard requires

certain customers that are not in compliance with the Company's risk standards in effect at the time of review to post collateral, typically in the form of cash, letters of credit, or guarantees. This requirement is based on management's review of the individual risk circumstances for each customer that is out of compliance. In addition to these amounts, Mastercard holds collateral to cover variability and future growth in customer programs. The Company may also hold collateral to pay merchants in the event of an acquirer failure. Although the Company is not contractually obligated under its rules to effect such payments to merchants, the Company may elect to do so to protect brand integrity. Mastercard monitors its credit risk portfolio on a regular basis and the adequacy of collateral on hand. Additionally, from time to time, the Company reviews its risk management methodology and standards. As such, the amounts of estimated settlement exposure are revised as necessary.

The Company's estimated settlement exposure from Mastercard, Cirrus and Maestro branded transactions was as follows:

	December 31, 2017	December 31, 2016
	(in millions)	
Gross settlement exposure[1]	$ 47,002	$ 39,523
Collateral held for settlement exposure	(4,360)	(3,734)
Net uncollateralized settlement exposure	$ 42,642	$ 35,789

1. In the second quarter of 2017, Mastercard adjusted the methodology for estimating gross settlement exposure for certain customers whose exposures are now reported before the impact of potential offsetting positions. The gross settlement exposure as of December 31, 2016 has been updated to conform to the current year's methodology.

General economic and political conditions in countries in which Mastercard operates affect the Company's settlement risk. Many of the Company's financial institution customers have been directly and adversely impacted by political instability and uncertain economic conditions. These conditions present increased risk that the Company may have to perform under its settlement guarantee. This risk could increase if political, economic and financial market conditions deteriorate further. The Company's global risk management policies and procedures are revised and enhanced from time to time. Historically, the Company has experienced a low level of losses from financial institution failures.

Mastercard also provides guarantees to customers and certain other counterparties indemnifying them from losses stemming from failures of third parties to perform duties. This includes guarantees of Mastercard-branded travelers cheques issued, but not yet cashed of $395 million and $397 million at December 31, 2017 and 2016, respectively, of which $313 million and $312 million at December 31, 2017 and 2016, respectively, is mitigated by collateral arrangements. In addition, the Company enters into agreements in the ordinary course of business under which the Company agrees to indemnify third parties against damages, losses and expenses incurred in connection with legal and other proceedings arising from relationships or transactions with the Company. Certain indemnifications do not provide a stated maximum exposure. As the extent of the Company's obligations under these agreements depends entirely upon the occurrence of future events, the Company's potential future liability under these agreements is not determinable. Historically, payments made by the Company under these types of contractual arrangements have not been material.

Note 20. *Foreign Exchange Risk Management*

The Company monitors and manages its foreign currency exposures as part of its overall risk management program which focuses on the unpredictability of financial markets and seeks to reduce the potentially adverse effects that the volatility of these markets may have on its operating results. A principal objective of the Company's risk management strategies is to reduce significant, unanticipated earnings fluctuations that may arise from volatility in foreign currency exchange rates principally through the use of derivative instruments.

Derivatives

The Company enters into foreign currency derivative contracts to manage risk associated with anticipated receipts and disbursements which are valued based on currencies other than the functional currencies of the entity. The Company may also enter into foreign currency derivative contracts to offset possible changes in value due to foreign exchange fluctuations of earnings, assets and liabilities. The objective of these activities is to reduce the Company's exposure to gains and losses resulting from fluctuations of foreign currencies against its functional currencies.

As of December 31, 2017 and 2016, the majority of derivative contracts to hedge foreign currency fluctuations had been entered into with customers of Mastercard. Mastercard's derivative contracts are summarized below:

	December 31, 2017		December 31, 2016	
	Notional	Estimated Fair Value	Notional	Estimated Fair Value
	(in millions)			
Commitments to purchase foreign currency	$ 27	$ —	$ 37	$ (2)
Commitments to sell foreign currency	968	(26)	777	18
Options to sell foreign currency	27	2	—	—
Balance sheet location				
Accounts receivable [1]		$ 6		$ 29
Other current liabilities [1]		(30)		(13)

[1] The derivative contracts are subject to enforceable master netting arrangements, which contain various netting and setoff provisions.

The amount of gain (loss) recognized in income for the contracts to purchase and sell foreign currency is summarized below:

	Year Ended December 31,		
	2017	2016	2015
	(in millions)		
Foreign currency derivative contracts			
General and administrative	$ (75)	$ (6)	$ 51

The fair value of the foreign currency derivative contracts generally reflects the estimated amounts that the Company would receive (or pay), on a pre-tax basis, to terminate the contracts. The terms of the foreign currency derivative contracts are generally less than 18 months. The Company had no deferred gains or losses related to foreign exchange contracts in accumulated other comprehensive income as of December 31, 2017 and 2016, as these contracts were not accounted for under hedge accounting.

The Company's derivative financial instruments are subject to both market and counterparty credit risk. Market risk is the potential for economic losses to be incurred on market risk sensitive instruments arising from adverse changes in market factors such as foreign currency exchange rates, interest rates and other related variables. The effect of a hypothetical 10% adverse change in foreign currency forward rates could result in a fair value loss of approximately $109 million on the Company's foreign currency derivative contracts outstanding at December 31, 2017. Counterparty credit risk is the risk of loss due to failure of the counterparty to perform its obligations in accordance with contractual terms. To mitigate counterparty credit risk, the Company enters into derivative contracts with a diversified group of selected financial institutions based upon their credit ratings and other factors. Generally, the Company does not obtain collateral related to derivatives because of the high credit ratings of the counterparties.

Net Investment Hedge

The Company uses foreign currency denominated debt to hedge a portion of its net investment in foreign operations against adverse movements in exchange rates, with changes in the value of the debt recorded within currency translation adjustment in accumulated other comprehensive income (loss). In 2015, the Company designated its €1.65 billion euro-denominated debt as a net investment hedge for a portion of its net investment in European foreign operations. As of December 31, 2017, the Company had a net foreign currency transaction pre-tax loss of $216 million in accumulated other comprehensive income (loss) associated with hedging activity. There was no ineffectiveness in the current period.

Note 21. *Segment Reporting*

Mastercard has concluded it has one operating and reportable segment, "Payment Solutions." Mastercard's President and Chief Executive Officer has been identified as the chief operating decision-maker. All of the Company's activities are interrelated, and each activity is dependent upon and supportive of the other. Accordingly, all significant operating decisions are based upon analysis of Mastercard at the consolidated level.

Revenue by geographic market is based on the location of the Company's customer that issued the card, as well as the location of the merchant acquirer where the card is being used. Revenue generated in the U.S. was approximately 35% of total revenue in 2017, 38% in 2016 and 39% in 2015. No individual country, other than the U.S., generated more than 10% of total revenue in those periods.

Mastercard did not have any one customer that generated greater than 10% of net revenue in 2017, 2016 or 2015. The following table reflects the geographical location of the Company's property, plant and equipment, net, as of December 31:

	2017	2016	2015
		(in millions)	
United States	$ 572	$ 504	$ 471
Other countries	257	229	204
Total	$ 829	$ 733	$ 675

MASTERCARD INCORPORATED

SUMMARY OF QUARTERLY DATA (Unaudited)

	2017 Quarter Ended				
	March 31	June 30	September 30	December 31	2017 Total
	(in millions, except per share data)				
Net revenue	$ 2,734	$ 3,053	$ 3,398	$ 3,312	$ 12,497
Operating income	1,506	1,653	1,941	1,522	6,622
Net income	1,081	1,177	1,430	227	3,915
Basic earnings per share	$ 1.00	$ 1.10	$ 1.34	$ 0.21	$ 3.67
Basic weighted-average shares outstanding	1,078	1,070	1,063	1,057	1,067
Diluted earnings per share	$ 1.00	$ 1.10	$ 1.34	$ 0.21	$ 3.65
Diluted weighted-average shares outstanding	1,082	1,075	1,068	1,063	1,072

	2016 Quarter Ended				
	March 31	June 30	September 30	December 31	2016 Total
	(in millions, except per share data)				
Net revenue	$ 2,446	$ 2,694	$ 2,880	$ 2,756	$ 10,776
Operating income	1,348	1,380	1,670	1,363	5,761
Net income	959	983	1,184	933	4,059
Basic earnings per share	$ 0.86	$ 0.89	$ 1.08	$ 0.86	$ 3.70
Basic weighted-average shares outstanding	1,109	1,098	1,096	1,087	1,098
Diluted earnings per share	$ 0.86	$ 0.89	$ 1.08	$ 0.86	$ 3.69
Diluted weighted-average shares outstanding	1,112	1,101	1,099	1,090	1,101

Note: Tables may not sum due to rounding.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and to ensure that information required to be disclosed is accumulated and communicated to management, including our President and Chief Executive Officer and our Chief Financial Officer, to allow timely decisions regarding disclosure. The President and Chief Executive Officer and the Chief Financial Officer, with assistance from other members of management, have reviewed the effectiveness of our disclosure controls and procedures as of December 31, 2017 and, based on their evaluation, have concluded that the disclosure controls and procedures were effective as of such date.

Internal Control over Financial Reporting

In addition, Mastercard Incorporated's management assessed the effectiveness of Mastercard's internal control over financial reporting as of December 31, 2017. Management's report on internal control over financial reporting is included in Part II, Item 8. PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited the consolidated financial statements included in this Annual Report on Form 10-K and, as part of their audit, has issued their report, included herein, on the effectiveness of our internal control over financial reporting.

Changes in Internal Control over Financial Reporting

There was no change in Mastercard's internal control over financial reporting that occurred during the three months ended December 31, 2017 that has materially affected, or is reasonably likely to materially affect, Mastercard's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

Pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012, we hereby incorporate by reference herein the disclosure contained in Exhibit 99.1 of this Report.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item with respect to our directors and executive officers, code of ethics, procedures for recommending nominees, audit committee, audit committee financial experts and compliance with Section 16(a) of the Exchange Act will appear in our definitive proxy statement to be filed with the SEC and delivered to stockholders in connection with the Annual Meeting of Stockholders to be held on June 26, 2018 (the "Proxy Statement").

The aforementioned information in the Proxy Statement is incorporated by reference into this Report.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item with respect to executive officer and director compensation will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item with respect to security ownership of certain beneficial owners and management equity and compensation plans will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item with respect to transactions with related persons, the review, approval or ratification of such transactions and director independence will appear in the Proxy Statement and is incorporated by reference into this Report.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item with respect to auditors' services and fees will appear in the Proxy Statement and is incorporated by reference into this Report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this Report:

1 Consolidated Financial Statements

See Index to Consolidated Financial Statements in Part II, Item 8.

2 Consolidated Financial Statement Schedules

None.

3 The following exhibits are filed as part of this Report or, where indicated, were previously filed and are hereby incorporated by reference:

Refer to the Exhibit Index included herein.

ITEM 16. SUMMARY

None.

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EXHIBIT INDEX

Exhibit Number	Exhibit Description
3.1(a)	Amended and Restated Certificate of Incorporation of Mastercard Incorporated (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
3.1(b)	Amended and Restated Bylaws of Mastercard Incorporated (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed September 29, 2016 (File No. 001-32877)).
4.1	Indenture, dated as of March 31, 2014, between the Company and Deutsche Bank Trust Company Americas, as trustee (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.2	Officer's Certificate of the Company, dated as of March 31, 2014 (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.3	Form of Global Note representing the Company's 2.000% Notes due 2019 (included in Exhibit 4.2) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.4	Form of Global Note representing the Company's 3.375% Notes due 2024 (included in Exhibit 4.2) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on March 31, 2014 (File No. 001-32877)).
4.5	Officer's Certificate of the Company, dated as of December 1, 2015 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.6	Form of Global Note representing the Company's 1.100% Notes due 2022 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.7	Form of Global Note representing the Company's 2.100% Notes due 2027 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).
4.8	Form of Global Note representing the Company's 2.500% Notes due 2030 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on December 1, 2015 (File No. 001-32877)).

4.9	Officer's Certificate of the Company, dated as of November 21, 2016 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.10	Form of Global Note representing the Company's 2.000% Notes due 2021 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.11	Form of Global Note representing the Company's 2.950% Notes due 2026 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.3 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
4.12	Form of Global Note representing the Company's 3.800% Notes due 2046 (included in Exhibit 4.1) (incorporated by reference to Exhibit 4.4 of the Company's Current Report on Form 8-K filed on November 21, 2016 (File No. 001-32877)).
10.1	$3,750,000,000 Amended and Restated Credit Agreement, dated as of October 21, 2015, among Mastercard Incorporated, the several lenders and agents from time to time party thereto, Citibank, N.A., as managing administrative agent and JPMorgan Chase Bank, N.A. as administrative agent (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed October 23, 2015 (File No. 001-32877)).
10.1.1	First Amendment to $3,750,000,000 Amended and Restated Credit Agreement, dated as of September 26, 2016, among Mastercard Incorporated, the several lenders and agents from time to time party thereto, Citibank, N.A., as managing administrative agent and JPMorgan Chase Bank, N.A. as administrative agent (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed October 28, 2016 (File No. 001-32877)).
10.2+	Employment Agreement between Mastercard International Incorporated and Ajay Banga, dated as of July 1, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 8, 2010 (File No. 001-32877)).
10.3+	Employment Agreement between Martina Hund-Mejean and Mastercard International, amended and restated as of December 24, 2012 (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K filed February 14, 2013 (File No. 001-32877)).
10.3.1+*	Amendment to Amended and Restated Employment Agreement between Martina Hund-Mejean and Mastercard International, dated as of December 21, 2017.
10.4+	Description of Employment Arrangement with Gary Flood (incorporated by reference to Exhibit 10.11 to the Company's Annual Report on Form 10-K filed February 18, 2010 (File No. 001-32877)).
10.5+	Offer Letter between Ann Cairns and Mastercard International Incorporated, dated June 15, 2011 (incorporated by reference to Exhibit

	10.8 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.5.1+	Contract of Employment between Mastercard UK Management Services Limited and Ann Cairns, dated July 6, 2011 (incorporated by reference to Exhibit 10.8.1 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.5.2+	Deed of Employment between Mastercard UK Management Services Limited and Ann Cairns, dated July 6, 2011 (incorporated by reference to Exhibit 10.8.2 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).
10.6+	Description of Employment Arrangement with Robert Reeg (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.7+	Mastercard International Senior Executive Annual Incentive Compensation Plan, as amended and restated effective June 9, 2015 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 10, 2015 (File No. 001-32877)).
10.8+	Mastercard International Incorporated Restoration Program, as amended and restated January 1, 2007 unless otherwise provided (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.9+	Mastercard Incorporated Deferral Plan, as amended and restated effective December 1, 2008 for account balances established after December 31, 2004 (incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K filed February 19, 2009 (File No. 001-32877)).
10.10+	Mastercard Incorporated 2006 Long Term Incentive Plan, amended and restated effective June 5, 2012 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.11+	Form of Restricted Stock Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.12+	Form of Stock Option Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.13+	Form of Performance Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2017) (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2017 (File No. 001-32877)).
10.14+	Form of Mastercard Incorporated Long Term Incentive Plan Non-Competition and Non-Solicitation Agreement for named executive officers

(incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed February 16, 2012 (File No. 001-32877)).

10.15+	Amended and Restated Mastercard International Incorporated Executive Severance Plan, amended and restated as of June 5, 2012 (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.16+	Amended and Restated Mastercard International Incorporated Change in Control Severance Plan, amended and restated as of June 5, 2012 (incorporated by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.17	Schedule of Non-Employee Directors' Annual Compensation effective as of June 9, 2015 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 29, 2015 (File No. 001-32877)).
10.18	2006 Non-Employee Director Equity Compensation Plan, amended and restated effective as of June 5, 2012 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed August 1, 2012 (File No. 001-32877)).
10.19	Form of Deferred Stock Unit Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 5, 2012 (effective for awards granted on and subsequent to June 27, 2017) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 27, 2017 (File No. 001-32877)).
10.20	Form of Restricted Stock Agreement for awards under 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective June 5, 2012 (effective for awards granted on and subsequent to June 27, 2017) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed July 27, 2017 (File No. 001-32877)).
10.21	Form of Indemnification Agreement between Mastercard Incorporated and certain of its directors (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).
10.22	Form of Indemnification Agreement between Mastercard Incorporated and certain of its director nominees (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed May 2, 2006 (File No. 000-50250)).
10.23	Deed of Gift between Mastercard Incorporated and Mastercard Foundation (incorporated by reference to Exhibit 10.28 to Pre-Effective Amendment No. 5 to the Company's Registration Statement on Form S-1 filed May 3, 2006 (File No. 333-128337)).
10.24	Settlement Agreement, dated as of June 4, 2003, between Mastercard International Incorporated and Plaintiffs in the class action litigation entitled In Re Visa Check/MasterMoney Antitrust Litigation (incorporated

	by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 8, 2003 (File No. 000-50250)).
10.25	Stipulation and Agreement of Settlement, dated July 20, 2006, between Mastercard Incorporated, the several defendants and the plaintiffs in the consolidated federal class action lawsuit titled In re Foreign Currency Conversion Fee Antitrust Litigation (MDL 1409), and the California state court action titled Schwartz v. Visa Int'l Corp., et al. (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 1, 2006 (File No. 001-32877)).
10.26	Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A. Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.33 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.26.1	Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of August 25, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.26.2	Second Amendment to Omnibus Agreement Regarding Interchange Litigation Judgment Sharing and Settlement Sharing, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated, Visa Inc., Visa U.S.A Inc., Visa International Service Association and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).
10.27**	Mastercard Settlement and Judgment Sharing Agreement, dated as of February 7, 2011, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.34 to Amendment No.1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011).
10.27.1	Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of August 26, 2014, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 30, 2014 (File No. 001-32877)).
10.27.2	Second Amendment to Mastercard Settlement and Judgment Sharing Agreement, dated as of October 22, 2015, by and among Mastercard Incorporated, Mastercard International Incorporated and Mastercard's customer banks that are parties thereto (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed October 29, 2015 (File No. 001-32877)).

10.28	Class Settlement Agreement, dated October 19, 2012, by and among Mastercard Incorporated and Mastercard International Incorporated; Visa, Inc., Visa U.S.A. Inc. and Visa International Service Association; the Class Plaintiffs defined therein; and the Customer Banks defined therein (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed October 31, 2012 (File No. 001-32877)).
12.1*	Computation of Ratio of Earnings to Fixed Charges.
21*	List of Subsidiaries of Mastercard Incorporated.
23.1*	Consent of PricewaterhouseCoopers LLP.
31.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certification of Martina Hund-Mejean, Chief Financial Officer, pursuant to Rule 13a-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Ajay Banga, President and Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Martina Hund-Mejean, Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
99.1*	Disclosure pursuant to Section 219 of the Iran Threat Reduction and Syria Human Rights Act of 2012.
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

+ Management contracts or compensatory plans or arrangements.

* Filed or furnished herewith.

** Exhibit omits certain information that has been filed separately with the U.S. Securities and Exchange Commission and has been granted confidential treatment.

The agreements and other documents filed as exhibits to this report are not intended to provide factual information or other disclosure other than with respect to the terms of the agreements or other documents themselves, and should not be relied upon for that purpose.

In particular, any representations and warranties made by the Company in these agreements or other documents were made solely within the specific context of the relevant agreement or document and may not describe the actual state of affairs as of the date they were made or at any other time.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

MASTERCARD INCORPORATED
(Registrant)

Date: February 14, 2018 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Date: February 14, 2018 By: /s/ AJAY BANGA
Ajay Banga
President and Chief Executive Officer; Director
(Principal Executive Officer)

Date: February 14, 2018 By: /s/ MARTINA HUND-MEJEAN
Martina Hund-Mejean
Chief Financial Officer
(Principal Financial Officer)

Date: February 14, 2018 By: /s/ SANDRA ARKELL
Sandra Arkell
Corporate Controller
(Principal Accounting Officer)

Date: February 14, 2018 By: /s/ SILVIO BARZI
Silvio Barzi
Director

Date: February 14, 2018 By: /s/ DAVID R. CARLUCCI
David R. Carlucci
Director

Date: February 14, 2018 By: /s/ STEVEN J. FREIBERG
Steven J. Freiberg
Director

Date: February 14, 2018 By: /s/ JULIUS GENACHOWSKI

Julius Genachowski
Director

Date: February 14, 2018 By: /s/ RICHARD HAYTHORNTHWAITE

Richard Haythornthwaite
Chairman of the Board; Director

Date: February 14, 2018 By: /s/ MERIT E. JANOW

Merit E. Janow
Director

Date: February 14, 2018 By: /s/ NANCY J. KARCH

Nancy J. Karch
Director

Date: February 14, 2018 By: /s/ OKI MATSUMOTO

Oki Matsumoto

Director

Date: February 14, 2018 By: /s/ RIMA QURESHI

Rima Qureshi
Director

Date: February 14, 2018 By: /s/ JOSÉ OCTAVIO REYES LAGUNES

José Octavio Reyes Lagunes
Director

Date: February 14, 2018 By: /s/ JACKSON TAI

Jackson Tai
Director