

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, 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



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

(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 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 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.



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%

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:

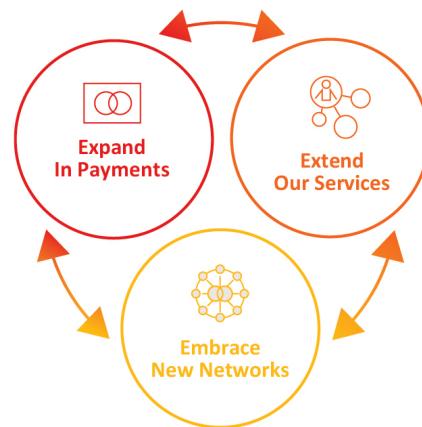
- expand in payments for consumers, businesses and governments
- extend our services to enhance transactions and drive customer value
- embrace new network opportunities to enable open banking, digital identity and other adjacent network capabilities

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

Our Strategy



Our Key Priorities



Powering Our Success



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.

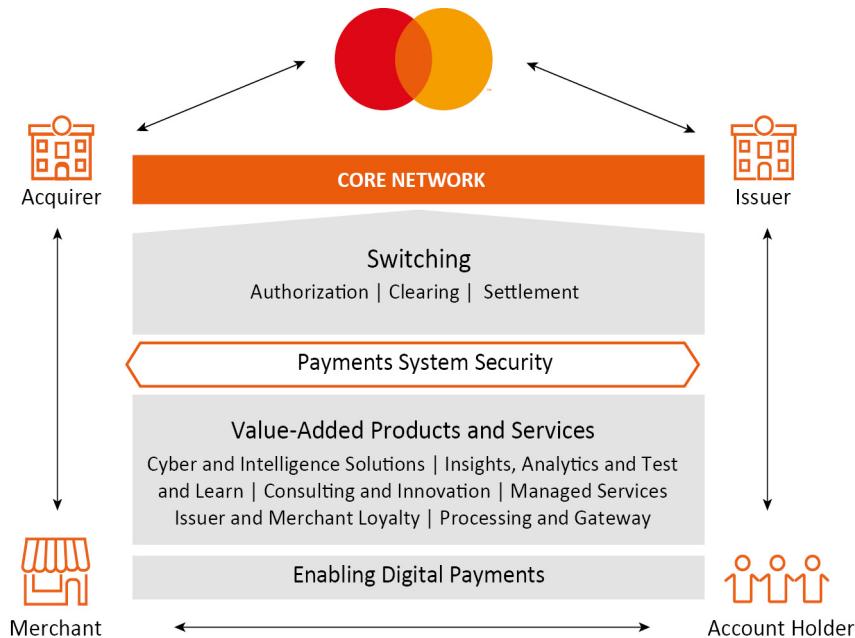
Core Network

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:



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.



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		Percentage Increase from December 31, 2020
	(in billions)	Growth (Local)	% of Total GDV	(in millions)		
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.



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 presentation. 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.



Innovation 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



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.
- 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.

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.



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.



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.



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.



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.



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



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.



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



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 an 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 <i>Current Position</i>	Age	Previous Mastercard Experience	Previous Business Experience
Ajay Bhalla <i>President, Cyber and Intelligence Solutions since November 2018</i>	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 <i>Vice Chairman since June 2018</i>	65	President, International (2011-2018)	Managing director, Alvarez & Marsal CEO, ABN AMRO Senior corporate and investment banking roles at Citigroup
Gilberto Caldart <i>Vice Chairman, Senior Client Partnerships and Relationships since January 2022</i>	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 <i>Chief People Officer since July 2016</i>	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 <i>Vice Chairman and President, Strategic Growth since April 2018</i>	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

Name	Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Linda Kirkpatrick <i>President, North America since January 2021</i>	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 <i>President, Operations and Technology since May 2017</i>	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 <i>Chief Financial Officer since April 2019</i>	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 <i>President and Chief Executive Officer since January 2021</i>	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 <i>Chief Administrative Officer since April 2021</i>	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 <i>Chief Marketing and Communications Officer and President, Healthcare since January 2016</i>	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

PART I
EXECUTIVE OFFICERS

Name	Current Position	Age	Previous Mastercard Experience	Previous Business Experience
Raj Seshadri <i>President, Data and Services</i> 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 <i>Chief Transformation Officer</i> 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 <i>General Counsel and Head of Global Public Policy</i> 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 <i>Chief Product Officer</i> 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

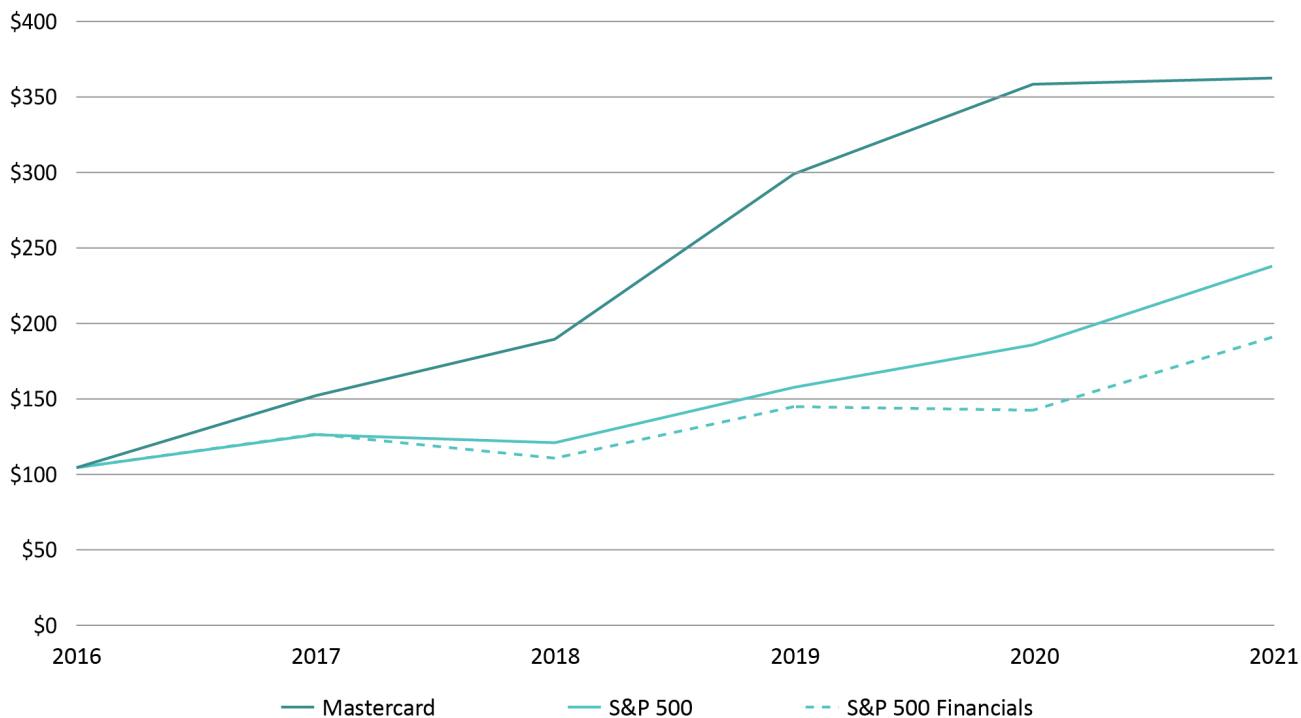
Our Class A common stock trades on the New York Stock Exchange under the symbol "MA". At February 8, 2022, we had 71 stockholders of record for our Class A common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion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



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

Company/Index		Base period	Indexed Returns					
			For the Years Ended December 31,					
			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	\$ 4,752,404,601
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		
	(\$ 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 results¹, 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	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%	<p>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:</p> <ul style="list-style-type: none"> - 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. <p>These increases to net revenue were partially offset by:</p> <ul style="list-style-type: none"> - 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.
<hr/>		
Operating expenses	Adjusted operating expenses	
GAAP	Non-GAAP (currency-neutral)	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.
up 22%	up 19%	
<hr/>		
Effective income tax rate	Adjusted effective income tax rate	
GAAP	Non-GAAP (currency-neutral)	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.
15.7%	15.4%	

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.

PART II
ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

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 Volume² 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 Transactions² 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)		2020	
	2021	2020	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		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 Index to consolidated financial statements

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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.

Consolidated Statement of Changes in Equity

	Stockholders' Equity									Non-Controlling Interests	Total Equity		
	Common Stock		Additional Paid-In Capital	Class A Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Mastercard Incorporated Stockholders' 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)	—	(9)		
Other comprehensive income (loss)	—	—	—	—	—	45	45	—	45	—	45		
Dividends	—	—	—	—	(1,408)	—	(1,408)	—	(1,408)	—	(1,408)		
Purchases of treasury stock	—	—	—	(6,463)	—	—	(6,463)	—	(6,463)	—	(6,463)		
Share-based payments	—	—	207	8	—	—	215	—	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	—	6,411		
Activity related to non-controlling interests	—	—	—	—	—	—	—	—	—	73	73		
Redeemable non-controlling interest adjustments	—	—	—	—	(7)	—	(7)	—	(7)	—	(7)		
Other comprehensive income (loss)	—	—	—	—	—	(7)	(7)	—	(7)	—	(7)		
Dividends	—	—	—	—	(1,641)	—	(1,641)	—	(1,641)	—	(1,641)		
Purchases of treasury stock	—	—	—	(4,459)	—	—	(4,459)	—	(4,459)	—	(4,459)		
Share-based payments	—	—	195	6	—	—	201	—	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									(in millions, except per share data)	
	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, 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.

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 cash equivalents	(2,517)	3,450	632
Cash, cash equivalents, restricted cash and restricted cash equivalents - beginning of period	12,419	8,969	8,337
Cash, cash equivalents, restricted cash and restricted cash equivalents - end of period	\$ 9,902	\$ 12,419	\$ 8,969

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 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:

	2021	2020	2019
	(in millions)		
North American Markets			
International Markets	\$ 6,594	\$ 5,424	\$ 5,843
Other ¹	12,068	9,701	10,869
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 (in millions)	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-sale¹:								
Municipal securities	\$ —	\$ 2	\$ —	\$ 2	\$ —	\$ 10	\$ —	\$ 10
Government and agency securities	35	63	—	98	26	38	—	64
Corporate securities	—	214	—	214	—	247	—	247
Derivative instruments²:								
Foreign exchange contracts	—	8	—	8	—	19	—	19
Interest rate contracts	—	6	—	6	—	—	—	—
Marketable securities³:								
Equity securities	627	—	—	627	476	—	—	476
Deferred compensation plan⁴:								
Deferred compensation assets	89	—	—	89	78	—	—	78
Liabilities								
Derivative instruments²:								
Foreign exchange contracts	\$ —	\$ 15	\$ —	\$ 15	\$ —	\$ 28	\$ —	\$ 28
Interest rate contracts	—	8	—	8	—	—	—	—
Deferred compensation plan⁵:								
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 (in millions)	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 (in millions)	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	<u>\$ 3</u>	<u>\$ 4</u>	<u>\$ 7</u>	<u>\$ 2</u>	<u>\$ 2</u>	<u>\$ 2</u>

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)	<u>\$ (50)</u>	<u>\$ 5</u>	<u>\$ 12</u>	<u>\$ (5)</u>	<u>\$ 8</u>	<u>\$ 10</u>
Total net periodic benefit cost and other comprehensive loss (income)	<u><u>\$ (47)</u></u>	<u><u>\$ 9</u></u>	<u><u>\$ 19</u></u>	<u><u>\$ (3)</u></u>	<u><u>\$ 10</u></u>	<u><u>\$ 12</u></u>

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 2.000 % Senior Notes due November 2031 1.900 % Senior Notes due March 2031 2.950 % Senior Notes due March 2051	2021 (in millions)		2020 — — —	Effective Interest Rate 2.112 % 1.981 % 3.013 %
		\$	750		
2021 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 (in millions)	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (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 (in millions)	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value (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 (in millions)	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value (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
<i>Options:</i>			
Total intrinsic value of Options exercised	169	317	317
<i>RSUs:</i>			
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
<i>PSUs:</i>			
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:				
<i>Derivatives designated as hedging instruments</i>				
Foreign exchange contracts in a cash flow hedge ¹	\$ 102	\$ 7	\$ —	\$ —
Interest rate contracts in a fair value hedge ²	**	6	—	—
<i>Derivatives not designated as hedging instruments</i>				
Foreign exchange contracts ¹	124	1	483	19
Total Derivative Assets	\$ 226	\$ 14	\$ 483	\$ 19
Derivative liabilities:				
<i>Derivatives designated as hedging instruments</i>				
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	—	—
<i>Derivatives not designated as hedging instruments</i>				
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			Location of Gain (Loss) Reclassified from AOCI into Earnings	Gain (Loss) Reclassified from AOCI			
	Year ended December 31,				Year ended December 31,			
	2021	2020	2019		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:

Derivatives not designated as hedging instruments:	Year ended December 31,		
	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 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	Officer's Certificate of the Company, dated as of March 26, 2020 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 26, 2020 (File No. 001-32877)).

+ 4.22	Form of Global Note representing the Company's 3.300% Notes due 2027 (included in Officer's Certificate of Management contract for compensation plan arrangements).
* Filed or furnished by the Company, dated as of March 26, 2020 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 26, 2020 (File No. 001-32877)).	Exhibit omits certain information that has been filed with the Securities and Exchange Commission and has been granted confidential treatment.
+ 4.23	Form of Global Note representing the Company's 3.350% Notes due 2030 (included in Officer's Certificate of the Company, dated as of March 26, 2020) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 26, 2020 (File No. 001-32877)). 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 Form of Global Note representing the Company's 3.350% Notes due 2030 (included in Officer's Certificate of the Company, dated as of March 26, 2020) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 26, 2020 (File No. 001-32877)).
4.25	Officer's Certificate of the Company, dated as of March 2, 2021 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 4, 2021 (File No. 001-32877)).
4.26	Form of Global Note representing the Company's 1.900% Notes due 2031 (included in Officer's Certificate of the Company, dated as of March 2, 2021) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 4, 2021 (File No. 001-32877)).
4.27	Form of Global Note representing the Company's 2.950% Notes due 2051 (included in Officer's Certificate of the Company, dated as of March 2, 2021) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on March 4, 2021 (File No. 001-32877)).
4.28	Officer's Certificate of the Company, dated as of November 18, 2021 (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 18, 2021 (File No. 001-32877)).
4.29	Form of Global Note representing the Company's 2.000% Notes due 2031 (included in Officer's Certificate of the Company, dated as of November 18, 2021) (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K filed on November 18, 2021 (File No. 001-32877)).
4.30	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934 (incorporated by reference to Exhibit 4.25 of the Company's Annual Report on Form 10-K filed on February 12, 2021 (File No. 001-328771)).
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 (incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K filed February 14, 2020 (File No. 001-32877)).
10.1.1*	First Amendment to Third Amended and Restated Credit Agreement, dated as of November 13, 2021, 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)).
10.2.1+	Employment Letter Agreement between Mastercard International Incorporated and Ajaypal Banga, dated as of December 31, 2020 (incorporated by reference to Exhibit 10.2.1 to the Company's Annual Report on Form 10-K filed February 12, 2021 (File No. 001-32877)).
10.2.2*	Consulting Letter Agreement between Mastercard International Incorporated and Ajaypal Banga, dated as of December 13, 2021.
10.3+	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)).
10.3.1+	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)).
10.4+	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)).
10.5+	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)).
10.6+	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)).
10.7+	Description of Employment Arrangement with Michael Froman (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed April 29, 2020 (File No. 001-32877)).
10.8+	Description of Employment Arrangement with Sachin Mehra (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed April 29, 2020 (File No. 001-32877)).
10.9+	Description of Employment Arrangement with Michael Miebach (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed April 29, 2020 (File No. 001-32877)).
10.10+	Mastercard International Senior Executive Annual Incentive Compensation Plan, as amended and restated effective April 9, 2021 (incorporated by reference to Exhibit 10.4 to the Company's Quarterly Report on Form 10-Q filed April 29, 2021 (File No. 001-32877)).
10.11+	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)).

10.12+ 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)).

10.13+ Mastercard Incorporated 2006 Long Term Incentive Plan, amended and restated effective June 22, 2021 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed July 29, 2021 (File No. 001-32877)).

Signatures
10.14+ Form of Restricted Stock Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2021) (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed April 29, 2021 (File No. 001-32877)).

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.

10.15+ Form of Stock Option Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2021) (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed April 29, 2021 (File No. 001-32877)).

10.16+ Form of Performance Stock Unit Agreement for awards under 2006 Long Term Incentive Plan (effective for awards granted on and subsequent to March 1, 2021) (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed April 29, 2021 (File No. 001-32877)).

Date: February 11, 2022
(s)/ MICHAEL MIEBACH
Michael Miebach
President and Chief Executive Officer
(Principal Executive Officer)

10.17+ 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)).

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following person(s) on behalf of the registrant in the capacities and on the dates indicated.

10.19+ 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)).

10.20* Schedule of Non-Employee Directors' Annual Compensation effective as of January 1, 2022.

10.21 2006 Non-Employee Director Equity Compensation Plan, amended and restated effective as of June 22, 2021 (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed July 29, 2021 (File No. 001-32877)).

10.22 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)).

10.23 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)).

10.24 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)).

10.25 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)).

10.26 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)).

10.27 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)).

10.28 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)).

10.29 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).

10.29.1 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

Date: February 11, 2022	By: Michael Miebach President and Chief Executive Officer; Director 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)).
10.29.2	Second Amendment to Omnibus Agreement Regarding Interchange 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)). Sachin Mehra Chief Financial Officer (Principal Financial Officer)
10.30**	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 10.34 to Amendment No. 1 to the Company's Annual Report on Form 10-K/A filed on November 23, 2011). Sandra Arkell (Principal Accounting Officer)
10.30.1	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)). Corporate Controller (Principal Accounting Officer)
10.30.2	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)). Candido Bracher Director
10.31	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)). Richard K. Davis Director
21*	List of Subsidiaries of Mastercard Incorporated. Steven J. Freiberg Director
23.1*	Consent of PricewaterhouseCoopers LLP.
31.1*	Certification of Michael Miebach, President and Chief Executive Officer, pursuant to Rule 13d-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Julius Genachowski
31.2*	Certification of Sachin Mehra, Chief Financial Officer, pursuant to Rule 13d-14(a)/15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certification of Michael Miebach, President and Chief Executive Officer, pursuant to Rule 13d-14(a)/15d-14(a), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Choon Phong Goh
32.2*	Certification of Sachin Mehra, Chief Financial Officer, pursuant to Rule 13d-14(a)/15d-14(a), 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. Merit E. Janow
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. Chairman of the Board; Director
101.SCH*	XBRL Taxonomy Extension Schema Document By: /s/ OKI MATSUMOTO
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document By: Oki Matsumoto
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document By: Director
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document By: /s/ YOUNGME MOON
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document By: Youngme Moon Director
Date: February 11, 2022	By: Rima Qureshi Rima Qureshi Director
Date: February 11, 2022	By: José Octavio Reyes Lagunes José Octavio Reyes Lagunes Director
Date: February 11, 2022	By: Gabrielle Sulzberger Gabrielle Sulzberger Director
Date: February 11, 2022	By: Jackson Tai Jackson Tai Director

Date: February 11, 2022

By:

/s/ LANCE UGGLA

**Lance Ugglå
Director**

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