FIRST DATA CORP
Form 10-K
February 27, 2019

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

FORM 10-K
ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018
OR
o 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 001-11073

FIRST DATA CORPORATION

DELAWARE	47-0731996
(State of incorporation)	(I.R.S. Employer Identification No.)

225 LIBERTY STREET, 29th FLOOR, NEW YORK, NEW YORK 10281
(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code (800) 735-3362

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

Title of Each Class	Name of Each Exchange on Which Registered
Class A Common Stock, $0.01 par value per share	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None
Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ý No o
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act.
Yes o No ý
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 ý No o
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 ý No o
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.
Large accelerated filer x Accelerated filer o

Non-accelerated filer o	Smaller Reporting Company o
	Emerging Growth Company o

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. o

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at February 1, 2019
Class A Common Stock, $0.01 par value per share	568,281,533
Class B Common Stock, $0.01 par value per share	369,031,763

As of June 30, 2018 (the last business day of the registrant's most recently completed second fiscal quarter), the aggregate market value of the Class A Common Stock held by non-affiliates of the registrant was $10.3 billion (based on the closing price of the registrant's Class A Common Stock on that date as reported on the New York Stock Exchange).

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s Proxy Statement for the Annual Meeting of Shareholders to be held on May 9, 2019 are incorporated by reference in Part III.

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Unless otherwise indicated or the context otherwise requires, financial data in this Form 10-K reflects the consolidated business and operations of First Data Corporation and its consolidated subsidiaries. Unless the context otherwise requires, all references herein to “First Data,” “FDC,” the “Company,” “we,” “our,” or “us” refer to First Data Corporation and consolidated subsidiaries.

Amounts in this Form 10-K and the consolidated financial statements included in this Form 10-K are presented in U.S. Dollars rounded to the nearest million, unless otherwise noted.

Comparability between periods is impacted by the adoption of ASC 606 and ASC 340-40 (collectively, the New Revenue Standard). Amounts for the year ended December 31, 2018 reflect the adoption of the New Revenue Standard. Amounts for 2017 and 2016 were not retrospectively adjusted for the adoption of the New Revenue Standard.

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Forward-Looking Statements

Certain matters we discuss in this Form 10-K and in other public statements may constitute forward-looking statements. You can identify forward-looking statements because they contain words such as “believes,” “expects,” “may,” “will,” “should,” “seeks,” “intends,” “plans,” “estimates,” or “anticipates” or similar expressions which concern our strategy, p projections or intentions. Examples of forward-looking statements include, but are not limited to, all statements we make relating to revenue, earnings before net interest expense, income taxes, depreciation, and amortization (EBITDA), earnings, margins, growth rates, and other financial results for future periods. By their nature, forward-looking statements speak only as of the date they are made; are not statements of historical fact or guarantees of future performance; and are subject to risks, uncertainties, assumptions or changes in circumstances that are difficult to predict or quantify. Actual results could differ materially and adversely from our forward-looking statements due to a variety of factors, including the following: (1) adverse impacts from global economic, political, and other conditions affecting trends in consumer, business, and government spending; (2) our ability to anticipate and respond to changing industry trends, including technological changes and increasing competition; (3) our ability to successfully renew existing client contracts on favorable terms and obtain new clients; (4) our ability to prevent a material breach of security of any of our systems; (5) our ability to implement and improve processing systems to provide new products, improve functionality, and increase efficiencies; (6) the successful management of our merchant alliance program which involves several alliances not under our sole control and each of which acts independently of the others; (7) our successful management of credit and fraud risks in our business units and merchant alliances, particularly in the context of eCommerce and mobile markets; (8) consolidation among financial institution clients or other client groups that impacts our client relationships; (9) our ability to use our net operating losses without restriction to offset income for US tax purposes; (10) our ability to improve our profitability and maintain flexibility in our capital resources through the implementation of cost savings initiatives; (11) the acquisition or disposition of a material business or assets; (12) our ability to successfully value and integrate acquired businesses; (13) our high degree of leverage; (14) adverse impacts from currency exchange rates or currency controls imposed by any government or otherwise; (15) changes in the interest rate environment that increase interest on our borrowings or the interest rate at which we can refinance our borrowings; (16) the impact of new or changes in current laws, regulations, credit card association rules, or other industry standards; and (17) new lawsuits, investigations, or proceedings, or changes to our potential exposure in connection with pending lawsuits, investigations or proceedings, and various other factors discussed throughout this report, including but not limited to, Item 1 - Business, Item 1A - Risk Factors, and Item 7 - Management’s Discussion and Analysis of Financial Condition and Results of Operations. Additional factors related to the agreement and plan of merger entered on January 16, 2019 between First Data and Fiserv, Inc. (“Fiserv”) that could cause actual results to differ materially and adversely from our forward-looking statements include (1) the occurrence of any event, change or other circumstances that could give rise to the right of one or both of First Data and Fiserv to terminate the definitive merger agreement between First Data and Fiserv; (2) the outcome of any legal proceedings that may be instituted against First Data, Fiserv or their respective stockholders, shareholders or directors; (3) the ability to obtain regulatory approvals and meet other closing conditions to the merger, including the risk that regulatory approvals required for the merger are not obtained or are obtained subject to conditions that are not anticipated or that are material and adverse to First Data’s or Fiserv’s business; (4) a delay in closing the merger; (5) the ability to obtain approval by First Data stockholders and Fiserv shareholders on the expected terms and schedule; (6) difficulties and delays in integrating the First Data and Fiserv businesses, including with respect to implementing systems to prevent a material security breach of any internal systems or to successfully manage credit and fraud risks in business units; (7) failing to fully realize anticipated cost savings and other anticipated benefits of the merger; (8) business disruptions from the proposed merger that will harm First Data’s or Fiserv’s business, including current plans and operations; (9) potential adverse reactions or changes to business relationships resulting from the announcement or completion of the merger, including as it relates to First Data’s or Fiserv’s ability to successfully renew existing client contracts on favorable terms or at all and obtain new clients; (10) certain restrictions during the pendency of the merger that may impact First Data’s or Fiserv’s ability to pursue certain business opportunities or strategic transactions; (11) the ability of First Data or Fiserv to retain and hire key personnel;

(12) uncertainty as to the long-term value of the common stock of Fiserv following the merger; (13) the continued availability of capital and financing following the merger; (14) the business, economic and political conditions in the markets in which First Data and Fiserv operate. Except as required by law, we do not intend to revise or update any forward-looking statement as a result of new information, future developments or otherwise.

PART I
ITEM 1. BUSINESS

General

First Data Corporation sits at the center of global electronic commerce. We believe we offer our clients the most complete array of integrated solutions in the industry, covering their needs across next-generation commerce technologies, merchant acquiring, issuing, and network solutions. We serve our clients in over 100 countries, reaching over 6 million business locations and over 3,700 financial institutions. We believe we have the industry’s largest distribution network, to consist of partnerships with over 1,500 distribution partners including many of the world’s leading financial institutions, and our direct sales force. We are the largest merchant acquirer and issuer processor in the world, and operate the third largest independent network services provider in the United States. We enable businesses to accept electronic payments, help financial institutions issue credit, debit and prepaid cards, and route secure transactions between them. In 2018, we processed approximately 100 billion transactions globally, or over 3,000 per second. In our largest market, the United States, we processed approximately $2.3 trillion of payment volume, which represents over 10% of United States gross domestic product (GDP) last year.

We have operations and offices located within the United States (U.S.) (domestic) and outside of the U.S. (international) where sales, customer service and/or administrative personnel are based. Total revenues from domestic and international transactions as a percentage of total revenues and total long lived assets attributable to domestic and international operations as a percentage of total long lived assets, are displayed in the below table.

	Year ended December 31,		
	2018	2017	2016
Total revenues generated:			
Domestic	79 %	85 %	85 %
International	21 %	15 %	15 %
Long-lived assets attributable to operations:			
Domestic	91 %	89 %	89 %
International	9 %	11 %	11 %

No country outside the US represents greater than 10% of our total revenues or long-lived assets during any of the years presented in the table. Further financial information relating to our international and domestic revenues and long-lived assets is set forth in note 8 "Segment Information" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

Our business is characterized by transaction and account related fees, multi-year contracts, and a diverse client base, which allows us to grow alongside our clients. Our multi-year contracts allow us to achieve a high level of recurring revenues with the same clients. While the contracts typically do not specify fixed revenues to be realized thereunder, they do provide a framework for revenues to be generated based on volume of services provided during such contracts' term.

Pending Merger with Fiserv, Inc.

On January 16, 2019, First Data and Fiserv, Inc. (Fiserv), and 300 Holdings, Inc. (Merger Sub), a wholly-owned subsidiary of Fiserv, entered into an agreement and plan of merger (Merger Agreement), pursuant to which we will merge into Merger Sub (the Merger). The terms are subject to the conditions set forth in the Merger Agreement, which states at closing each share of the Company's common stock issued and outstanding will be converted into the right to receive 0.303 (Exchange Ratio) of a share of common stock, par value $0.01 per share, of Fiserv. First Data's equity awards will generally be converted into Fiserv equity awards after giving effect to the Exchange Ratio and appropriate adjustments and be governed by the same terms and conditions as applicable to First Data's corresponding equity awards. Completion of the Merger is subject to customary closing conditions for both parties. We currently anticipate that we will close the merger during the second half of 2019. For additional information see Form 425 filed with the Securities and Exchange Commission dated January 16, 2019 and available through the “Investor Relations” portion of our website at http://investor.firstdata.com.

Products and Services Segments Information

We provide a range of products and solutions to businesses and financial institutions across the value chain of commerce-enabling services and technologies. We deliver our value-added solutions from a suite of proprietary technology products, software, cloud-based applications, processing services, security offerings, and customer support programs that we configure to meet our clients' individual needs.

We operate three segments: Global Business Solutions (GBS), Global Financial Solutions (GFS), and Network & Security Solutions (NSS). Our segments are designed to establish lines of businesses that support our global client base and allow us to further globalize our solutions while working seamlessly with our geographic teams across our regions: the United States and Canada (North America); Europe, Middle East, and Africa (EMEA); Latin America (LATAM); and Asia Pacific (APAC) and are supported by a corporate team focused on company-wide issues.

- Global Business Solutions - GBS provides a wide-range of solutions to merchants. These solutions include retail point-of-sale merchant acquiring and eCommerce services as well as next-generation offerings such as mobile payment services, and our cloud-based Clover point-of-sale operating system, which includes a marketplace for proprietary and third-party business applications.

- Global Financial Solutions - GFS provides technology solutions for bank and non-bank issuers. These solutions include general purpose credit, retail private label, commercial card, and loan processing within the United States and international markets, as well as licensed financial software systems, such as our VisionPLUS processing application. GFS also provides financial institutions with a suite of account services including card personalization and embossing, customer communications, professional services, and customer servicing, including call center solutions and back office processing.

- Network & Security Solutions - NSS provides a wide range of value-added solutions that we sell to clients in our GBS and GFS segments, smaller financial institutions, and other enterprise clients. These solutions include our EFT network solutions (STAR Network and debit card processing solutions), our Stored Value Network solutions (Money Network and Gift Solutions), and our Security and Fraud solutions (TransArmor and TeleCheck). NSS also supports our other digital strategies, including online and mobile banking, and our business supporting mobile wallets.

See "Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations" for a detailed explanation of our operating results. Segment products and services are illustrated below:

The segments’ profit measure is a form of EBITDA (earnings before net interest expense, income taxes, depreciation, and amortization). A discussion of factors potentially affecting our operations is set forth in Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this Form 10-K.

We do not have any customer that accounts for 10% or more of total consolidated revenues.

Global Business Solutions Segment

The following table presents GBS information as a percentage of total segment revenue and segment EBITDA:

	Year ended December 31,		
	2018	2017	2016
Segment revenue	64 %	61 %	60 %
Segment EBITDA	61 %	59 %	60 %

See note 8 "Segment Information" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for a detail of segment revenue and segment EBITDA results.

Global Business Solutions Operations Our largest segment, GBS, provides businesses of all sizes and types with a wide range of solutions at the point-of-sale (POS), including merchant acquiring, eCommerce, mobile commerce, and other business solutions. We served approximately 3.4 million business locations in the United States and 2.7 million outside the United States. The largest line of business within GBS is merchant acquiring, which facilitates the acceptance of commercial transactions at the POS, whether a retail transaction at a physical business location, a mobile commerce transaction through a mobile or tablet device, or an eCommerce transaction over the internet.

GBS employs a variety of distribution strategies. GBS operates direct sales teams and also distributes its services through partnerships with indirect non-bank sales forces, such as independent sales agents, independent sales organizations (ISOs), independent software vendors (ISVs), value added retailers (VARs), and payment services providers (PSPs) to sell our commerce solutions to Small and Medium Sized Business (SMBs). In addition, GBS leverages the powerful sales capabilities of its numerous bank partners to distribute its products and solutions through various legal structures including joint venture equity alliances, revenue sharing alliances, and referral agreements.

GBS segment revenues are primarily derived from processing credit and debit card transactions for merchants and other business clients and includes fees for providing processing, loyalty and software services, and sales and leases of POS devices. Revenues are generated from a variety of sources, including:

- Merchant discount fees charged to a merchant, net of credit and debit card interchange and assessment fees charged by the payment networks. The discount fee is typically either a percentage of the purchase amount or an interchange fee plus a fixed monetary amount;
- Processing fees charged to merchant acquirers (including our alliance partners) who have outsourced their transaction processing to us;
- Sales and leases of POS devices;
- Fees for providing reporting and other services; and
- Software fees such as security applications and Clover related fees.

We typically provide these services as part of a broader commerce-enabling solution to our business clients across multiple channels, including:

- Retail POS - Physical businesses or storefront locations, such as retailers, supermarkets, restaurants, and petroleum stations, with brick and mortar facilities;
- Mobile POS - Physical businesses with remote or wireless storefront locations, such as small retailers and service providers that use mobile devices to accept electronic payments; and
- Online POS (eCommerce) - Online businesses or website locations, such as retailers, digital content providers, and mobile app developers with Internet-based storefronts that can be accessed through a personal computer or a mobile device.

Clover Operating System is an open architecture, integrated POS operating system, with a full suite of integrated hardware and software offerings. With Clover, we have designed one of the largest open architecture platforms of commerce-enabling solutions and applications in the world. The family of Clover devices includes the Clover Station, Clover Mini, Clover Go, Clover Flex and Clover Station II; each providing a broad range of next-generation features and software applications designed to help business clients conduct commerce.

Through December 31, 2018, we have shipped over 1 million Clover devices and the current Clover platform processes more than $70 billion in payment volume annually. Within Clover, we also offer a cloud-based Clover App Market for business applications. Our application marketplace is designed specifically to provide merchants with integrated software applications that they can

download and install quickly and easily on their Clover devices. As of December 31, 2018, the Clover App Market has over 300 active applications. Clover is currently available in seven countries including the United States, the United Kingdom, Ireland, Germany, Austria, Canada, and Argentina; with plans to further scale Clover to more international markets in the near future. Furthermore, we believe Clover improves client retention because it becomes core to our clients' businesses, and positions us as a value-added partner. For example, business owners may use applications in the Clover App Market to manage their employees' work schedules, operate customer loyalty programs, integrate transaction information directly into their accounting software, manage inventory, and provide analytics on their business.
Global Business Solutions Competition GBS competes with merchant acquirers that include Worldpay and Global Payments, in addition to financial institutions that provide acquiring and processing services to businesses on their own, such as Chase Paymentech Solutions, Elavon (a subsidiary of U.S. Bancorp), Total Systems Services, and Barclaycard. In many cases, our alliance and commercial partners compete against each other. Additionally, payment networks such as Visa and MasterCard are increasingly offering products and services that compete with our suite of solutions. Competitors of our next-generation services include PayPal, Braintree (a subsidiary of PayPal), CyberSource (a subsidiary of Visa), Adyen, and Stripe, along with integrated point of sale providers such as Micros, Square, and others.

The primary competitive factors impacting GBS are First Data's brand, global reach, multiple distribution channels, data security, breadth of features and functionality, ease of technological integration, competitive pricing, and servicing capability. Other factors impacting GBS includes consolidation among large businesses and financial institutions, the pace of integrated point of sale solution development, and the creation of new payment methods and related technologies.

Global Business Solutions Seasonality GBS experiences a modest level of seasonality, with the first quarter representing the lowest level of sales and the fourth quarter representing the highest level of sales. Over the past eight quarters, GBS' quarterly revenue as a percentage of GBS' total yearly revenue has ranged between 23% and 26%.

Global Business Solutions Geographic Mix and Revenues GBS generates approximately 78% of its revenues from clients in our North America region, 12% from clients in the EMEA region, 6% from clients in our LATAM region, and 4% from clients in our APAC region. GBS revenues and earnings are impacted by the number of transactions and payment volume, the mix of consumer usage of credit cards, debit cards, and the size of the business.

Global Business Solutions Acquisitions and Dispositions In December 2017, we acquired BluePay Holdings, Inc. (BluePay) for $759 million, net of cash acquired. BluePay is a provider of technology-enabled payment processing for merchants in the U.S. and Canada and was one of our largest distribution partners with a strong focus on software-enabled payments and card-not-present transactions. The transaction is highly complementary to our earlier acquisition of CardConnect and enhanced our suite of innovative partner management tools to improve merchant retention, accelerate our firm-wide ISV initiative and bring immediate capabilities in ERP integrated payment solutions to our customers.

In July 2017, we acquired CardConnect Corp. (CardConnect) for $763 million, net of cash acquired. CardConnect is an innovative provider of payment processing and technology solutions and was one of our largest distribution partners. The transaction enabled us to bring innovative partner management tools to improve merchant retention, accelerate our firm-wide independent software vendor (ISV) initiative and brought immediate capabilities in enterprise resource planning (ERP) integrated payment solutions to our customers.

See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for more details relating to these acquisitions.

Global Financial Solutions Segment

The following table presents GFS information as a percentage of total segment revenue and segment EBITDA:

	Year ended December 31,		
	2018	2017	2016
Segment revenue	19 %	20 %	21 %
Segment EBITDA	20 %	22 %	22 %

See note 8 "Segment Information" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for a detail of segment revenue and segment EBITDA results.

Global Financial Solutions Operations GFS provides financial institutions, which include bank and non-bank issuers such as retailers with proprietary card portfolios, with a broad range of technology solutions that enable them to offer financial products and solutions to their customers. GFS serves over 1,300 clients globally and delivers value to clients through a variety of channels, including end-to-end outsourced processing, managed services, and various software delivery models utilizing our proprietary VisionPLUS solution. GFS services include credit card and loan account processing, commercial payments, customer communications, plastics solutions, customer service, and other products to support issuers.

GFS clients include some of the world's largest financial institutions, which we serve in approximately 100 countries. Our largest line of business in GFS is outsourced issuer processing, which helps banks and non-bank issuers provide credit, commercial, and retail card programs to their account holders, as well as loan programs. GFS also provides licensed software solutions for financial processing activities to financial institutions globally. Depending on the market, our solutions are often bundled with related offerings, such as customer communications and personalization of plastic cards, settlement and back office support, outsourced billing, statement printing, and customer service support. As part of these solutions, we also provide professional services, including custom programming and development, to clients.

GFS revenues are primarily derived from outsourced processing services, print, plastics, and VisionPLUS software services provided to financial institutions. GFS' revenues are typically generated on the basis of number of total and active accounts on file, volume of customer communications, volume of plastics issued or license fees.

Outsourced Processing and Licensing provide solutions to financial institutions and other issuers of credit, such as banks, group service providers, retailers, consumer finance companies, and credit unions. These services enable issuers to process transactions on behalf of customers. Depending on the market and our clients' needs, we deliver these solutions through our proprietary outsourced services platforms, software application licenses, or software-as-a-service hosted in the cloud. Services in our proprietary platform include transaction authorization and posting, account maintenance, and settlement. Our VisionPLUS software is used globally as both a processing solution and a licensed software solution that enables clients to process their own transactions, depending on the market. We also enable merchants and financial institutions to offer next generation payment solutions to their clients, such as Apple Pay, Android Pay, and Samsung Pay.

Revenues for outsourced issuer processing services are derived from fees payable under contracts that depend primarily on the number of cardholder accounts on file. More revenue is derived from active accounts (those accounts on file that had a balance or any monetary posting or authorization activity during a specified period) than inactive accounts. Revenues are also derived from licensing fees for our VisionPLUS application, as well as cardholder and data transactions and professional services such as custom programming and development.

Account Support Services along with our outsourced processing and licensing solutions, we provide a variety of supporting services throughout the life cycle of each account. Services include processing a card application, initiating services for the cardholder to enable the cardholder to transact, accumulating the card's transactions into a monthly billing statement, and posting cardholder payments. Other services provided include customized communications to cardholders, plastics personalization and mailing, information verification associated with granting credit, debt collection, statement printing, and customer service on behalf of financial institutions. We also provide programming and customization to enhance and tailor our solutions to clients' needs through professional services.

Global Financial Solutions Competition GFS competes with card issuer processors, such as Total System Services, Worldpay, Fidelity National Information Services, Fiserv, Worldline, and SIX Payment Services, as well as the card issuer processing businesses of the global payment networks such as Visa and Mastercard. In addition, we compete with various software or custom designed solutions that some financial institutions use to perform these services in-house.

The primary competitive factors impacting GFS are system performance and reliability, digital solutions, data security, breadth of features and functionality, disaster recovery capabilities and business continuity preparedness, platform scalability and flexibility, price, and servicing capability. Market events that impact GFS include financial institution consolidation and portfolio transactions between financial institutions.

Global Financial Solutions Seasonality GFS experiences a modest level of seasonality, with the first quarter representing the lowest level of sales and the fourth quarter representing the highest level of sales. Over the past eight quarters, GFS' quarterly revenue as a percentage of GFS' total yearly revenue has ranged between 24% and 26%.

Global Financial Solutions Geographic Mix and Revenues GFS generates 58% of its revenues from clients in our North America region, 27% from clients in our EMEA region, 8% from clients in our LATAM region, and 7% from clients in our APAC region. Globally, revenues are diversified across major financial institutions of various sizes and geographies.

Global Financial Solutions Acquisitions and Dispositions In September 2018, we divested our card processing business in Central and Southeastern Europe for proceeds of €387 million (the U.S. dollar equivalent is $449 million). The divestiture does not represent a strategic shift that will have a major effect on our operations and financial statements. The total gain on disposition recognized was $174 million.

In August 2018, we divested 100% of our remittance processing business in the U.S. for proceeds of $100 million. The total gain on disposition recognized was $28 million.

In September 2017, we divested all of our businesses in Lithuania, Latvia and Estonia for €73 million (the U.S. dollar equivalent is $85 million). Associated with the transaction, we recognized a $4 million loss on the sale.

See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for more details relating to this disposition.

Network & Security Solutions Segment

The following table presents NSS information as a percentage of total segment revenue and segment EBITDA:

	Year ended December 31,		
	2018	2017	2016
Segment revenue	17 %	19 %	19 %
Segment EBITDA	24 %	24 %	23 %

See note 8 "Segment Information" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for a detail of segment revenue and segment EBITDA results.

Network & Security Solutions Operations NSS provides a range of network solutions and security, risk and fraud management solutions to business and financial institution clients in our GBS and GFS segments, and independently to financial institutions, businesses, governments, processors and other clients. Our EFT Network Solutions manages U.S. debit card and account processing solutions. Our STAR Network enables clients to encrypt, route, and decrypt PIN debit, PIN-less debit, and ATM transactions, and provide access to demand deposit accounts. Our Stored Value Network Solutions facilitate stored value commerce, such as (1) closed-loop prepaid transactions, which are initiated by various types of prepaid cards issued by enterprises, such as retailers, that issue enterprise-branded cards that can generally be used only at the enterprise issuing the card or account, and (2) open-loop prepaid transactions, which are initiated by various types of prepaid cards issued by a bank and carry a network association brand, such as Visa, MasterCard and STAR, enabling them to be used at multiple merchant locations. NSS also includes our Online and Mobile Banking Solutions, Healthcare Solutions, Security and Fraud, and Government Solutions.

EFT Network Solutions enables our business and financial institution clients to route secure, encrypted data between themselves. Our STAR Network is connected to over 3,000 financial institutions and community banks, approximately 1.4 million POS and ATM locations, and numerous third-party payment processors, ATM processors, and card processors that participate in the network. When a business, a merchant acquirer, or an ATM owner acquires a STAR Network transaction, it sends the transaction data to the network switch, which is operated by us, which in turn routes the encrypted information to the appropriate financial institution for authorization. To be routed through the STAR Network, a transaction must be initiated at an ATM or POS device participating in the STAR Network with a card participating in the STAR Network.

Revenues related to the STAR Network are derived from fees payable under contracts and negotiated rate structures but are driven more by the number of transactions processed than by accounts on file. In a situation in which a debit transaction uses our network and we are the debit card processor for the financial institution as well as the merchant acquirer for the business, we are eligible to receive one or more of the following:

- a fee from the card issuing financial institution for running the transaction through the STAR Network;
- a fee from the card issuer for obtaining the authorization;
- a fee from the business for acquiring the transaction, recognized in GBS; and
- a network acquirer fee from the business for accessing the STAR Network.

There are other possible configurations of transactions that result in us receiving multiple fees for a transaction, depending on the role we play.

Stored Value Network manages prepaid stored-value card issuance and processing services (i.e., gift cards) for retailers and others. The full-service stored-value/gift card program offers transaction processing services, card issuance, and customer service for over 200 national brands and several thousand small and mid-tier merchants. We also provide program management and processing services for association-branded, bank-issued, open loop (a card that can be used at multiple merchants), stored-value, reloadable, and one time prepaid card products. Revenues are generated from a variety of sources including processing fees for transactions processed and fees for card production and shipments.

Our commercial prepaid offerings are primarily sold to businesses and are comprised of:

- Gift Solutions - Includes ValueLink, Gyft, and Transaction Wireless.
ValueLink - Provides card and account issuing, program management, and transaction processing services for a range of prepaid card programs. Our closed-loop prepaid programs include gift, incentive, and rebate cards. We serve over 200 brands globally and several thousand SMBs. Our programs include reloadable and non-reloadable prepaid cards, and may be used with a variety of mobile applications.
Gyft - A leading digital platform that enables consumers to buy, send, manage, and redeem virtual closed-loop cards using mobile devices. The Gyft solution, combined with our leadership in prepaid issuing solutions, creates a unique combination to support growth in a rapidly expanding market for virtual cards.
Transaction Wireless - A leading digital platform that enables businesses to sell virtual gift cards online, either to consumers through an integration with their eCommerce storefront, or to other businesses through a proprietary business-to-business solution.

- Payroll Solutions - Includes Money Network which provides open-loop electronic payroll distribution solutions that reduce or eliminate an employer's expense associated with traditional paper paychecks and helps employees without bank accounts avoid check cashing fees. The solution also provides important employee security as the funds are stored on the account, not as cash that can be lost or stolen. Money Network accounts can be used at any business location that accepts Visa, MasterCard, or STAR branded cards, includes a packet of checks to be used to pay bills and avoid the cost of money orders, and offers a web portal to track account activity.

Security and Fraud Solutions provides a range of security, risk, and fraud management solutions that help businesses and financial institutions securely run and grow their business by protecting their data, managing risk, and preventing fraud. Our solutions include TransArmor, our encryption, tokenization, and PCI compliance solution for POS data in-transit, Fraud Predictor Plus, our solution to detect fraud at the POS through a machine-learning based predictive model, and TeleCheck, the industry-leading database of check-writers activity. Revenues for our security solutions are earned on a fee per license basis or per transaction.

TeleCheck offers check verification, settlement, and guarantee services using our proprietary database system to assist merchants in deciding whether accepting checks at the POS is a reasonable risk, or, further, to guarantee checks presented to merchants if they are approved. These services include risk management services, which utilize software, information, and analysis to assist the merchant in the decision process and include identity fraud prevention and reduction. Revenues are earned by charging merchant fees for check verification or guarantee services.

Network & Security Solutions Competition NSS competes with networks such as Visa, MasterCard, and Discover for debit network services, and with Fidelity National Information Services for debit network and check verification and guarantee services. We also face competition from regional operators of debit networks. Our portfolio of security and risk management solutions competes with a wide range of providers across multiple disciplines, including Visa, MasterCard, Voltage, Verisk, Equifax, Experian, TransUnion, and Fair Isaac.

The primary competitive factors impacting NSS are system performance and reliability, data security, breadth of features and functionality, platform scalability and flexibility, price, and financial institution consolidation. Other factors impacting NSS include increasingly powerful and affordable technology capacity, improved data management and analytic tools, and emergence of cloud-based delivery models.

Network & Security Solutions Seasonality NSS experiences a modest level of seasonality, with the first quarter representing the lowest level of sales and the fourth quarter representing the highest level of sales. Over the past eight quarters, NSS' quarterly revenue as a percentage of NSS' total yearly revenue has ranged between 23% and 27%.

Network & Security Solutions Geographic Mix and Revenues More than 95% of the NSS business is domestic.

Network & Security Solutions Acquisitions and Dispositions In October 2017, we formed a digital banking joint venture, named Apiture, combining FDC and Live Oak Bancshares, Inc.'s digital banking platforms, products, and services, delivering innovative technology solutions tailored for financial institutions. Apiture is owned and managed equally between us and Live Oak Bancshares, Inc., as a result, the contributed digital banking business is no longer consolidated into our results after the contribution date.

See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for more details relating to this acquisition and disposition.

Corporate

Corporate operations include corporate-wide governance functions such as our executive management team, tax, treasury, internal audit, corporate strategy, and certain accounting, human resources and legal costs related to supporting the corporate function. Costs incurred by Corporate that are attributable to a segment are allocated to the respective segment.

Global Regions

We currently have operations in 27 countries and serve businesses and financial institutions in over 100 countries around the world as illustrated on the following map:

We deliver our solutions throughout the world via four regions:

North America

North America (United States and Canada) is our largest region. We are the largest merchant acquirer, issuer processor, and third largest U.S. debit network. The United States is our largest market and accounts for the majority of our activity in the region. In 2018, we processed approximately 84 billion commercial transactions and processed $2.3 trillion of payment volume in the United States, representing over 10% of U.S. GDP.

Europe, Middle East, and Africa (EMEA)

We have operations in 12 countries and serve clients in 65 countries in this region. We are a leading merchant acquirer and issuer processor in EMEA and provide our suite of next-generation commerce-enabling solutions to businesses and financial institutions of all sizes and types.

Latin America (LATAM)

We have operations in 6 countries and serve clients in 32 countries in this region. We are a leading merchant acquirer, issuer processor, and eCommerce processor to businesses and financial institutions of all sizes and types in the region.

Asia Pacific (APAC)

We have operations in 7 countries and serve clients in 19 countries in this region. We are a leading merchant acquirer, issuer processor, and eCommerce processor to businesses and financial institutions of all sizes and types in the region and have begun to introduce other commerce-enabling solutions in selected markets.

Intellectual Property

We own a global portfolio of trademarks, trade names, patents, and other intellectual property that are important to our future success. The First Data trademark and trade name, the STAR trademark and trade name, and the Clover trademark and trade name are intellectual property rights which are individually material to us. These trademarks and trade names are widely recognized and associated with quality and reliable service. The First Data trademark and trade name are associated with quality and reliable electronic commerce and payments solutions. Financial institutions and merchants associate the STAR trademark and trade name with quality and reliable debit network services and processing services. Clover provides quality point-of-sale and software solutions to merchants. Loss of the proprietary use of the First Data, STAR, and Clover trademarks and trade names or a diminution in the perceived quality associated with these names could harm the growth of our businesses.

Employees and Labor

As of December 31, 2018, we had approximately 19,000 employees. The majority of the employees of our subsidiaries outside of the United States are subject to the terms of individual employment agreements. One of our wholly-owned subsidiaries has approximately 1,900 employees in the United Kingdom, a portion of whom are members of the Unite trade union. Employees of our subsidiaries in Vienna, Austria; Frankfurt, Germany; and Nürnberg, Germany are also represented by local work councils. The Vienna workforce and a portion of the Frankfurt workforce are also covered by a union contract. Certain employees of our Korean subsidiary are represented by a Labor-Management council. In Brazil, all employees are unionized and covered by the terms of industry-specific collective agreements. In Argentina, a portion of the employees are unionized and covered by an agreement for the merchants and services industry. Employees in certain other countries are also covered by the terms of industry-specific national collective agreements. None of our employees are otherwise represented by any labor organization in the United States. We believe that our relations with our employees and the labor organizations identified above are in good standing.

Available Information

Our principal executive offices are located at 225 Liberty Street, 29th Floor, New York, NY 10281, telephone (800) 735-3362. 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 free of charge to shareholders and other interested parties through the "Investor Relations" portion of our website at http://investor.firstdata.com as soon as reasonably practical after they are filed with the Securities and Exchange Commission (SEC). Information contained on, or that can be accessed through, our website is not incorporated by reference into this document, and you should not consider information on our website to be part of this document. The SEC maintains a website, www.sec.gov, which contains reports and other information filed electronically with the SEC by us. Various corporate governance documents, including our Audit Committee Charter, Governance, Compensation and Nominations Committee Charter, and Code of Ethics for Senior Financial Officers are available without charge through the “About Us” “Investor Relations” “Corporate Governance” portion of our investor relations website.

Government Regulations

Various aspects of our service areas are subject to U.S. federal, state, and local regulation, as well as regulation outside the United States. Failure to comply with regulations may result in the suspension or revocation of licenses or registrations, the limitation, suspension or termination of service, and/or the imposition of civil and criminal penalties, including fines. Certain of our services also are subject to rules promulgated by various payment networks and banking authorities as more fully described below.

The Dodd-Frank Act In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act) was signed into law in the United States. The Dodd-Frank Act has resulted in significant structural and other changes to the regulation of the financial services industry. Among other things, Title X of the Dodd-Frank Act established a new, independent regulatory agency known as the Consumer Financial Protection Bureau (CFPB) to regulate consumer financial products and services (including some offered by our clients). The CFPB may also have authority over us as a provider of services to regulated financial institutions in connection with consumer financial products. The CFPB released rules amending federal Regulation E and Regulation Z. The rules clarify the regulatory prepaid landscape for consumer access to disclosures, fees and statements, error resolution, limited liability and overdrafts. The rules have an impact to our subsidiary Money Network Financial LLC (Money Network) for disclosure, fees and error resolution processing. Separately, under the Dodd-Frank Act, debit interchange transaction fees that a card issuer receives and are established by a payment card network for an electronic debit transaction are now regulated by the Board of Governors of the Federal Reserve System (Federal Reserve Board), and must be “reasonable and proportional” to the cost incurred by the card issuer in authorizing, clearing, and settling the transaction. Effective October 1, 2011, the Federal Reserve Board capped debit interchange rates for card issuers operating in the United States with assets of $10 billion or more. In addition, the new regulations contain non-exclusivity provisions that ban debit payment card networks from prohibiting an issuer from contracting with any other payment card network that may process an electronic debit transaction involving an issuer’s debit cards and prohibit card issuers and payment networks from inhibiting the ability of merchants to direct the routing of debit card transactions over any network that can process the transaction. Beginning April 1, 2012, all debit card issuers in the United States were required to participate in at least two unaffiliated debit payment card networks. On April 1, 2013, the ban on network exclusivity arrangements became effective for prepaid card and healthcare debit card issuers, with certain exceptions for prepaid cards issued before that date.

Effective July 22, 2010, merchants were allowed to set minimum dollar amounts (not to exceed $10) for the acceptance of a credit card (while federal governmental entities and institutions of higher education may set maximum amounts for the acceptance of credit cards). They were also allowed to provide discounts or incentives to entice consumers to pay with an alternative payment method, such as cash, checks or debit cards. In addition, the Dodd-Frank Act created a new entity, the Financial Stability Oversight Council, and authorized it to require that a nonbank financial company that is deemed to pose a systemic risk to the U.S. financial system become subject to consolidated, prudential supervision by the Federal Reserve Board. At this point it is unclear whether we would be subject to additional systemic risk related oversight.

Association and Network Rules We are subject to rules of MasterCard, Visa, INTERAC, PULSE, and other payment networks. In order to provide processing services, a number of our subsidiaries are registered with Visa and/or MasterCard as service providers for member institutions. A number of subsidiaries outside the U.S. are direct members or associate members of Visa and MasterCard for purposes of conducting merchant acquiring. Various subsidiaries of ours are also processor level members of numerous debit and electronic benefits transaction networks or are otherwise subject to various network rules in connection with processing services and other services we provide. As such, we are subject to applicable card association, network, and national scheme rules that could subject us to fines or penalties. We are also subject to network operating rules promulgated by the National Automated Clearing House Association relating to payment transactions processed by us using the Automated Clearing House Network and to various state and federal laws regarding such operations, including laws pertaining to electronic benefits transaction.

Banking Regulations Because a number of our subsidiary businesses provide data processing services for financial institutions, we are subject to examination by the Federal Financial Institutions Examination Council (FFIEC), which examines large data processors in order to identify and mitigate risks associated with significant service providers.

Under the Payment Services Directive (2007/64/EC) in the European Union (PSD), a number of our subsidiaries in GBS hold either payment institution licenses or electronic money licenses in the European Union member states in which such subsidiaries do business. As payment institutions or electronic money institutions, we are subject to regulation and oversight in the applicable European Union member state, which includes (amongst other obligations) a requirement to maintain specified regulatory capital.

The PSD was amended by a revised Payment Services Directive (2015/2366/EC), known as PSD2 which was required to be transposed into national law by January 2018.

FDR Limited is authorized and regulated in the United Kingdom by the Financial Conduct Authority, one of the two principal financial markets regulators in the United Kingdom. FDR Limited is authorized by the Financial Conduct Authority to arrange and advise on certain insurance contracts for the purpose of arranging insurance taken out by its issuer clients' cardholders. FDR Limited also has obtained permission from the Financial Conduct Authority in respect of certain consumer credit activities related to its issuer services and merchant terminal leasing businesses. As a firm authorized by the Financial Conduct Authority, FDR Limited is required to comply with certain prudential, conduct of business and reporting requirements.

Our subsidiary in Germany, First Data GmbH, is certified and regulated as a processor for domestic German debit card transactions by the Deutsche Kreditwirtschaft (DK), the German Banking Industry Committee. Failure to comply with the technical requirements set forth by the DK may result in suspension or termination of services.

First Data Trust Company, LLC (FDTC) engages in trust activities previously conducted by the trust department of a former banking subsidiary of ours and is subject to regulation, examination, and oversight by the Division of Banking of the Colorado Department of Regulatory Agencies. Since FDTC is not a “bank” under the Bank Holding Company Act of 1956, as amended (BHCA), our affiliation with FDTC does not cause us to be regulated as a bank holding company or financial holding company under the BHCA.

Further, several subsidiaries provide services such as factoring or settlement that make them subject to regulation by local banking agencies, including the National Bank of Poland, the Reserve Bank of Australia, and the German Federal Financial Supervision Agency.

Privacy and Information Security Regulations We provide services that may be subject to various state, federal, and foreign privacy laws and regulations, including, among others, the Gramm-Leach-Bliley Act, the Health Insurance Portability and Accountability Act, the European Union General Data Protection Regulation, the Australian Privacy Act, the Personal Information Protection and Electronic Documents Act in Canada, the Personal Data (Privacy) Ordinance in Hong Kong, the Malaysian Data Protection Act 2010, the Singapore Data Protection Act 2012, as well as the new California Consumer Privacy Act effective in January 2020 and the Brazilian General Data Protection Law effective in February 2020. These laws and their implementing regulations govern certain collection, processing, storage, use, and disclosure of personal information, can require notice to entities or individuals of privacy incidents, and provide individuals with certain rights relating to the use and disclosure of protected information. These laws also impose requirements for the safeguarding and proper destruction of personal information through the issuance of data security standards or guidelines. Certain federal and state laws impose similar privacy obligations and, in certain circumstances, obligations to notify affected individuals, state officers, the media, and consumer reporting agencies, as well as businesses and governmental agencies that own the information, of security breaches affecting personal information. In addition, there are state laws restricting the ability to collect and utilize certain types of information such as Social Security and driver’s license numbers. In July 2016, the European Parliament adopted additional European Union-wide legislation regarding cyber security in the form of the Network and Information Security Directive (NIS Directive EU 2016/1148). The NIS Directive was required to be transposed into national law by May 2018. The General Data Protection Regulation took effect throughout the European Union on May 25, 2018 and creates a range of new compliance obligations and increases financial penalties for non-compliance and extends the scope of the European Union data protection law to all companies processing data of European Union residents, regardless of the company’s location.

Credit Reporting and Debt Collections Regulations TeleCheck is subject to the Federal Fair Credit Reporting Act and various similar state laws based on TeleCheck’s maintenance of a database containing the check-writing histories of consumers and the use of that information in connection with its check verification and guarantee services.

The collection business within TRS Recovery Services, Inc. (TRS) is subject to the Federal Fair Debt Collection Practices Act and various similar state laws. TRS has licenses in a number of states in order to engage in collection in those states. In the United Kingdom, FDR Limited has a license under the Consumer Credit Act of 1974 (CCA) to enable it to undertake, among other things, credit administration and debt collections activities on behalf of its card issuing clients through calls and correspondence with the cardholders. FDR Limited is also licensed under the CCA to carry on the activity of a consumer hire business for the purpose of leasing point of sale devices to merchants.

TeleCheck and TRS are subject to regulation, supervision, and examination from the CFPB. Further regulations may be imposed in the future as state governments and federal agencies identify and consider supplementary consumer financial protection, including laws regulating activities with respect to current or emerging technology such as automated dialers or pre-recorded messaging or calls to cellular phones, which could impair the collection by TRS of returned checks and those purchased under TeleCheck's guarantee services. Moreover, reducing or eliminating access to and use of information on drivers licenses, requiring blocking of access to credit reports or scores, mandating score or scoring methodology disclosure and proscribing the maintenance or use of consumer databases could reduce the effectiveness of TeleCheck's risk management tools or otherwise increase its costs of doing business.

In addition, several of our subsidiaries are subject to comparable local laws regarding collection activities and obtaining credit reports.

Unfair Trade Practice Regulations We and our clients are subject to various federal, state, and international laws prohibiting unfair or deceptive trade practices, such as Section 5 of the Federal Trade Commission Act. Various regulatory enforcement agencies, including the Federal Trade Commission (FTC) and state attorneys general, have authority to take action against parties that engage in unfair or deceptive trade practices or violate other laws, rules, and regulations and to the extent we are processing payments for a client that may be in violation of laws, rules, and regulations, we may be subject to enforcement actions and incur losses and liabilities that may impact our business. For example, TeleCheck and TRS are subject to a consent decree with the FTC which, among other items, addresses the timeliness of certain actions that they take.

Anti-Money Laundering, Anti-Bribery, Sanctions, and Counter-Terrorist Regulations We are subject to anti-money laundering laws and regulations, including the Bank Secrecy Act, as amended by the USA PATRIOT Act of 2001 (collectively, BSA). Among other things, the BSA requires money services businesses (such as money transmitters, issuers of money orders and official checks, and providers of prepaid access) to develop and implement risk-based anti-money laundering programs, report large cash transactions and suspicious activity, and to maintain transaction records. Money Network provides prepaid access for various open loop prepaid programs for which it is the program manager and therefore must meet the requirements of the Financial Crimes Enforcement Network (FinCEN), the agency that enforces the BSA. As of May 2018, we are required to comply with FinCEN's rules requiring the collection and verification of beneficial owners holding equal to or greater than 25% equity interest. In the European Union, our GBS businesses are subject to various laws implementing European AML legislation. The Fifth EU Anti-Money Laundering Directive (EU) 2018/843 which entered into force in July 2018, updates current EU AML legislation and is required to be transposed into national law by January 2020.

We are also subject to anti-corruption laws and regulations, including the United States Foreign Corrupt Practices Act (FCPA) and other laws, that prohibit the making or offering of improper payments to foreign government officials and political figures and includes anti-bribery provisions enforced by the Department of Justice and accounting provisions enforced by the Securities and Exchange Commission (SEC). The FCPA has a broad reach and requires maintenance of appropriate records and adequate internal controls to prevent and detect possible FCPA violations. Many other jurisdictions where we conduct business also have similar anticorruption laws and regulations. We have policies, procedures, systems, and controls designed to identify and address potentially impermissible transactions under such laws and regulations.

We are also subject to certain economic and trade sanctions programs that are administered by the Treasury Department's Office of Foreign Assets Control (OFAC), which prohibit or restrict transactions to or from or dealings with specified countries, their governments, and in certain circumstances, their nationals, and with individuals and entities that are specially-designated nationals of those countries, narcotics traffickers, and terrorists or terrorist organizations. Other group entities may be subject to additional local sanctions requirements in other relevant jurisdictions.

Similar anti-money laundering and counter terrorist financing and proceeds of crime laws apply to movements of currency and payments through electronic transactions and to dealings with persons specified in lists maintained by the country equivalents to OFAC lists in several other countries and require specific data retention obligations to be observed by intermediaries in the payment process. Our businesses in those jurisdictions are subject to those data retention obligations.

Money Transmission and Payment Instrument Licensing and Regulations We are subject to various U.S. federal, state, and foreign laws and regulations governing money transmission and the issuance and sale of payment instruments, including some of our prepaid products.

In the United States, most states license money transmitters and issuers of payment instruments. Many states exercise authority over the operations of our services related to money transmission and payment instruments and, as part of this authority, subject us to periodic examinations. Many states require, among other things, that proceeds from money transmission activity and payment instrument sales be invested in high-quality marketable securities before the settlement of the transactions. Such licensing laws also may cover matters such as regulatory approval of consumer forms, consumer disclosures and the filing of periodic reports by the licensee, and require the licensee to demonstrate and maintain levels of net worth. Many states also require money transmitters, issuers of payment instruments, and their agents to comply with federal and/or state anti-money laundering laws and regulations.

Escheatment Regulations We are subject to unclaimed or abandoned property (escheat) laws both in the United States and abroad that require us to turn over to certain government authorities the property of others held by us that has been unclaimed for a specified period of time such as, in the Integrated Payment Systems (IPS) business, payment instruments that have not been presented for payment or, in GBS, account balances that cannot be returned to a merchant following discontinuation of its relationship with us. A number of our subsidiaries hold property subject to escheat laws and we have an ongoing program to comply with those laws. We are subject to audit by individual U.S. states with regard to our escheatment practices.

Telephone Consumer Protection Act We are subject to the Federal Telephone Consumer Protection Act and various state laws to the extent we place telephone calls and short message service (SMS) messages to clients and consumers. The Telephone Consumer Protection Act regulates certain telephone calls and SMS messages placed using automatic telephone dialing systems or artificial or prerecorded voices. A number of our international subsidiaries are subject to equivalent laws in their jurisdictions.

Indirect Regulatory Requirements A number of our clients are financial institutions that are directly subject to various regulations and compliance obligations issued by the CFPB, the Office of the Comptroller of the Currency and other agencies responsible for regulating financial institutions. While these regulatory requirements and compliance obligations do not apply directly to us, many of these requirements materially affect the services we provide to our clients and us overall. To remain competitive, we expend significant resources to assist our clients in meeting their various compliance obligations, including the cost of updating our systems and services as necessary to allow our clients to comply with applicable laws and regulations, and the cost of dedicating sufficient resources to assist our clients in meeting their new and enhanced oversight and audit requirements established by the CFPB, the Office of the Comptroller of the Currency and others. The banking agencies, including the Office of the Comptroller of the Currency, also have imposed requirements on regulated financial institutions to manage their third-party service providers. Among other things, these requirements include performing appropriate due diligence when selecting third-party service providers; evaluating the risk management, information security, and information management systems of third-party service providers; imposing contractual protections in agreements with third-party service providers (such as performance measures, audit and remediation rights, indemnification, compliance requirements, confidentiality and information security obligations, insurance requirements, and limits on liability); and conducting ongoing monitoring of the performance of third-party service providers. Accommodating these requirements applicable to our clients imposes additional costs and risks in connection with our financial institution relationships. We expect to expend significant resources on an ongoing basis in an effort to assist our clients in meeting their legal requirements.

Other Stored-value services we offer to issuers in the United States and internationally are subject to various federal, state, and foreign laws and regulations, which may include laws and regulations related to consumer and data protection, licensing, escheat, anti-money laundering, banking, trade practices and competition, and wage and employment. These laws and regulations are evolving, unclear, and sometimes inconsistent and subject to judicial and regulatory challenge and interpretation, and therefore the extent to which these laws and rules have application to, and their impact on, us, financial institutions, merchants or others is in flux. At this time we are unable to determine the impact that the clarification of these laws and their future interpretations, as well as new laws, may have on us, financial institutions, merchants or others in a number of jurisdictions. These services may also be subject to the rules and regulations of the various international, domestic and regional schemes, networks, and associations in which we and the card issuers participate.

In addition, the Housing Assistance Tax Act of 2008 included an amendment to the Internal Revenue Code that requires information returns to be made for each calendar year by merchant acquiring entities and third-party settlement organizations with respect to payments made in settlement of payment card transactions and third-party payment network transactions occurring in that calendar year. Reportable transactions are also subject to backup withholding requirements. We could be liable for penalties if we are not in compliance with these rules.

In December 2017, the United States enacted the Tax Cuts and Jobs Act of 2017. The new tax laws decrease the maximum corporate tax rate from 35% to 21% and provide more favorable tax treatment of distribution of foreign earnings to the U.S. The tax law also provides new limitations with respect to the amount of interest that may be deducted in the U.S. We expect the net result of the new tax law to be favorable as the benefit we receive from the reduction in the corporate tax rate is greater than the negative impact of the interest deductibility limit and other aspects of the new law. We also expect that over time the amount of interest that is not deductible will decrease due to our efforts to reduce debt as well as increase our interest deduction limitation.

ITEM 1A. RISK FACTORS

The following are certain risks that could affect our business and our results of operations. The risks identified below are not all encompassing but should be considered in establishing an opinion of our future operations.

Risks Related to the Pending Merger

The pending merger with a subsidiary of Fiserv, Inc. is contingent upon the satisfaction of a number of conditions, may require significant time and attention of our management, and may have a material adverse effect on us if it is not completed.

On January 16, 2019, First Data and Fiserv, Inc. entered into an agreement and plan of merger, under which FDC will merge with a subsidiary of Fiserv. The merger agreement generally requires us to operate our business in the ordinary course pending consummation of the proposed merger and restricts us, without Fiserv's consent, from taking certain specified actions until the merger is completed. These restrictions may affect our ability to execute our business strategies and attain our financial and other goals and may impact our financial condition, results of operations and cash flows. In addition, the pursuit of the merger and the preparation for the integration of our business with Fiserv may place a significant burden on management and internal resources. The diversion of management's attention away from day-to-day business concerns could adversely affect our financial results.

We currently anticipate that we will close the merger during the second half of 2019, but we cannot be certain when or if the conditions for the Merger will be satisfied or waived. The merger cannot be completed until the conditions are satisfied or waived, including the receipt of required antitrust and other regulatory approvals and other customary closing conditions. Satisfying the conditions to the closing of the merger may take longer than we expect. In the event that the merger is not completed for any reason, we will remain an independent public company and holders of our common stock will continue to own their shares of our common stock. If the merger is not completed for any reason, the price of our common stock may decline to the extent that the current market price may reflect an assumption that each First Data share will be exchanged for 0.303 shares of Fiserv upon consummation of the merger as specified in the merger agreement. Investor confidence also could decline.

Whether or not we complete the merger, our ongoing businesses may be adversely affected and we may be subject to certain risks and consequences as a result of pursuing the merger, including, among others, the following:

- execution of the proposed merger will require significant time and attention from management, which may distract them from operating our business and executing on other initiatives that may have been beneficial to us;
- we may lose management personnel and other key employees and our employees may be distracted due to uncertainty about their future roles with the new combined company;
- parties with which we have business relationship may experience uncertainty as to the future of such relations and may delay or defer certain business decisions, seek alternative relations with others, or change their present business relationship with us;
- we could be the subject of litigation related to the proposed merger, which could result in significant costs and expenses;
- we will be required to pay significant costs and expenses relating to the merger, such as legal, accounting, and other professional fees, whether or not the merger is completed;
- we may have to forgo other opportunities in favor of the merger instead of pursuing such other opportunities that could be beneficial to First Data; and
- we may experience negative reactions from the financial markets, particularly if we fail to complete the merger.

In addition to the foregoing, the ratio for the exchange of First Data stock into Fiserv stock to be received pursuant to the Merger Agreement is fixed. The exchange ratio will not increase because of fluctuations in the market price of Fiserv stock or changes in our business, assets, liabilities, prospects, outlook, financial condition or results of operation or in the event of any change in the market price of, analyst estimates of, or projections relating to, our common stock. Because the conversion ratio is fixed, the market price of First Data stock may be impacted by any changes in the market price of Fiserv stock.

Business and Operational Risks

Global economic, political, and other conditions may adversely affect trends in consumer, business, and government spending, which may adversely impact the demand for our services and our revenue and profitability.

Financial services, payments, and technology industries in which we operate depend heavily upon the overall level of consumer, business, and government spending. A sustained deterioration in the general economic conditions (including distress in financial markets, turmoil in specific economies around the world, and additional government intervention), particularly in the United States or Europe, or increases in interest rates in key countries in which we operate may adversely affect our financial performance by reducing the number or average purchase amount of transactions involving payment cards. A reduction in the amount of consumer spending could result in a decrease of our revenue and profits.

Adverse economic trends may accelerate the timing, or increase the impact of, risks to our financial performance. Such trends may include, but are not limited to, the following:

- Declining economies, foreign currency fluctuations, and the pace of economic recovery can change consumer spending behaviors, such as cross-border travel patterns, on which a significant portion of our revenues are dependent.
- Low levels of consumer and business confidence typically associated with recessionary environments and those markets experiencing relatively high unemployment, may cause decreased spending by cardholders.
- Budgetary concerns in the United States and other countries around the world could affect the United States and other specific sovereign credit ratings, impact consumer confidence and spending, and increase the risks of operating in those countries.
- Emerging market economies tend to be more volatile than the more established markets we serve in the United States and Europe, and adverse economic trends may be more pronounced in such emerging markets.
- Financial institutions may restrict credit lines to cardholders or limit the issuance of new cards to mitigate cardholder defaults.
- Uncertainty and volatility in the performance of our clients' businesses may make estimates of our revenues, rebates, incentives, and realization of prepaid assets less predictable.
- Our clients may decrease spending for value-added services.
- Government intervention, including the effect of laws, regulations, and /or government investments in our clients, may have potential negative effects on our business and our relationships with our clients or otherwise alter their strategic direction away from our products.

A weakening in the economy could also force some retailers to close, resulting in exposure to potential credit losses and declines in transactions, and reduced earnings on transactions due to a potential shift to large discount merchants. Additionally, credit card issuers may reduce credit limits and become more selective in their card issuance practices. Changes in economic conditions could adversely impact our future revenues and profits and result in a downgrade of our debt ratings, which may lead to termination or modification of certain contracts and make it more difficult for us to obtain new business. Any of these developments could have a material adverse impact on our overall business and results of operations.

Our ability to anticipate and respond to changing industry trends and the needs and preferences of our clients and consumers may affect our competitiveness or demand for our products, which may adversely affect our operating results.

Financial services, payments, and technology industries are subject to rapid technological advancements, new products and services, including mobile payment applications, evolving competitive landscape, developing industry standards, and changing client and consumer needs and preferences. We expect that new services and technologies applicable to the financial services, payments, and technology industries will continue to emerge. These changes in technology may limit the competitiveness of and demand for our services. Also, our clients and their customers continue to adopt new technology for business and personal uses. We must anticipate and respond to these changes in order to remain competitive within our relative markets. For example, our ability to provide innovative point-of-sale technology to our merchant clients could have an impact on our Global Business Solutions business.

Failure to develop value-added services that meet the needs and preferences of our clients could have an adverse effect on our ability to compete effectively in our industry. Furthermore, clients' and their customers' potential negative reaction to our products and services can spread quickly through social media and damage our reputation before we have the opportunity to respond. If we are unable to anticipate or respond to technological changes or evolving industry standards on a timely basis, our ability to remain competitive could be materially adversely affected.

Substantial and increasingly intense competition worldwide in the financial services, payments, and technology industries may materially and adversely affect our overall business and operations.

Financial services, payments, and technology industries are highly competitive and our payment solutions compete against all forms of financial services and payment systems, including cash and checks, and electronic, mobile, and eCommerce payment platforms. If we are unable to differentiate ourselves from our competitors, drive value for our clients and/or effectively align our resources with our goals and objectives, we may not be able to compete effectively. Our competitors may introduce their own value-added or other services or solutions more effectively than we do, which could adversely impact our growth. We also compete against new entrants that have developed alternative payment systems, eCommerce payment systems, and payment systems for mobile devices. Failure to compete effectively against any of these competitive threats could have a material adverse effect on us. In addition, the highly competitive nature of our industry could lead to increased pricing pressure which could have a material impact on our overall business and results of operations.

Potential changes in the competitive landscape, including disintermediation from other participants in the payments value chain, could harm our business.

We expect that the competitive landscape will continue to change, including:

- Rapid and significant changes in technology, resulting in new and innovative payment methods and programs that could place us at a competitive disadvantage and that could reduce the use of our products.
- Competitors, clients, governments, and other industry participants may develop products that compete with or replace our value-added products and services.
- Participants in the financial services, payments, and technology industries may merge, create joint ventures, or form other business combinations that may strengthen their existing business services or create new payment services that compete with our services.
- New services and technologies that we develop may be impacted by industry-wide solutions and standards related to migration to EMV chip technology, tokenization, or other safety and security technologies.

Failure to compete effectively against any of these competitive threats could have a material adverse effect on us.

Our Global Business Solutions business depends, in part, on our merchant relationships and alliances. If we are unable to maintain these relationships and alliances, our business may be adversely affected.

Our alliance structures take on different forms, including consolidated subsidiaries, equity method investments, and revenue sharing arrangements. Under our alliance program, a bank or other institution forms an alliance with us on an exclusive basis, either contractually or through a separate legal entity. Merchant contracts may be contributed to the alliance by us and/or the bank or institution. The banks and other institutions generally provide card association sponsorship, clearing, and settlement services and typically act as a merchant referral source when the institution has an existing banking or other relationship with such merchant. We provide transaction processing and related functions. Both we and our alliance partners may also provide management, sales, marketing, and other administrative services. The alliance structure allows us to be the processor for multiple financial institutions, any one of which may be selected by the merchant as its bank partner. Our Global Business Solutions business is dependent, in part, on our merchant relationships, alliances, and other distribution channels. We are working with our alliance partners to grow their businesses. There can be no guarantee that our efforts will be successful and that we will achieve growth in our merchant relationships, alliances, and other distribution channels. In addition, our contractual arrangements with our merchants and merchant alliance partners are for fixed terms and may also allow for early termination upon the occurrence of certain events. There can be no assurance that we will be able to renew our contractual arrangements with these merchants or merchant alliance partners on similar terms or at all. The loss of merchant relationships or alliance and financial institution partners could negatively impact our business and result in a reduction of our revenue and profit.

A disruptive implementation of the United Kingdom’s exit from the European Union could adversely affect our results of operations.

We are monitoring developments related to the implementation of the United Kingdom’s decision to exit the European Union (referred to as Brexit), which could, among other outcomes, disrupt the free movement of goods, services, data, and people between the U.K. and the E.U., undermine bilateral cooperation in key policy areas, and significantly disrupt trade between the U.K. and the E.U. The effects of Brexit will depend in part on any agreements the U.K. makes to retain access to E.U. markets. These agreements could potentially disrupt the markets we serve and the tax jurisdictions in which we operate and adversely change tax benefits or liabilities in these or other jurisdictions. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the U.K. determines which E.U. laws to replace or replicate. Given the lack of comparable precedent, it is unclear what financial, trade, and legal implications the withdrawal of the U.K. from the E.U. will have and how such withdrawal will affect us.

In addition, Brexit may create additional uncertainty in currency exchange rate fluctuations that may result in the strengthening of the U.S. dollar against foreign currencies in which we conduct business. We translate revenue denominated in foreign currency into U.S. dollars for our financial statements. During periods of a strengthening dollar, our reported international revenue is reduced because foreign currencies translate into fewer U.S. dollars.

Any of these effects of Brexit, among others, could materially adversely affect our relationships with our existing and future clients and suppliers, which could have an adverse effect on our business, financial results, and business opportunities.

Failure to obtain new clients or renew client contracts on favorable terms could adversely affect results of operations and financial condition.

Most of our sales involve long-term contracts, which generally require a notice period prior to their scheduled expiration if a client chooses not to renew. Some of these contracts may also allow for early termination upon the occurrence of certain events such as a change in control. While a vast majority of our contracts remain in effect through their scheduled expiration, we may face pricing pressure in obtaining and retaining our larger clients. Some of our competitors may offer more attractive fees to our current and prospective clients, or other services that we do not offer. Larger clients may be able to seek lower prices from us when they renew a contract, when a contract is extended, or when the client’s business has significant volume changes. They may also reduce services if they decide to move services in-house. Further, our SMB clients may exert pricing pressure due to pricing competition or other economic needs or pressures such clients experience from their customers. On some occasions, this pricing pressure results in lower revenue from a client than we had anticipated based on our previous agreement with that client. This reduction in revenue could result in an adverse effect on our business, operating results, and financial condition.

For potential clients of our business segments, switching from one vendor of core processing or related software and services (or from an internally-developed system) to a new vendor is a significant undertaking. As a result, potential clients often resist change. We seek to overcome this resistance through strategies such as making investments to enhance the functionality of our software. However, there can be no assurance that our strategies for overcoming potential clients’ reluctance to change vendors will be successful, and this resistance may adversely affect our growth.

Security breaches or cybersecurity attacks on our systems may have a significant effect on our business.

In order to provide our services, we process, store, and transmit sensitive business information and personal consumer information, including, but not limited to, names, bankcard numbers, home or business addresses, social security numbers, driver's license numbers, and bank account numbers. Under the card network rules, various federal, state and international laws, and client contracts, we are responsible for information provided to us by financial institutions, merchants, ISOs, third-party service providers, and others. The confidentiality of such sensitive business information and personal consumer information that resides on our systems is critical to our business. Our systems are subject to cybersecurity attacks and other techniques which are intended to obtain unauthorized access, disable or degrade the service we provide, or sabotage our system. These cybersecurity attacks are often difficult to detect and are constantly evolving. We expect that unauthorized parties will continue to attempt to gain access to our systems or facilities through various means. We cannot be certain that the security measures and procedures we have in place to detect cybersecurity attacks and protect this sensitive data, including protection against unauthorized access and use by our employees, will be successful or sufficient to counter all current and emerging technology threats designed to breach our systems in order to gain access to confidential information. The increasing sophistication of cyber criminals and their continuous attempts to breach our system has increased the risk of a security breach of our systems. A breach of our products or systems processing or storing sensitive business information or personal consumer information could lead to claims against us, reputational damage, lost clients and lost revenue, substantial additional costs (including costs of notification of consumers, credit monitoring, card reissuance, contact centers and forensics), loss of our financial institution sponsorship, loss of clients' and their customers’ confidence, as well as imposition of fines and damages, or potential restrictions imposed by card networks on our ability to process transactions, all of which could have a material adverse effect on our revenues, profitability, financial condition, and future growth. In addition, any cyberattacks or data security breaches affecting our clients, partners, or vendors could have similar negative effects. Furthermore, as security threats and cybersecurity attacks continue to evolve we will be required to invest additional resources to modify the security of our systems. The level of required investment could have a material adverse effect on our results of operations.

We may experience breakdowns in our processing systems that could damage client relations and expose us to liability.

Our core business depends heavily on the reliability of our processing systems. A system outage could have a material adverse effect on our business, financial condition, and results of operations. Not only would we suffer damage to our reputation in the event of a system outage, but we may also be liable to third parties. Many of our contractual agreements with clients require us to pay penalties if our systems do not meet certain operating standards. To successfully operate our business, we must be able to protect our processing and other systems from interruption, including from events that may be beyond our control. Events that could cause system interruptions include, but are not limited to, fire, natural disaster, unauthorized entry, power loss, telecommunications failure, computer viruses, terrorist acts, cyber attacks, and war. Although we have taken steps to protect against data loss and system failures, there is still risk that we may lose critical data or experience system failures. To help protect against these events, we perform the vast majority of disaster recovery operations ourselves, but we also utilize select third parties for certain operations, particularly outside of the United States. To the extent we outsource our disaster recovery, we are at risk of the vendor’s unresponsiveness or other failures in the event of breakdowns in our systems. In addition, our property and business interruption insurance may not be adequate to compensate us for all losses or failures that may occur.

Disruptions at other participants in the global financial system could prevent us from delivering our products and services.

The operations and systems of many participants in the global financial system are interconnected. Many of the transactions that involve our products and services rely on multiple participants in the global financial system to accurately move funds and communicate information to the next participant in the transaction chain. A disruption for any reason at one of the participants in the global financial system could impact our ability to obtain or provide information or cause funds to be moved in a manner to successfully deliver our products and services. Although we work with other participants to avoid any disruptions, there is no assurance that such efforts will be effective. Such a disruption could lead to the inability for us to deliver products and services, reputational damage, lost clients and lost revenue, loss of clients' and their customers' confidence, as well as additional costs, all of which could have a material adverse effect on our revenues, profitability, financial condition, and future growth.

We may experience software defects, computer viruses, and development delays, which could damage client relations, our potential profitability and expose us to liability.

Our products are based on sophisticated software and computing systems that often encounter development delays, and the underlying software may contain undetected errors, viruses, or defects. Defects in our software products and errors or delays in our processing of electronic transactions could result in additional development costs, diversion of technical and other resources from our other development efforts, loss of credibility with current or potential clients, harm to our reputation, fines imposed by card networks, or exposure to liability claims. In addition, we rely on technologies supplied to us by third parties that may also contain undetected errors, viruses or defects that could have a material adverse effect on our business, financial condition and results of operations. Although we attempt to limit our potential liability for warranty claims through disclaimers in our software documentation and limitation-of-liability provisions in our license and other agreements with our clients, we cannot assure that these measures will be successful in limiting our liability.

Our merchants may be unable to satisfy obligations for which we may also be liable.

We are subject to the risk of our merchants being unable to satisfy obligations for which we may also be liable. For example, we and our merchants acquiring alliances may be subject to contingent liability for transactions originally acquired by us that are disputed by the cardholder and charged back to the merchants. If we or the alliance is unable to collect this amount from the merchant because of the merchant’s insolvency or other reasons, we or the alliance will bear the loss for the amount of the refund paid to the cardholder. We have an active program to manage our credit risk and often mitigate our risk by obtaining collateral. It is possible, however, that a default on such obligations by one or more of our merchants could have a material adverse effect on our business. See note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for further information on our merchant credit losses.

Fraud by merchants or others could have a material adverse effect on our business, financial condition, and results of operations.

We may be subject to potential liability for fraudulent electronic payment transactions or credits initiated by merchants or others. Examples of merchant fraud include when a merchant or other party knowingly uses a stolen or counterfeit credit, debit or prepaid card, card number, or other credentials to record a false sales transaction, processes an invalid card, or intentionally fails to deliver the merchandise or services sold in an otherwise valid transaction. Criminals are using increasingly sophisticated methods to engage in illegal activities such as counterfeiting and fraud. It is possible that incidents of fraud could increase in the future. Failure to effectively manage risk and prevent fraud would increase our chargeback liability or other liability. Increases in chargebacks or other liability could have a material adverse effect on our business, financial condition, and results of operations.

Future consolidation of financial institution clients or other client groups may adversely affect our financial condition.

Bank industry consolidation could affect existing and potential clients in our service areas. Our alliance strategy could also be negatively affected by consolidations, especially where the banks involved are committed to their internal merchant processing businesses that compete with us. Bank consolidation has led to an increasingly concentrated client base, resulting in a changing client mix as well as increased price compression. Further consolidation in the bank industry or other client base could have a negative impact on us, including a loss of revenue and price compression.

We rely on various financial institutions to provide clearing services in connection with our settlement activities. If we are unable to maintain clearing services with these financial institutions and are unable to find a replacement, our business may be adversely affected.

We rely on various financial institutions to provide clearing services in connection with our settlement activities. If such financial institutions should stop providing clearing services or limit our volumes we would need to find other financial institutions to provide those services. If we are unable to find a replacement financial institution we may no longer be able to provide processing services to certain clients, which could negatively impact our revenue and earnings.

Because we rely on third-party vendors to provide products and services, we could be adversely impacted if they fail to fulfill their obligations.

Our business is dependent on third-party vendors to provide us with certain products and services. The failure of these vendors to perform their obligations in a timely manner could adversely affect our operations and profitability. In addition, if we are unable to renew our existing contracts with our most significant vendors, we might not be able to replace the related product or service at the same cost, which would negatively impact our profitability.

Changes in card association and debit network fees or products could increase costs or otherwise limit our operations.

From time to time, card associations and debit networks increase the organization and/or processing fees (known as interchange fees) that they charge. It is possible that competitive pressures will result in us absorbing a portion of such increases in the future, which would increase our operating costs, reduce our profit margin, and adversely affect our business, operating results, and financial condition. In addition, the various card associations and networks prescribe certain capital requirements. Any increase in the capital level required would further limit our use of capital for other purposes.

Our business may be adversely affected by geopolitical and other risks associated with operations outside of the United States and, as we continue to expand internationally, we may incur higher than anticipated costs and may become more susceptible to these risks.

We offer merchant acquiring, processing and issuing services outside of the United States, including in the United Kingdom, Germany, Argentina, India, and Brazil, where our principal non-U.S. operations are located. Our revenues derived from these and other non-U.S. operations are subject to additional risks, including those resulting from social and geopolitical instability and unfavorable political or diplomatic developments, all of which could negatively impact our financial results.

As we expand internationally and grow our non-U.S. client base, we may face challenges due to the presence of more established competitors and our lack of experience in such non-U.S. markets, and we may also incur higher than anticipated costs. If we are unable to successfully manage expenses relating to the international expansion of our business, our financial position and results of operations could be negatively impacted.

Cost savings initiatives may not produce the savings expected and may negatively impact our other initiatives and efforts to grow our business.

In recent years, we have implemented measures aimed at improving our profitability and maintaining flexibility in our capital resources, including restructuring efforts and the introduction of cost savings initiatives. We expect to continue to take measures to improve our profitability and cash flows from operating activities. However, there can be no assurance that the cost control measures will be successful. In addition, these and any future spending reductions, if any, may negatively impact our other initiatives or our efforts to grow our business, which may negatively impact our future results of operations and increase the burden on existing management, systems, and resources.

The ability to recruit, retain and develop qualified personnel is critical to our success and growth.

All of our businesses function at the intersection of rapidly changing technological, social, economic, and regulatory developments that requires a wide range of expertise and intellectual capital. For us to successfully compete and grow, we must retain, recruit, and develop the necessary personnel who can provide the needed expertise across the entire spectrum of our intellectual capital needs. In addition, we must develop our personnel to provide succession plans capable of maintaining continuity in our business. The market for qualified personnel, however, is competitive and we may not succeed in recruiting additional personnel or may fail to effectively replace current personnel who depart with qualified or effective successors. Our effort to retain and develop personnel may also result in significant additional expenses, which could adversely affect our profitability. We cannot assure that key personnel, including executive officers, will continue to be employed or that we will be able to attract and retain qualified personnel in the future. Failure to retain or attract key personnel could have a material adverse effect on us.

Acquisitions and integrating such acquisitions create certain risks and may affect our operating results.

We have actively acquired businesses and may continue to make acquisitions of businesses or assets in the future. The acquisition and integration of businesses or assets involves a number of risks. The core risks are valuation (negotiating a fair price for the business), integration (managing the process of integrating the acquired company's people, products, technology, and other assets to extract the value and synergies projected to be realized in connection with the acquisition), regulation (obtaining necessary regulatory or other government approvals that may be necessary to complete acquisitions), and diligence (identifying undisclosed or unknown liabilities or restrictions that will be assumed in the acquisition).

In addition, acquisitions outside of the United States often involve additional or increased risks including, for example:

- managing geographically separated organizations, systems and facilities;
- integrating personnel with diverse business backgrounds and organizational cultures;
- complying with non-U.S. regulatory requirements;
- fluctuations in currency exchange rates;
- enforcement of intellectual property rights in some non-U.S. countries;
- difficulty entering new non-U.S. markets due to, among other things, consumer acceptance and business knowledge of these new markets; and
- general economic and political conditions.

The process of integrating operations could cause an interruption of, or loss of momentum in, the activities of one or more of our combined businesses and the possible loss of key personnel. The diversion of management's attention and any delays or difficulties encountered in connection with acquisitions and the integration of the two companies' operations could have an adverse effect on our business, results of operations, financial condition or prospects.

Financial Risks

Our substantial leverage could adversely affect our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry, expose us to interest rate risk to the extent of our variable rate debt and prevent us from meeting our debt obligations.

We are highly leveraged. As of December 31, 2018, we had $17.6 billion of total debt. Our high degree of leverage could have important consequences, including:

- increasing our vulnerability to adverse economic, industry or competitive developments;
- requiring a substantial portion of cash flow from operations to be dedicated to the payment of principal and interest on our indebtedness, therefore reducing our ability to use cash flow to fund our operations, capital expenditures, and future business opportunities;
- making it more difficult for us to satisfy our obligations with respect to our indebtedness, and any failure to comply with the obligations of our debt instruments, including restrictive covenants and borrowing conditions, could result in an event of default under the agreements governing such indebtedness;
- restricting us from making strategic acquisitions or causing us to make non-strategic divestitures;
- making it more difficult for us to obtain network sponsorship and clearing services from financial institutions or to obtain or retain other business with financial institutions;
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- limiting our ability to obtain additional financing for working capital, capital expenditures, product development, debt service requirements, acquisitions, and general corporate or other purposes; and
- limiting our flexibility in planning for, or reacting to, changes in our business or market conditions and placing us at a competitive disadvantage compared to our competitors who are less highly leveraged and who, therefore, may be able to take advantage of opportunities that our leverage prevents us from exploiting.

Our financial condition and results of operations are dependent in part upon our ongoing ability to refinance our maturing indebtedness at attractive interest rates.

Successful execution of our business strategy is dependent in part upon our ability to manage our capital structure to minimize interest expense and enhance free cash flow generation. Our senior secured revolving credit facility has $1.25 billion in commitments that are scheduled to mature in October 2023. In addition, approximately $2.5 billion of obligations under our existing long-term borrowings are scheduled to mature prior to December 31, 2022. We may not be able to refinance our senior secured credit facilities or our other existing indebtedness at or prior to their maturity at attractive rates of interest because of our high levels of debt, debt incurrence restrictions under our debt agreements or because of adverse conditions in credit markets generally.

An increase in interest rates may negatively impact our operating results and financial condition.

Certain of our borrowings, including borrowings under our senior secured credit facilities, are at variable rates of interest. An increase in interest rates would have a negative impact on our results of operations by causing an increase in interest expense.

As of December 31, 2018, we have $12 billion in variable rate debt, which includes $472 million on our accounts receivable securitization facility, and also includes $250 million drawn on our revolving credit facility. We have $2.8 billion in variable to fixed interest rate collars, which are subject to contractual ceilings and floors, and $7.25 billion in variable to fixed interest rate step-up swaps. The $1.3 billion and $1.5 billion interest rate collars expire in January 2019 and September 2019, respectively, and have a one month LIBOR ceiling of 1.50% and 1.75%, respectively. With respect to our step-up swaps, $4.75 billion of notional exposure step-up swaps, decreases by $750 million semi-annually, commencing in June 2019, and expires in December 2020. The remaining $2.5 billion of step-up swaps cover our exposure through May 2021. Based on outstanding debt balances and interest rates as of December 31, 2018, a 1% increase in variable interest rates would result in a decrease to pretax income of $10 million over the next twelve months. See note 14 "Derivative Financial Instruments" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for the discussion of our interest rate collar contracts.

Uncertainty about the future of the London Interbank Offer Rate (LIBOR) may adversely affect our business and financial results.

In July 2017, the Chief Executive of the United Kingdom Financial Conduct Authority, which regulates LIBOR, announced its intent to stop persuading or compelling banks to submit rates for the calculation of LIBOR to the administrator of LIBOR after 2021. It is impossible to predict whether and to what extent banks will continue to provide LIBOR submissions to the administrator of LIBOR, whether any additional reforms to LIBOR may be enacted in the United Kingdom or elsewhere, and whether other rate or rates may become accepted alternatives to LIBOR. This may cause LIBOR to perform differently than it did in the past and may have other consequences that cannot be predicted. No assurance can be provided that these uncertainties or their resolution will not adversely affect the use, level, and volatility of LIBOR or other interest rates. These uncertainties or their resolution also could negatively impact our borrowing costs, our hedging strategies, and other aspects of our business and financial results.

Our debt agreements contain restrictions that limit our flexibility in operating our business.

The agreements governing our indebtedness contain various covenants that limit our ability to engage in specified types of transactions. These covenants limit our and certain of our subsidiaries' ability to, among other things:

- incur additional indebtedness or issue certain preferred shares;
- pay dividends on, repurchase, or make distributions in respect of, our capital stock or make other restricted payments;
- make certain investments;
- sell certain assets;
- create liens;
- consolidate, merge, sell, or otherwise dispose of all or substantially all of our assets; and
- enter into certain transactions with our affiliates.

A breach of any of these covenants could result in a default under one or more of these agreements, including as a result of cross-default provisions and, in the case of our senior secured revolving credit facility, permit the lenders to cease making loans to us. Upon the occurrence of an event of default under these agreements, the holders of our debt could elect to declare all amounts outstanding thereunder to be immediately due and payable and, in the case of our senior secured revolving credit facility, terminate all commitments to extend further credit. Such actions by these holders could cause cross-defaults under our other indebtedness. If we were unable to repay those amounts, the lenders under our senior secured credit facilities or holders of our senior secured notes could proceed against the collateral securing such debt. We have pledged a significant portion of our assets as collateral under our senior secured credit facilities and our senior secured notes. If the holders of our debt accelerate the repayment of borrowings, we may not have sufficient assets to repay our senior secured credit facilities or any other debt that may become due as a result of that acceleration and we could experience a material adverse effect on our financial condition and results of operations.

Our consolidated balance sheet includes significant amounts of goodwill and intangible assets. The impairment of a significant portion of these assets would negatively affect our financial condition and results of operations.

Our consolidated balance sheet includes goodwill and intangible assets that represent approximately 55% of our total assets as of December 31, 2018. These assets consist primarily of goodwill and client relationship intangible assets associated with our acquisitions. We also expect to engage in additional acquisitions, which may result in our recognition of additional goodwill and intangible assets. Under current accounting standards, we are required to amortize certain intangible assets over the useful life of the asset, while goodwill and certain other intangible assets are not amortized. On a regular basis we assess whether there have been impairments in the carrying value of goodwill and certain intangible assets. If the carrying value of the asset is determined to be impaired, then it is written down to fair value by a charge to operating earnings. An impairment of a significant portion of goodwill or intangible assets could have a material adverse effect on our financial condition and results of operations.

Our results of operations may be adversely affected by changes in foreign currency exchange rates.

We are subject to risks related to the changes in currency rates as a result of our investments in non-U.S. operations and from revenues generated in currencies other than the U.S. dollar. Revenue and profit generated by such non-U.S. operations will increase or decrease compared to prior periods as a result of changes in foreign currency exchange rates. From time to time, we utilize foreign currency forward contracts to mitigate the market value risks associated with foreign currency-denominated transactions. These hedge contracts may not, however, eliminate all of the risks related to foreign currency translation. In addition, we may become subject to exchange control regulations that restrict or prohibit the conversion of our other revenue currencies into U.S. dollars. Any of these factors could decrease the value of revenues and earnings we derive from our non-U.S. operations and have a material adverse impact on our business.

Unfavorable resolution of tax contingencies could adversely affect our results of operations and cash flows from operations.

Our tax returns and positions are subject to review and audit by federal, state, local, and international taxing authorities. An unfavorable outcome to a tax audit could result in higher tax expense, thereby negatively impacting our results of operations as well as our cash flows from operations. We have established contingency reserves for material, known tax exposures relating to deductions, transactions, and other matters involving some uncertainty as to the proper tax treatment of the item. These reserves reflect what we believe to be reasonable assumptions as to the likely final resolution of each issue if raised by a taxing authority. While we believe that the reserves are adequate to cover reasonably expected tax risks, there is no assurance that, in all instances, an issue raised by a tax authority will be finally resolved at a financial cost not in excess of any related reserve. An unfavorable resolution, therefore, could negatively impact our effective tax rate, financial position, results of operations, and cash flows in the current and/or future periods. See note 9 "Income Tax" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for more information.

Changes in tax laws and regulations could adversely affect our results of operations and cash flows from operations.

Our operations are subject to tax by federal, state, local, and international taxing jurisdictions. Changes in tax laws, in our significant tax jurisdictions could materially increase the amount of taxes we owe, thereby negatively impacting our results of operations as well as our cash flows from operations. For example, although we expect to benefit from the recently enacted changes in US tax laws, the limitations on the deductibility of interest expense in the U.S. negatively impact our effective tax rate, results of operations, and cash flows. We are working to reduce our net interest expense and increase our EBITDA in the U.S. However, to the extent we are unable to make enough progress, the negative impact will continue.

Potential tariffs or a global trade war could increase the cost of our products, which could adversely impact the competitiveness of our products and our financial results.

The United States recently imposed tariffs on certain imports from China, including on some of our hardware devices manufactured in China. If the U.S. administration imposes additional tariffs, or if additional tariffs or trade restrictions are implemented by the United States or other countries in connection with a global trade war, our other hardware devices produced in China could also be impacted. While it is too early to predict how the recently enacted tariffs and any future tariffs on items imported from China or elsewhere will impact our business, the cost of our products manufactured in China and imported into the United States or other countries could increase, which in turn could adversely affect the demand for these products and have a material adverse effect on our business and results of operations.

Regulatory and Legal Risks

Failure to comply with, or changes in, laws, regulations and enforcement activities may adversely affect the products, services, and markets in which we operate.

We and our clients are subject to laws and regulations that affect the electronic payments industry in the many countries in which our services are used. In particular, our clients are subject to numerous laws and regulations applicable to banks, financial institutions, and card issuers in the United States and abroad, and, consequently, we are at times affected by these federal, state, and local laws and regulations. The United States government has increased its scrutiny of a number of credit card and other loan practices, from which some of our clients derive significant revenue. Regulation of the payments industry, including regulations applicable to us and our clients, has increased significantly in recent years. Failure to comply with laws and regulations applicable to our business may result in the suspension or revocation of licenses or registrations, the limitation, suspension or termination of services, and/or the imposition of consent orders or civil and criminal penalties, including fines which could have an adverse effect on our results of operation and financial condition.

We are subject to U.S. and international financial services regulations, a myriad of consumer protection laws, economic sanctions, laws and regulations, and anti-corruption laws, escheat regulations and privacy and information security regulations to name only a few. Changes to legal rules and regulations, or interpretation or enforcement of them, could have a negative financial effect on us. In particular, changing regulations or standards in the area of privacy and data protection could also adversely impact us. For example, the General Data Protection Regulation (GDPR), which became effective in May 2018, extends the scope of the E.U. data protection law to all companies processing data of E.U. residents, regardless of the company’s location. The law requires companies to meet new requirements regarding the handling of personal data. Our efforts to comply with GDPR and other privacy and data protection laws (such as the new California Consumer Privacy Act effective as of January 2020 and the Brazilian General Data Protection Law effective as of February 2020) may entail substantial expenses, may divert resources from other initiatives and projects, and could limit the services we are able to offer. Further, failure to meet GDPR requirements could result in fines, penalties, and reputational damage. The GDPR and other privacy and data protection laws may be interpreted and applied differently from country to country and may create inconsistent or conflicting requirements. Such regulations increase our compliance and administrative burden significantly. In addition, E.U. laws and regulations are typically subject to different and potentially inconsistent interpretations by the countries that are members of the E.U., which can make compliance more costly and operationally difficult to manage. Moreover, the countries that are members of the E.U. may each have different and potentially inconsistent interpretations of regulations implementing the E.U. Payment Services, which could make compliance more costly and operationally difficult to manage. Furthermore, following the passage of the second Payment Services Directive in Europe, several countries, including Australia, Canada, Hong Kong and Mexico are contemplating granting various types of access rights to third party processors, which could have implications for our business as well.

Additionally, the Dodd-Frank Act significantly changed the United States financial regulatory system by, among other things, creating the CFPB to regulate consumer financial products and services (including many offered by our clients), restrict debit card fees paid by merchants to issuer banks and allow merchants to offer discounts for different payment methods. CFPB rules, examinations, and enforcement actions may require us to adjust our activities and may increase our compliance costs. The regulations under the Dodd-Frank Act require all debit card issuing financial institutions to participate in at least two, unaffiliated debit networks (banning exclusivity agreements between one debit network and one debit card issuer) and prohibit card issuers and payment networks from inhibiting the ability of merchants to choose among the enabled debit networks for the routing of each debit card transaction. Changes to the Dodd-Frank Act or regulations could adversely impact our debit network business. In addition, certain of our alliance partners are subject to regulation by federal and state authority and, as a result, could pass through some of those compliance obligations to us.

Failure to comply with the U.S. Foreign Corrupt Practices Act, anti-money laundering, economic and trade sanctions regulations, and similar laws could subject us to penalties and other adverse consequences.

We operate our business around the world, including in certain foreign countries with developing economies, where companies often engage in business practices that are prohibited by U.S. and U.K. regulations, including the FCPA and the U.K. Bribery Act. Such laws prohibit improper payments or offers of payments to foreign governments and their officials and political parties by the U.S. and other business entities for the purpose of obtaining or retaining business. We have implemented policies to discourage such practices; however, there can be no assurance that all of our employees, consultants, and agents, including those that may be based in or from countries where practices that violate U.S. laws may be customary, will not take actions in violation of our policies, for which we may be ultimately responsible.

In addition, we are subject to anti-money laundering laws and regulations, including the Bank Secrecy Act (BSA). Among other things, the BSA requires money services businesses (such as money transmitters and providers of prepaid access) to develop and implement risk-based anti-money laundering programs, report large cash transactions and suspicious activity, and maintain transaction records. Our subsidiary Money Network Financial LLC provides prepaid access for various open loop prepaid programs for which it is the program manager and therefore must meet the requirements of the Financial Crimes Enforcement Network, the agency that enforces the BSA.

We are also subject to certain economic and trade sanctions programs that are administered by the OFAC which prohibit or restrict transactions to or from or dealings with specified countries, their governments, and in certain circumstances, their nationals, and with individuals and entities that are specially-designated nationals of those countries, narcotics traffickers, and terrorists or terrorist organizations.

Similar anti-money laundering and counter terrorist financing and proceeds of crime laws apply to movements of currency and payments through electronic transactions and to dealings with persons specified in lists maintained by the country equivalents to OFAC lists in several other countries and require specific data retention obligations to be observed by intermediaries in the payment process. Our businesses in those jurisdictions are subject to those data retention obligations.

Failure to comply with any of these laws and regulations or changes in this regulatory environment, including changing interpretations and the implementation of new or varying regulatory requirements by the government, may result in significant financial penalties, reputational harm, or change the manner in which we currently conduct some aspects of our business, which could significantly affect our results of operations or financial condition.

Changes in credit card association or other network rules or standards could adversely affect our business.

In order to provide our transaction processing services, several of our subsidiaries are registered with Visa and MasterCard and other networks as members or service providers for member institutions. As such, we and many of our clients are subject to card association and network rules that could subject us or our clients to a variety of fines or penalties that may be levied by the card associations or networks for certain acts or omissions by us, acquiring clients, processing clients, and merchants. Visa, MasterCard, and other networks, some of which are our competitors, set the rules and standards with which we must comply. The termination of our member registration or our status as a certified service provider, or any changes in card association or other network rules or standards, including interpretation and implementation of the rules or standards, that increase the cost of doing business or limit our ability to provide transaction processing services to or through our clients, could have an adverse effect on our business, results of operations, and financial condition.

Legislative or regulatory initiatives on cybersecurity and data privacy could adversely impact our business and financial results.

Cybersecurity and data privacy risks have received heightened legislative and regulatory attention. For example, the U.S. banking agencies have proposed enhanced cyber risk management standards that would apply to us and our financial institution clients and that would address cyber risk governance and management, management of internal and external dependencies, and incident response, cyber resilience, and situational awareness. Several states also have adopted or proposed cybersecurity laws targeting these issues. Legislation and regulations on cybersecurity and data privacy may compel us to enhance or modify our systems, invest in new systems, or alter our business practices or our policies on data governance and privacy. If any of these outcomes were to occur, our operational costs could increase significantly.

Failure to protect our intellectual property rights and defend ourselves from potential patent infringement claims may diminish our competitive advantages or restrict us from delivering our services.

Our trademarks, patents, and other intellectual property are important to our future success. The First Data trademark and trade name, the STAR trademark and trade name, and the Clover trademark and trade name are intellectual property rights which are individually material to us. These trademarks and trade names are widely recognized and associated with quality and reliable service. Loss of the proprietary use of the First Data, STAR, and Clover trademarks and trade names or a diminution in the perceived quality associated with them could harm the growth of our businesses. We also rely on proprietary technology. It is possible that others will independently develop the same or similar technology. Further, we use open source architecture in connection with our solutions, in particular our Clover open architecture platform. Companies that incorporate open source platforms into their solutions have, from time to time, faced claims challenging the ownership of such platforms. As a result, we could be subject to suits by parties claiming ownership of what we believe to be open source software. We cannot guarantee that we can protect our trade secrets, know-how, or other proprietary information. Our patents could be challenged, invalidated or circumvented by others, and may not be of sufficient scope or strength to provide us with any meaningful protection or advantage. If we are unable to maintain the proprietary nature of our technologies, we could lose competitive advantages and be materially adversely affected. Additionally, the laws of certain non-U.S. countries where we do business or contemplate doing business in the future may not recognize intellectual property rights or protect them to the same extent as do the laws of the United States. Adverse determinations

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in judicial or administrative proceedings could prevent us from selling our services or prevent us from preventing others from selling competing services, and thereby may have a material adverse effect on the business and results of operations. Additionally, claims have been made, are currently pending, and other claims may be made in the future, with regard to our technology allegedly infringing on a patent or other intellectual property rights. Unfavorable resolution of these claims could either result in us being restricted from delivering the related product or service or result in a settlement that could be materially adverse to us.

Failure to comply with state and federal antitrust requirements could adversely affect our business.

Through our merchant alliances, we hold an ownership interest in several competing merchant acquiring businesses while serving as an electronic processor for those businesses. In order to satisfy state and federal antitrust requirements, we actively maintain an antitrust compliance program. Notwithstanding our compliance program, it is possible that perceived or actual violations of state or federal antitrust requirements could give rise to regulatory enforcement investigations or actions. Regulatory scrutiny of, or regulatory enforcement action in connection with, compliance with state and federal antitrust requirements could have a material adverse effect on our reputation and business.

We are the subject of various legal proceedings which could have a material adverse effect on our revenue and profitability.

We are involved in various litigation matters. We are also involved in or are the subject of governmental or regulatory agency inquiries or investigations and make voluntary self-disclosures to government or regulatory agencies from time to time. Our insurance or indemnities may not cover all claims that may be asserted against us, and any claims asserted against us, regardless of merit or eventual outcome, may harm our reputation. If we are unsuccessful in our defense in these litigation matters, or any other legal proceeding, we may be forced to pay damages or fines, enter into consent decrees, and/or change our business practices, any of which could have a material adverse effect on our revenue and profitability.

Our ability to utilize net operating loss carryforwards could be limited if we were to experience an ownership change as defined in the Internal Revenue Code.

Section 382 of the Internal Revenue Code of 1986, as amended (Code), contains rules that impose an annual limitation on the ability of a company with net operating loss carryforwards that undergoes an ownership change, which is generally any change in ownership of more than 50% of its stock (by value) over a three-year period, to utilize its net operating loss carryforwards in years after the ownership change. These rules generally operate by focusing on ownership changes among holders owning directly or indirectly 5% or more of the shares of stock of a company or any change in ownership arising from a new issuance of shares of stock by such company. If a company’s income in any year is less than the annual limitation prescribed by Section 382 of the Code, the unused portion of such limitation amount may be carried forward to increase the limitation (and net operating loss carryforward utilization) in subsequent tax years.

Our initial public offering in October 2015 and the subsequent follow-on secondary offerings in September 2017 and August 2018 did not result in an ownership change within a three-year period for purposes of Section 382 of the Code. If, however, we were to undergo an ownership change as a result of future transactions involving our common stock, including the closing of the recently announced Agreement and Plan of Merger between First Data and Fiserv, Inc., our ability to use our net operating loss carryforwards would be subject to the limitations of Section 382 of the Code. It is possible that a portion of our net operating loss carryforwards may expire before we would be able to use them. In the event we are unable to utilize our net operating loss carryforwards, there may be a negative impact on our financial position and results of operations.

In addition to the aforementioned federal income tax implications pursuant to Section 382 of the Code, most states follow the general provisions of Section 382 of the Code, either explicitly or implicitly resulting in separate state net operating loss limitations.

Risks Related to Ownership Structure

Kohlberg Kravis Roberts & Co. L.P. (KKR) controls us and its interests may conflict with ours or yours in the future.

KKR controls a majority of the combined voting power of our common stock. As a result, KKR has the ability to elect all of the members of our Board and thereby control our policies and operations, including the appointment of management, future issuances of our Class A common stock or other securities, the payment of dividends, if any, on our Class A common stock, the incurrence of debt by us, amendments to our amended and restated certificate of incorporation and amended and restated bylaws, and the entering into of extraordinary transactions and the interests of KKR may not in all cases be aligned with your interests.

In addition, KKR may have an interest in pursuing acquisitions, divestitures and other transactions that, in its judgment, could enhance its investment, even though such transactions might involve risks to you. For example, KKR could cause us to make acquisitions that increase our indebtedness or cause us to sell revenue-generating assets. KKR is in the business of making investments in companies and may from time to time acquire and hold interests in businesses that compete directly or indirectly with us. Our amended and restated certificate of incorporation provides that none of KKR or any director who is not employed by us (including any nonemployee director who serves as one of our officers in both his or her director and officer capacities) or his or her affiliates will have any duty to refrain from engaging, directly or indirectly, in the same business activities or similar business activities or lines of business in which we operate. KKR also may pursue acquisition opportunities that may be complementary to our business, and, as a result, those acquisition opportunities may not be available to us.

So long as a KKR affiliate continues to beneficially own a sufficient number of shares of Class B common stock, even if it beneficially owns significantly less than 50% of the shares of our outstanding common stock, it will continue to be able to effectively control our decisions. For example, if our Class B common stock amounted to 15% of our outstanding common stock, beneficial owners of our Class B common stock (including KKR), would collectively control 64% of the voting power of our common stock. The shares of our Class B common stock beneficially owned by a KKR affiliate may be transferred to an unrelated third party if the holders of a majority of the shares of Class B common stock have consented to such transfer in writing in advance.

In addition, KKR will be able to determine the outcome of all matters requiring stockholder approval and will be able to cause or prevent a change of control of our Company or a change in the composition of our Board and could preclude any acquisition of our Company. This concentration of voting control could deprive you of an opportunity to receive a premium for your shares of Class A common stock as part of a sale of our Company and ultimately might affect the market price of our Class A common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 31, 2018, we and our subsidiaries owned or leased 77 domestic properties and 62 international properties. These facilities are used for operational, sales and administrative purposes, and are substantially all utilized.

	Leased Facilities		Owned Facilities	
	No.	Sq. Ft.	No.	Sq. Ft.
Facilities in the United States	67	2,310,813	10	1,509,578
International Facilities	58	938,960	4	186,258

- Global Business Solutions’ principal operations are conducted in Atlanta, Georgia; New York, New York; Coral Springs, Florida; Hagerstown, Maryland; King of Prussia, Pennsylvania; Chicago, Illinois; Marietta, Georgia; London, United Kingdom; Frankfurt, Germany; São Paulo, Brazil; Singapore, Singapore; Warsaw, Poland; and Buenos Aires, Argentina.

- Global Financial Solutions' principal operations are located in New York, New York; Omaha, Nebraska; Chesapeake, Virginia; London, United Kingdom; Warsaw, Poland; Buenos Aires, Argentina; and Frankfurt, Germany.

- Network & Security Solutions' principal operations are located in Atlanta, Georgia; Omaha, Nebraska; Wilmington, Delaware; and Coral Springs, Florida.

- Our Corporate facilities include New York, New York and Atlanta, Georgia.

We believe that our facilities are suitable and adequate for our current business; however, we periodically review our space requirements and may acquire new space to meet the needs of our businesses or consolidate and dispose of or sublet facilities which are no longer required.

ITEM 3. LEGAL PROCEEDINGS

From time to time, we are involved in various litigation matters arising in the ordinary course of our business. None of these matters, individually or in the aggregate, currently is material to us. See note 15 "Commitments and Contingencies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for information with respect to this item.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

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PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our Class A common stock has traded on the New York Stock Exchange under the symbol "FDC" since October 15, 2015. Prior to that date, there was no public trading market for our common stock.

There were 29 holders of record of our Class A common stock and 19 holders of record of our Class B common stock as of December 31, 2018. The number of beneficial owners of our Class A common stock 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 banks and brokers.

Share Buy Back

In connection with the vesting of restricted stock awards, shares of Class A common stock are delivered to the Company by employees to satisfy tax withholding obligations. The following table summarizes such purchases of Class A common stock in the three months ended December 31, 2018:

	Total Number of Shares Purchased		Average Price Paid Per Share	Total Number of Shares Purchased Under Announced Program	Approximate Dollar Value of Shares That May Yet Be Purchased Under Announced Programs
October 1, 2018 through October 31, 2018	—		—	—	—
November 1, 2018 through November 30, 2018	—		—	—	—
December 1, 2018 through December 31, 2018	267,626	(a)	$ 16.91	—	—

(a) Shares surrendered to us to satisfy tax withholding obligations in connection with the vesting of restricted stock awards issued to employees.

ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth our selected consolidated financial data as of the dates and for the periods indicated. The selected financial data as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017, and 2016 have been derived from our audited consolidated financial statements and related notes appearing in Part II, Item 8 of this Form 10-K. The selected consolidated financial data as of December 31, 2016, 2015, and 2014 and for the years ended December 31, 2015 and 2014 have been derived from our audited consolidated financial statements and related notes thereto not included in this Form 10-K.

The results of operations for any period are not necessarily indicative of the results to be expected for any future period. The selected consolidated financial data set forth below should be read in conjunction with, and are qualified by reference to "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes thereto included in Part II, Item 8 of this Form 10-K.

The notes to our consolidated financial statements in Part II, Item 8 of this Form 10-K contain additional information about various acquisitions, dispositions, and certain charges and benefits resulting from other operating expenses, and other income (expense) which affect the comparability of information presented. Comparability between periods is also impacted by the adoption of the New Revenue Standard on January 1, 2018. Amounts below include acquisitions since the date acquired and exclude dispositions since the date disposed.

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(in millions, except per share amounts)	December 31, 2018	2017	2016	2015	2014
Statement of operations data (Year-ended):					
Revenues	$9,498	$12,052	$11,584	$11,451	$11,152
Total revenues (excluding reimbursables)	8,679	8,129	7,839	7,764	7,548
Operating expenses[(a)]	7,484	10,201	9,921	10,231	9,708
Other operating expenses, net[(b)]	119	143	51	53	13
Total expenses (excluding reimbursables)	6,784	6,421	6,227	6,597	6,117
Interest expense, net	(917)	(931)	(1,078)	(1,534)	(1,721)
Net income (loss)	1,198	1,664	660	(1,268)	(265)
Net income (loss) attributable to First Data Corporation	1,005	1,465	420	(1,481)	(458)
Depreciation and amortization[(c)]	1,090	1,073	1,061	1,133	1,163
Net income (loss) per share[(d)]:					
Basic	$1.08	$1.60	$0.47	$(7.70)	$(458,000)
Diluted	1.05	1.56	0.46	(7.70)	(458,000)
Weighted-average common shares outstanding[(d)]:					
Basic[(e)]	929	916	902	192	—
Diluted[(e)]	957	940	921	192	—
Balance sheet data (As of year-end):					
Total assets	$38,327	$48,269	$40,292	$34,362	$34,034
Settlement assets	11,423	20,363	14,795	8,150	7,557
Total liabilities	31,283	42,183	36,088	30,625	31,434
Settlement obligations	11,423	20,363	14,795	8,150	7,557
Long-term borrowings	16,429	17,927	18,131	18,737	20,697
Other long-term liabilities[(f)]	625	963	1,240	1,243	1,223
Redeemable noncontrolling interest	77	72	73	77	70
Total equity	6,967	6,014	4,131	3,660	2,530
Cash flow data (Year-ended):					
Net cash provided by operating activities	$2,307	$2,047	$2,111	$795	$1,035
Net cash used in investing activities	(99)	(1,952)	(361)	(685)	(330)
Net cash (used in) provided by financing activities	(2,124)	9	(1,734)	(16)	(743)

(a) Operating expenses include Cost of revenues; Selling, general, and administrative; Depreciation and amortization; and Reimbursable items.

(b) Other operating expenses, net includes restructuring, net; impairments; litigation and regulatory settlements; integration cost and other as applicable to the periods presented. See note 11 "Other Operating Expenses, Net" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for details.

(c) Includes amortization of initial payments for new contracts, which is recorded as a contra-revenue within “Revenues excluding reimbursable items” and amortization related to equity method investments, which is netted within “Equity earnings in affiliates” in our consolidated statements of operations.

(d) As a result of the merger between First Data Holdings Inc. (FDH) and FDC (HoldCo Merger), all outstanding shares of FDH were converted into Class B common stock, which are entitled to ten votes per share. All of FDC's outstanding common stock was eliminated upon the merger. We accounted for the HoldCo Merger as a transfer of assets between entities under common control and have reflected the transactions impact on net loss per share and weighted-average shares on a prospective basis.

(e) Prior to our Initial Public Offering in 2015, we had 1,000 shares of common stock that was eliminated upon the merger with First Data Holdings.

(f) Other long-term liabilities include deferred tax liabilities.

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ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following contains management’s discussion and analysis of our financial condition and results of operations and should be read together with “Selected Financial Data,” included in Part II, Item 6 of this Form 10-K and our consolidated financial statements and related notes thereto included in Part II, Item 8 of this Form 10-K. This discussion contains forward-looking statements and involves numerous risks and uncertainties. Our actual results may differ materially from those anticipated in any forward-looking statements as a result of many factors, including those set forth under “Forward-Looking Statements,” “Risk Factors,” and elsewhere in this Form 10-K.

Year over year percent changes are calculated on whole-dollar values as management views this as a more accurate representation of our performance. As such, the values herein may not recalculate due to rounding. Not meaningful percentage changes are indicated with NM.

Executive Overview

First Data Corporation sits at the center of global electronic commerce. We believe we offer our clients the most complete array of integrated solutions in the industry, covering their needs across next-generation commerce technologies, merchant acquiring, issuing, and network solutions. We serve our clients in over 100 countries, reaching over 6 million business locations and over 3,700 financial institutions. We believe we have the industry’s largest distribution network, to consist of partnerships with over 1,500 distribution partners including many of the world’s leading financial institutions, and our direct sales force. We are the largest merchant acquirer and issuer processor in the world, and operate the third largest independent network services provider in the United States. We enable businesses to accept electronic payments, help financial institutions issue credit, debit and prepaid cards, and route secure transactions between them. In 2018, we processed approximately 100 billion transactions globally, or over 3,000 per second. In our largest market, the United States, we processed approximately $2.3 trillion of payment volume, which represents over 10% of United States gross domestic product (GDP) last year.

Our business is characterized by transaction related fees, multi-year contracts, and a diverse client base, which allows us to grow alongside our clients. Our multi-year contracts allow us to achieve a high level of recurring revenues with the same clients. While the contracts typically do not specify fixed revenues to be realized thereunder, they do provide a framework for revenues to be generated based on volume of services provided during such contracts' terms.

Pending Merger with Fiserv, Inc.

On January 16, 2019, First Data and Fiserv, Inc. (Fiserv), and 300 Holdings, Inc. (Merger Sub), a wholly-owned subsidiary of Fiserv, entered into an agreement and plan of merger (Merger Agreement), pursuant to which we will merge into Merger Sub (the Merger). The terms are subject to the conditions set forth in the Merger Agreement, which states at closing each share of the Company's common stock issued and outstanding will be converted into the right to receive 0.303 (Exchange Ratio) of a share of common stock, par value $0.01 per share, of Fiserv. First Data's equity awards will generally be converted into Fiserv equity awards after giving effect to the Exchange Ratio and appropriate adjustments and be governed by the same terms and conditions as applicable to First Data's corresponding equity awards. Completion of the Merger is subject to customary closing conditions for both parties. We currently anticipate that we will close the merger during the second half of 2019. For additional information see Form 425 filed with the Securities and Exchange Commission dated January 16, 2019 and available through the “Investor Relations” portion of our website at http://investor.firstdata.com.

Our Strategy

Our ability to grow our business is influenced by global expenditure growth, increasing our share in electronic payments and providing value-added products and services to both merchants and financial institutions around the world. We grow our business through diversification of product offerings such as credit, debit, prepaid, Clover, and our suite of security products. We believe we offer our clients the most complete array of integrated solutions in our industry, covering their needs across next-generation commerce technology, merchant acquiring, issuing, and network solutions. We believe this differentiates us from our competition and will continue to drive our growth in the future.

We work with a variety of partners to deliver our merchant solutions, including large and small financial institutions, Independent Sales Organizations (ISOs), agents, Independent Software Vendors (ISVs), and others. Amongst other services, we help merchants by delivering data-driven insights and other services to help them grow and create better and more secure purchase experiences for consumers across all commerce platforms and assist them in day-to-day operations of their business via our Clover line of products which enables merchants to more efficiently run their businesses, build customer loyalty, and gain valuable insights that help grow their businesses. We provide financial institutions with solutions to help them grow their revenues, enhance customer satisfaction, and deliver their products more timely and efficiently.

We continue to execute on key growth initiatives including:

- Innovate for tomorrow's client needs
- Accelerate top line revenue growth
- Maintain positive operating leverage
- Generate significant free cash flow

Components of Revenue

We generate revenue by providing commerce-enabling solutions. Set forth below is a description of our revenues by segment and factors impacting total revenues.

Global Business Solutions

Global Business Solutions (GBS) segment revenues are primarily derived from processing credit and debit card transactions for merchants and other business clients and includes fees for providing processing, loyalty and software services, and sales and leases of POS devices. Revenues are generated from a variety of sources, including:

- Merchant discount fees charged to a merchant, net of credit and debit card interchange and assessment fees charged by the payment networks. The discount fee is typically either a percentage of the purchase amount or an interchange fee plus a fixed dollar amount;
- Processing fees charged to merchant acquirers (including our alliance partners) who have outsourced their transaction processing to us;
- Sales and leases of POS devices;
- Fees for providing reporting and other services; and
- Software fees such as security applications and Clover related fees.

A substantial portion of our business within GBS is conducted through merchant alliances between us and financial institutions. If we have management control over an alliance, then the alliance's financial statements are consolidated with ours and the related processing fees are treated as an intercompany transaction and eliminated upon consolidation. If we do not have management control over an alliance, we use the equity method of accounting. As a result, our consolidated revenues include processing fees charged to alliances accounted for under the equity method.

A large portion of GBS' revenue is derived from transaction and processing related services. This business is dependent on macroeconomic consumer trends and global economic conditions that affect the volume of consumer spending and the use of electronic payments and changes in these factors have in the past, impacted, and may in the future impact, our ability to grow this portion of the business. We implemented initiatives, such as the introduction of several new products and expansion of our sales force, expanding through ISV partnerships, and expansion into new international markets, in an effort to grow this business versus prior periods. We also completed acquisitions which have strengthened our presence in ISV and enterprise resource planning (ERP) integrated payment solutions.

Global Financial Solutions

Global Financial Solutions (GFS) revenues are primarily derived from outsourced processing services, print, plastics, and VisionPLUS software services provided to financial institutions. GFS' revenues are typically generated on the basis of number of total and active accounts on file, volume of customer communications, volume of plastics issued or license fees.

Network & Security Solutions

Network & Security Solutions (NSS) revenues are primarily derived from network services such as Electronic Funds Transfer (EFT) Network Solutions, Stored Value Network Solutions, Security and Fraud Management Solutions, and Government Solutions or Other.

Factors Affecting the Comparability of Our Results of Operations

As a result of a number of factors, our historical results of operations are not comparable from period to period and may not be comparable to our financial results of operations in future periods. Key factors affecting the comparability of our results of operations are summarized below.

Accounting Guidance

On January 1, 2018, we adopted Accounting Standards Codification (ASC) 606 and ASC 340-40 (collectively, the New Revenue Standard) which affected how we recognize revenue. The New Revenue Standard was adopted using the modified retrospective application beginning January 1, 2018. See note 1 "Summary of Significant Accounting Policies" and note 3 "Revenue Recognition" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information related to the adoption of the New Revenue Standard.

Currency Impact

Although the majority of our revenue is earned in U.S. dollars, a portion of our revenues and expenses are in foreign currencies. As a result, changes in foreign currencies against the U.S. dollar can impact our results of operations. Additionally, we have intercompany debts in foreign currencies which impact our results of operations. In recent periods, the U.S. dollar has fluctuated versus most foreign currencies, which has impacted our operating results generated in foreign currencies as presented in U.S. dollars in our consolidated financial statements. We believe the presentation of constant currency provides relevant information and we use this non-GAAP financial measure to, among other things, evaluate our ongoing operations by excluding the impact to foreign currency fluctuations. The presentation of non-GAAP financial measures should not be considered in isolation or as a substitute for our related financial results prepared in accordance with Generally Accepted Accounting Principles (GAAP). For additional information on our constant currency calculation, see “Segment Results” within this Form 10-K.

Acquisitions and Divestitures

Acquisitions and divestitures over the past two years have impacted the comparability of our financial results. The largest acquisitions in 2017, CardConnect and BluePay, were integrated into our Global Business Solutions segment and the results for the current period are reflected within segment results. The disposition of the remittance processing business in the U.S. is reflected in Global Financial Solutions segment results through the disposition date of August 15, 2018. The disposition of the card processing business in Central and Southeastern Europe is reflected in our Global Financial Solutions segment results through the disposition date of September 28, 2018. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

Restructuring and Cost Management Initiatives

We continually evaluate our cost base and over the past three years have executed a number of restructuring initiatives which have allowed us to streamline management, eliminate excess facilities, and work with our suppliers to lower costs. In connection with these initiatives, we have incurred restructuring charges of $85 million, $83 million, and $49 million for the years ended December 31, 2018, 2017, and 2016, respectively. These Restructuring and Cost Management Initiatives have contributed to our 220 basis points EBITDA margin expansion over the past three years. We have ongoing expense management initiatives, which are expected to result in approximately $20 million in additional restructuring costs over the next twelve months. In connection with our focus on maintaining positive operating leverage, we will likely incur additional restructuring costs in the future. See note 11 "Other Operating Expenses, Net" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information about our restructuring and cost savings initiatives.

Interest Expense and Debt Extinguishment Costs

As a result of our capital market activities we have lowered the weighted-average interest rate of our outstanding debt from 4.8% as of December 31, 2017 to 4.5% as of December 31, 2018. Using excess cash generated by the business, divestiture proceeds, and existing cash on the consolidated balance sheet we decreased our outstanding borrowings balance from $19.2 billion as of December 31, 2017 to $17.6 billion as of December 31, 2018. For the year ended December 31, 2017, we incurred $10.0 million in fees to modify existing long-term debt which is recorded within "Interest expense, net" in the consolidated statements of income.

We incurred $153 million, $80 million, and $70 million of losses on debt extinguishment during the years ended December 31, 2018, 2017, and 2016, respectively.

Overview

The table below reconciles Net income attributable to First Data Corporation for the year ended December 31, 2018 to December 31, 2017 and the year ended December 31, 2017 to December 31, 2016:

(in millions)	Year ended December 31, 2018			Year ended December 31, 2017		
Net income attributable to First Data Corporation, previous period	$	1,465		$	420	
Better (worse):						
Revenues excluding reimbursable items[(a)]	447			290		
Cost of revenues[(a)]	51			64		
Selling, general, and administrative[(a)]	(303		)	(143		)
Depreciation and amortization[(a)]	(29		)	(23		)
Other operating expenses, net	24			(92		)
Loss on debt extinguishment	(73		)	(10		)
Net income attributable to noncontrolling interests and redeemable noncontrolling interest	6			41		
New revenue standard	(3		)	—		
Interest expense, net	14			147		
Income tax	(778		)	810		
Equity earnings in affiliates	(1		)	(38		)
Other income	185			(1		)
Net income attributable to First Data Corporation, period ended	$	1,005		$	1,465	

(a) The year ended December 31, 2018 is exclusive of New Revenue Standard.

Segment Results

We operate three reportable segments: Global Business Solutions (GBS), Global Financial Solutions (GFS), and Network & Security Solutions (NSS). Our segments are designed to establish global lines of businesses that work seamlessly with our teams in our regions of North America (United States and Canada), EMEA (Europe, Middle East, and Africa), LATAM (Latin America and Caribbean region), and APAC (Asia Pacific).

The business segment measurements provided to and evaluated by the chief operating decision maker are computed in accordance with the principles listed below:

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The accounting policies of the reportable segments are the same as those described in the summary of significant accounting policies.

- Intersegment revenues are eliminated in the segment that sells directly to the end market.
- Segment revenue excludes reimbursable items.
- Segment EBITDA includes equity earnings in affiliates and excludes depreciation and amortization expense, net income attributable to noncontrolling interests, other operating expenses, net, other income (expense), and stock-based compensation.
- For significant affiliates, segment revenue and segment EBITDA are reflected based on our proportionate share of the results of our investments in businesses accounted for under the equity method and consolidated subsidiaries with noncontrolling ownership interests. For other affiliates, we include equity earnings in affiliates, excluding amortization expense, in segment revenue and segment EBITDA.
- Corporate operations include corporate-wide governance functions such as our executive management team, tax, treasury, internal audit, corporate strategy, and certain accounting, human resources and legal costs related to supporting the corporate function. Costs incurred by Corporate that are attributable to a segment are allocated to the respective segment.

Certain measures exclude the estimated impact of foreign currency changes. To present this information, monthly results during the periods presented for entities with functional currencies other than U.S. dollars are translated into U.S. dollars at the average exchange rates in effect during the corresponding month of the prior fiscal year, rather than the actual average exchange rates in effect during the current fiscal year. Once translated, each month during the periods presented is added together to calculate the constant currency results for the periods presented.

Operating revenues overview

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Organic Constant Currency Percent Change[(a)] 2018 vs. 2017	2017 vs. 2016
Consolidated revenues	$9,498	$12,052	$11,584	(21)%	4 %		
Adjustments:							
Non wholly-owned entities	(22)	(64)	(80)	(66)%	(20)%		
Reimbursable items	(819)	(3,923)	(3,745)	(79)%	5 %		
Total segment revenues	$8,657	$8,065	$7,759	7 %	4 %	6 %	3 %

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Organic Constant Currency Percent Change[(a)] 2018 vs. 2017	2017 vs. 2016
Segment revenues:							
Global Business Solutions	$5,572	$4,899	$4,681	14 %	5 %	7 %	3 %
Global Financial Solutions	1,596	1,623	1,593	(2)%	2 %	4 %	3 %
Network & Security Solutions	1,489	1,543	1,485	(3)%	4 %	2 %	4 %
Total segment revenues	$8,657	$8,065	$7,759	7 %	4 %	6 %	3 %

(a) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; (3) includes the results of significant acquisitions in the prior year period; (4) for the year ended December 31, 2018, the prior year period is adjusted to retrospectively apply the New Revenue Standard; and (5) for the year ended December 31, 2017, the prior year period includes the impact of the Clover accounting change.

Global Business Solutions segment results

The following table displays total segment revenue by region:

(in millions)	Year ended December 31, 2017 As Reported	New Revenue Standard Adjustments[(a)]	As Adjusted	Acquisitions/Dispositions[(b)]	Core Growth (Decline)	Currency Impact[(c)]	Accounting Change	Year ended December 31, 2018	Reported Percent Change	Organic Constant Currency Percent Change[(d)]
Revenues:										
North America	$3,814	$ 131	$ 3,945	$ 203	$ 181	$ —	$ —	$ 4,329	14 %	4 %
EMEA	639	5	644	(1)	37	26	—	706	10 %	6 %
LATAM	273	27	300	—	134	(98)	—	336	23 %	45 %
APAC	173	2	175	—	27	(1)	—	201	16 %	16 %
Total segment revenue	$4,899	$ 165	$ 5,064	$ 202	$ 379	$ (73)	$ —	$ 5,572	14 %	7 %

(a) Effective January 1, 2018, we adopted the New Revenue Standard using a modified retrospective basis. See Revenue Recognition in note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Business acquisitions of CardConnect in July 2017 and BluePay in December 2017. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(c) Currency impact is the difference between the current year's actual results and those results converted with the prior year's foreign exchange rate.

(d) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; (3) includes the results of significant acquisitions in the prior year period; and (4) is adjusted to retrospectively apply the New Revenue Standard to the prior year period.

(in millions)	Year ended December 31, 2016 As Reported	New Revenue Standard Adjustments	As Adjusted	Acquisitions/Dispositions[(a)]	Core Growth (Decline)	Currency Impact[(b)]	Accounting Change[(c)]	Year ended December 31, 2017	Reported Percent Change	Organic Constant Currency Percent Change[(d)]
Revenues:										
North America	$3,690	$ —	$ 3,690	$ 84	$ (23)	$ 1	$ 62	$ 3,814	3 %	(1)%
EMEA	611	—	611	—	28	—	—	639	5 %	5 %
LATAM	178	—	178	—	101	(6)	—	273	53 %	57 %
APAC	202	—	202	(48)	16	3	—	173	(14)%	10 %
Total segment revenue	$4,681	$ —	$ 4,681	$ 36	$ 122	$ (2)	$ 62	$ 4,899	5 %	3 %

(a) North America revenue was impacted by acquisitions of CardConnect in July 2017 and BluePay in December 2017. The Acquisitions/Dispositions column includes July 2016 to December 2016 and December 2016 revenues for CardConnect and BluePay, respectively, and current period growth for CardConnect and BluePay is included in Core Growth (Decline). APAC balance represents revenue associated with the disposition of the Australian ATM business in September 2016. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Currency impact is the difference between the current year's actual results and those results converted with the prior year's foreign exchange rate.

(c)

Effective January 2017, we changed our accounting for Clover hardware sales to recognize revenue upon shipment as opposed to deferring such revenue and recognizing over an established period, typically three years. Previously deferred revenue on hardware shipped in prior years continued to be amortized over the established period until the adoption of the New Revenue Standard. See Deferred Revenue in note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(d) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; (3) includes the results of significant acquisitions in the prior year period; and (4) includes the impact of the Clover accounting change in the prior year period.

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Global Financial Solutions segment results

The following table displays total segment revenue by region:

(in millions)	Year ended December 31, 2017 As Reported	New Revenue Standard Adjustments(a)	As Adjusted	Dispositions(b)	Core Growth (Decline)	Currency Impact(c)	Year ended December 31, 2018	Reported Percent Change	Organic Constant Currency Percent Change(d)
Revenues:									
North America	$949	$ (2)	$ 947	$ (31)	$ 4	$ —	$ 920	(3)%	1 %
EMEA	444	(2)	442	(46)	18	16	430	(3)%	5 %
LATAM	132	6	138	—	16	(21)	133	1 %	12 %
APAC	98	(9)	89	—	26	(2)	113	15 %	30 %
Total segment revenue	$1,623	$ (7)	$ 1,616	$ (77)	$ 64	$ (7)	$ 1,596	(2)%	4 %

(a) Effective January 1, 2018, we adopted the New Revenue Standard using a modified retrospective basis. See Revenue Recognition in note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Business disposition of Lithuania, Latvia and Estonia (the Baltics) in September 2017, remittance processing business in August 2018, and card processing business in Central and Southeastern Europe in September 2018. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(c) Currency impact is the difference between the current year's actual results and those results converted with the prior year's foreign exchange rate.

(d) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; (3) includes the results of significant acquisitions in the prior year period; and (4) is adjusted to retrospectively apply the New Revenue Standard to the prior year period.

(in millions)	Year ended December 31, 2016 As Reported	New Revenue Standard Adjustments	As Adjusted	Dispositions(a)	Core Growth (Decline)	Currency Impact(b)	Year ended December 31, 2017	Reported Percent Change	Organic Constant Currency Percent Change(c)
Revenues:									
North America	$956	$ —	$ 956	$ —	$ (7)	$ —	$ 949	(1)%	(1)%
EMEA	433	—	433	(6)	30	(13)	444	3 %	7 %
LATAM	122	—	122	—	13	(3)	132	9 %	11 %
APAC	82	—	82	—	13	3	98	19 %	16 %
Total segment revenue	$1,593	$ —	$ 1,593	$ (6)	$ 49	$ (13)	$ 1,623	2 %	3 %

(a) Business disposition of Lithuania, Latvia and Estonia (i.e. the Baltics) in September 2017. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Currency impact is the difference between the current year's actual results and those results converted with the prior year's foreign exchange rate.

(c) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; and (3) includes the results of significant acquisitions in the prior year period.

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Network & Security Solutions segment results

Our Network & Security Solutions segment is comprised of more than 95% domestic businesses with no material foreign exchange impact on reported results. The following table displays total revenue by product:

(in millions)	Year ended December 31, 2017 As Reported	New Revenue Standard Adjustments[(a)]	As Adjusted	Dispositions[(b)]	Core Growth (Decline)	Year ended December 31, 2018	Reported Percent Change	Organic Constant Currency Percent Change[(c)]
Revenues:								
EFT Network	$487	$ 1	$ 488	$ —	$ 17	$ 505	4 %	4 %
Security and Fraud	449	6	455	—	(1)	454	1 %	— %
Stored Value Network	405	(62)	343	—	6	349	(14)%	2 %
Other	202	—	202	(21)	—	181	(10)%	— %
Total segment revenue	$1,543	$ (55)	$ 1,488	$ (21)	$ 22	$ 1,489	(3)%	2 %

(a) Effective January 1, 2018, we adopted the New Revenue Standard using a modified retrospective basis. See Revenue Recognition in note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Represents adjustment to exclude net revenue associated with business that was contributed to our digital banking joint venture with Live Oak on October 2, 2017 offset by our 50% of the joint venture's revenue. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(c) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the results of significant divestitures in the prior year period and (2) is adjusted to retrospectively apply the New Revenue Standard to the prior year period.

(in millions)	Year ended December 31, 2016 As Reported	New Revenue Standard Adjustments	As Adjusted	Dispositions[(a)]	Core Growth (Decline)	Year ended December 31, 2017	Reported Percent Change	Organic Constant Currency Percent Change[(b)]
Revenues:								
EFT Network	$491	$ —	$ 491	$ —	$ (4)	$ 487	(1)%	(1)%
Security and Fraud	434	—	434	—	15	449	3 %	3 %
Stored Value Network	358	—	358	—	47	405	13 %	13 %
Other	202	—	202	(7)	7	202	— %	4 %
Total segment revenue	$1,485	$ —	$ 1,485	$ (7)	$ 65	$ 1,543	4 %	4 %

(a) Other revenue adjusted to exclude net revenue associated with business that was contributed to our digital banking joint venture with Live Oak on October 2, 2017 offset by our 50% of the joint ventures revenue. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Organic constant currency growth is defined as reported growth adjusted to exclude the results of significant divestitures in the prior year period.

Operating expenses overview

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs.	2017 vs.	Constant Currency Percent Change 2018 vs.	2017 vs.

				2017	2016	2017	2016
Cost of revenues (exclusive of items shown below)	$3,005	$3,128	$3,192	(4)%	(2)%	(3)%	(4)%
Selling, general, and administrative	2,651	2,178	2,035	22 %	7 %	22 %	7 %
Cost of revenues and selling, general, and administrative expenses	5,656	5,306	5,227	7 %	2 %	7 %	3 %
Depreciation and amortization	1,009	972	949	4 %	2 %	6 %	2 %
Other operating expenses, net	119	143	51	(17)%	180 %	(15)%	180 %
Total expenses (excluding reimbursable items)	6,784	6,421	6,227	6 %	3 %	6 %	3 %
Reimbursable items	819	3,923	3,745	(79)%	5 %	(79)%	5 %
Total expenses	$7,603	$10,344	$9,972	(26)%	4 %	(26)%	4 %

Cost of revenues and Selling, general, and administrative expenses

(in millions)	Year ended December 31, 2017	New Revenue Standard Adjustments[a]	Acquisitions/Dispositions[b]	Core Growth (Decline)	Year ended December 31, 2018	Percent Change	Constant Currency Percent Change
Sales and distribution incentives	$ 921	$ 192	$ 73	$ 146 (c)	$ 1,332		
Salaries, wages, bonus, and outside professional fees	2,473	(79)	12	7 (d)	2,413		
Stock-based compensation	245	—	—	3	248		
Cost of products sold	359	(44)	(3)	20	332		
Software, telecommunication infrastructure, and repairs	387	—	(3)	(13)	371		
Other	921	29	(25)	35	960		
Cost of revenues and Selling, general, and administrative expenses	$ 5,306	$ 98	$ 54	$ 198	$ 5,656	7 %	7 %

(a) Effective January 1, 2018, we adopted the New Revenue Standard using a modified retrospective basis. See Revenue Recognition in note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Expenses were impacted by the acquisitions of CardConnect in July 2017 and BluePay in December 2017, and disposition of Lithuania, Latvia and Estonia (the Baltics) in September 2017, the formation of a digital banking joint venture with Live Oak Bank in October 2017, the dispositions of our remittance processing business in August 2018 and card processing business in Central and Southeastern Europe in September 2018. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(c) Increase related to growth in our merchant acquiring business.

(d) Increase due to outside professional fees and annual compensation increases of approximately $175 million, offset by cost savings initiatives, lower incentive compensation, and lower fringe.

(in millions)	Year ended December 31, 2016	New Revenue Standard Adjustments	Acquisitions/Dispositions[a]	Core Growth (Decline)	Year ended December 31, 2017	Percent Change	Constant Currency Percent Change
Sales and distribution incentives	$ 755	$ —	$ 72	$ 94 (b)	$ 921		
Salaries, wages, bonus, and outside professional fees	2,579	—	17	(123) (c)	2,473		
Stock-based compensation	263	—	(1)	(17) (d)	245		
Cost of products sold	337	—	—	22 (e)	359		
Software, telecommunication infrastructure, and repairs	396	—	(1)	(8)	387		
Other	897	—	8	16	921		
Cost of revenues and Selling, general, and administrative expenses	$ 5,227	$ —	$ 95	$ (16)	$ 5,306	2 %	3 %

(a) Expenses were impacted by the acquisition of CardConnect in July 2017 and BluePay in December 2017, and disposition of Lithuania, Latvia and Estonia (the Baltics) in September 2017, the formation of a digital banking joint venture with Live Oak in October 2017, and the disposition of our Australian ATM business in September 2016. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

(b) Increase related to growth in our merchant acquiring business.

(c)

Expense decreased in 2017 compared to 2016 due to a $31 million decline in salaries and wages related to previously announced cost management initiatives, and decrease in outside professional fees.

(d) The decline in stock based compensation resulted from a $52 million decline in one-time expense related to our initial public offering in 2015, offset by an increase of $34 million in recurring stock-based compensation incurred over the vesting life of normal service-based stock awards.

(e) Cost of products sold increased in 2017 compared to 2016 due to hardware expenses, impacted by a $47 million change in accounting relating to our Clover terminals effective as of January 1, 2017.

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Depreciation and amortization

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Constant Currency Percent Change 2018 vs. 2017	2017 vs. 2016
Depreciation expense	$320	$321	$300	—%	7 %		
Amortization expense	689	651	649	6 %	—%		
Depreciation and amortization[(a)]	$1,009	$972	$949	4 %	2 %	6 %	2 %

(a) Amortization expense increased in 2017 and 2018 attributed to the CardConnect and BluePay acquisitions, offset partially by reduction in amortization expense on acquisition intangibles that have been fully amortized.

Other operating expenses, net

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Constant Currency Percent Change 2018 vs. 2017	2017 vs. 2016
Restructuring, net	$85	$83	$ 49				
Deal and deal integration costs	3	27	—				
Asset impairment	—	13	—				
Merchant matters	20	10	—				
Other	11	10	2				
Other operating expenses, net[(a)]	$119	$143	$ 51	(17)%	180%	(15)%	180%

(a) See note 11 "Other Operating Expenses, Net" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for details regarding other operating expenses.

Interest expense, net

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Constant Currency Percent Change 2018 vs. 2017	2017 vs. 2016
Interest expense, net[(a)]	$(917)	$(931)	$(1,078)	(2)%	(14)%	(2)%	(12)%

(a) See note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

Loss on debt extinguishment

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Constant Currency Percent Change 2018 vs. 2017	2017 vs. 2016
Loss on debt extinguishment[(a)]	$(153)	$(80)	$(70)	91 %	14 %	91 %	14 %

(a)

See note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

Other income

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016	Constant Currency Percent Change 2018 vs. 2017	2017 vs. 2016
Investment gains	$ 3	$ 1	$ 35 (c)				
Divestitures, net gain (loss)[a]	197	18	(34)				
Non-operating foreign currency gains (losses)[b]	6	(1)	19				
Other miscellaneous expense	(5)	(2)	(3)				
Other income	$ 201	$ 16	$ 17	NM	(6)%	NM	(6)%

(a) See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information on our significant divestitures.

(b) Non-operating foreign currency (loss) gain represents net gains and losses related to currency translations on our intercompany loans in all years.

(c) Investment gains in 2016 represent the sale of our share in Visa Europe (VE). Additionally in 2016, we sold our 49% minority interest in an international joint venture which resulted in a pretax gain of $7 million.

Income taxes

	Year ended December 31,		
(in millions)	2018	2017	2016
Income tax expense (benefit)	$49	$(729)	$81
Effective income tax rate	4 %	(78)%	11 %

Year over year, our global effective tax rate differs from the statutory tax rates of the jurisdictions in which we operate as a result of a variety of factors, including the impact of U.S. state and local taxes, establishment or release of valuation allowances against certain deferred tax assets, tax effects of nonrecurring events and transactions, tax effects of tax law changes, and the tax impacts of equity compensation.

In 2018, the tax rate was positively impacted by the release of valuation allowances connected to certain U.S. state and local deferred tax assets as well as the release of income tax reserves associated with tax audits that were concluded during the year, principally the closure of the 2005 through 2007 tax years. Further, the tax rate was positively impacted by nonrecurring impacts of the disposal of certain foreign subsidiaries.

In 2017, the tax rate was positively impacted by a significant release of valuation allowances in the U.S., partially offset by a negative impact of the reduction to our net deferred tax assets as a result of the enactment of the Tax Cuts and Jobs Act. Following the establishment of significant valuation allowances against deferred tax assets in 2012, we regularly experienced substantial volatility in our effective tax rate in interim periods and across years through 2017. This was a result of deferred income tax benefits not being recognized in several jurisdictions, most notably in the United States. During 2017, significant amounts of federal and state valuation allowances were released, creating a large effective tax rate benefit. Additional state valuation allowances were released in 2018. This release of the valuation allowance should reduce volatility of the effective tax rate in future periods.

Pre-tax income generated and the effective income tax rate in domestic and foreign jurisdictions for the years ended December 31, 2018, 2017, and 2016 are as follows:

	Year ended December 31,								
	2018			2017			2016		
(in millions)	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total
Pre-tax income	$535	$712	$1,247	$484	$451	$935	$492	$249	$741
Income tax (benefit) expense	(48)	97	49	(827)	98	(729)	40	41	81
Effective income tax rate	(9)%	14 %	4 %	(171)%	22 %	(78)%	8 %	16 %	11 %

The significant jurisdictions comprising our foreign income tax expense are Argentina, Brazil, Ireland, and the UK. From 2007 through 2015, we were in a net operating loss position in the U.S. federal and combined state jurisdictions. From 2016 through 2018, we generated profits in the U.S., causing significant portions of these net operating losses to be utilized. As a result of improved profitability, expected future performance, and the length of time remaining before the net operating losses will expire, we determined that it was more likely than not that all of our federal and certain of our state net deferred tax assets in the U.S. would be realized. Accordingly, in 2017, we released our federal and certain state valuation allowances. In 2018, we released additional state valuation allowances as a result of continued profitability.

On December 22, 2017, the Tax Cuts and Jobs Act (tax reform bill) was signed into law in the U.S. The provisions of the tax reform bill with the most significant implications to us were the reduction of the federal tax rate from 35% to 21%, the creation of a 100% participation exemption for foreign dividends, the enactment of a one-time transition tax on existing foreign earnings, limitations on the deductibility of interest expense, and the establishment of global intangible low-taxed income (GILTI) rules. The first three provisions impacted the year-ended December 31, 2017. Because our deferred tax assets exceed our deferred tax liabilities in the U.S., the reduction of the tax rate provided by the tax reform bill resulted in a negative impact to the tax rate of $194 million in 2017. The one-time transition tax coupled with the 100% participation exemption had an immaterial impact on the tax rate. Because we have historically repatriated our foreign earnings, our cumulative foreign deficits exceed our cumulative foreign profits, causing our one-time taxable inclusion under the transition tax rules to be zero.

As permitted by Staff Accounting Bulletin No. 118, provisional amounts estimated based on information available as of December 31, 2017 were made for the adjustments to deferred tax assets and liabilities, the calculation of the transition tax, and certain valuation allowance assessments. These amounts were subject to change in 2018 as we obtained information necessary to complete the calculations. Such calculations were completed in 2018 and no material adjustments were made to the amounts originally recorded in 2017.

We, or one or more of our subsidiaries, file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. As of December 31, 2018, we were no longer subject to income tax examination by the U.S. federal jurisdiction for years before 2008. State and local examinations are substantially complete through 2010. Foreign jurisdictions generally remain subject to examination by their respective authorities from 2007 forward, none of which are considered major jurisdictions. See note 9 "Income Tax" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

Equity earnings in affiliates

	Year ended December 31,			Percent Change		Constant Currency Percent Change	
(in millions)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016	2018 vs. 2017	2017 vs. 2016
Equity earnings in affiliates[a]	$221	$222	$260	— %	(15)%	— %	(15)%

(a) Equity earnings in affiliates is related to the earnings of our unconsolidated merchant alliance partnerships which decreased in 2017 compared to 2016 due to a decline in the results of our North American joint ventures driven by a significant decline in lead flow.

Net income attributable to noncontrolling interests and redeemable noncontrolling interest

	Year ended December 31,			Percent Change		Constant Currency Percent Change	
(in millions)	2018	2017	2016	2018 vs. 2017	2017 vs. 2016	2018 vs. 2017	2017 vs. 2016
Net income attributable to noncontrolling interests and redeemable noncontrolling interest[a]	$193	$199	$240	(3)%	(17)%	(4)%	(17)%

(a) Net income attributable to noncontrolling interests and redeemable noncontrolling interest relates to the ownership interest of our alliance partners in our consolidated results. Net income attributable to noncontrolling interests and redeemable noncontrolling interest decreased in 2017 compared to 2016 due to a decline in the results of our North American joint ventures mainly due to significant decline in lead flow. See note 6 "Stockholders' Equity and Redeemable Noncontrolling Interest" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information.

Segment EBITDA Overview

The following table displays total segment EBITDA by segment and illustrates, on a percentage basis, the impact of foreign currency fluctuations on revenue growth for the periods presented:

	Year ended December 31, 2017								
(in millions)	As Reported	New Revenue Standard Adjustments[a]	As Adjusted	Acquisitions/Dispositions[b]	Core Growth (Decline)	Currency Impact[c]	Year ended December 31, 2018	Reported Percent Change	Organic Constant Currency Percent Change[d]
Segment EBITDA:									
Global Business Solutions	$1,824	$ (14)	$1,810	$ 59	$ 174	$(48)	$1,995	9 %	9 %

Global Financial Solutions	680	(1)	679	(23)	19	(13)	662	(3)%	3%
Network & Security Solutions	729	—	729	—	49	—	778	7%	7%
Corporate	(167)	—	(167)	—	(4)	—	(171)	(2)%	(2)%
Total Segment EBITDA (non-GAAP)	$3,066	$ (15)	$3,051	$ 36	$ 238	$(61)	$3,264	6%	8%

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(in millions)	Year ended December 31, 2016 As Reported	New Revenue Standard Adjustments(a)	As Adjusted	Acquisitions/Dispositions(b)	Core Growth (Decline)	Currency Impact(c)	Year ended December 31, 2017	Reported Percent Change	Organic Constant Currency Percent Change(d)
Segment EBITDA:									
Global Business Solutions	$1,725	$ —	$1,725	$ 20	$ 85	$(6)	$ 1,824	6 %	5 %
Global Financial Solutions	646	—	646	(2)	43	(7)	680	5 %	6 %
Network & Security Solutions	666	—	666	—	63	—	729	9 %	9 %
Corporate	(145)	—	(145)	—	(22)	—	(167)	(15)%	(15)%
Total Segment EBITDA (non-GAAP)	$2,892	$ —	$2,892	$ 18	$ 169	$(13)	$ 3,066	6 %	6 %

(a) Effective January 1, 2018, we adopted the New Revenue Standard using a modified retrospective basis. See Revenue Recognition in note 1 "Basis of Presentation and Summary of Significant Accounting Policies" to our consolidated financial statements in Part I of this Form 10-K for additional information.
(b) EBITDA was impacted by acquisitions and dispositions. See acquisitions and dispositions previously discussed.
(c) Currency impact is the difference between the current year's actual results and the same year's results converted with the prior year's foreign exchange rate.
(d) Organic constant currency growth is defined as reported growth adjusted for the following: (1) excludes the impacts of year-over-year currency rate changes in the current period; (2) excludes the results of significant divestitures in the prior year period; (3) includes the results of significant acquisitions in the prior year period; and (4) is adjusted to retrospectively apply new reporting standards to the prior year period.

The following table displays Segment EBITDA margin by segment for the periods presented:

	Year ended December 31, 2018	2017	2016	Change 2018 vs. 2017	2017 vs. 2016
Segment EBITDA Margin:					
Global Business Solutions	35.8%	37.2%	36.9%	(140) bps	30
Global Financial Solutions	41.5%	41.9%	40.6%	(40) bps	130
Network & Security Solutions	52.2%	47.2%	44.8%	500 bps	240
Total Segment EBITDA Margin	37.7%	38.0%	37.3%	(30) bps	70

Global Business Solutions

Global Business Solutions Segment EBITDA increased 9% in 2018 compared to 2017 due to the impact of the revenue items noted previously within "Global Business Solutions segment results" and the acquisition of CardConnect and BluePay. Currency translation negatively impacted segment EBITDA by $48 million compared to the prior year.

Global Business Solutions Segment EBITDA increased 6% in 2017 compared to 2016 due to the impact of the revenue items noted previously within "Global Business Solutions segment results", the acquisition of CardConnect and BluePay, along with expense declines driven by expense management initiatives.

Global Financial Solutions

Global Financial Solutions Segment EBITDA decreased (3)% in 2018 compared to 2017 due to the impact of the revenue items noted within "Global Financial Solutions segment results", as well as additional costs related to a new student loan processing agreement entered into in the second half of 2018, and technology investments in the international regions. Currency translation negatively impacted segment EBITDA by $13 million compared to the prior period.

Global Financial Solutions Segment EBITDA increased 5% in 2017 compared to 2016 due to the impact of the revenue items noted within "Global Financial Solutions segment results" and lower expenses driven by $25 million of operational efficiencies and lower plastics volumes in North America partially offset by increased investment in the international regions. Currency translation negatively impacted segment EBITDA by approximately $7 million compared to the prior period.

Network & Security Solutions

Network & Security Solutions Segment EBITDA increased 7% in 2018 compared to 2017 due to the revenue items noted within "Network & Security Solutions segment results". In addition to the changes in revenue, expenses declined due to expense management initiatives in 2018.

Network & Security Solutions Segment EBITDA increased 9% in 2017 compared to 2016 due to the revenue items noted within "Network & Security Solutions segment results". In addition to revenue growth, expenses declined due to expense management initiatives in 2017.

Corporate

Corporate Segment EBITDA loss increased modestly in 2018 compared to 2017 due to higher outside professional fees offset by lower incentive compensation and fringe.

Corporate Segment EBITDA loss increased modestly in 2017 compared to 2016 due to higher legal and incentive compensation related expenses.

Adjusted Net Income

Adjusted net income is a non-GAAP financial measure used by management that provides additional insight on performance. Adjusted net income excludes amortization of acquisition-related intangibles, stock-based compensation, restructuring costs, certain discrete tax items, and other items affecting comparability and, therefore, provides a more complete understanding of continuing operating performance. Management believes that the presentation of adjusted net income provides users of our financial statements greater transparency into ongoing results of operations allowing them to better compare our results from period to period. This non-GAAP measure is not in accordance with, or an alternative to, measures prepared in accordance with GAAP and may be different from non-GAAP measures used by other companies. In addition, adjusted net income is not based on any comprehensive set of accounting rules or principles. Non-GAAP measures have limitations in that they do not reflect all of the amounts associated with our results of operations as determined in accordance with GAAP. These measures should only be used to evaluate our results of operations in conjunction with the corresponding GAAP measures.

The following table reconciles the reported Net income attributable to First Data Corporation presented in accordance with GAAP to the non-GAAP financial measure of adjusted net income for the years ended December 31, 2018, 2017, and 2016:

(in millions)	Year ended December 31, 2018	2017	2016	Percent Change 2018 vs. 2017	2017 vs. 2016
Net income attributable to First Data Corporation	$1,005	$1,465	$420	(31)%	NM
Adjustments:					
Stock-based compensation	248	245	263	1 %	(7)%
Loss on debt extinguishment	153	80	70	91 %	14 %
Amortization of acquisition intangibles and deferred financing costs[a]	413	403	422	2 %	(5)%
Other operating expenses, net and Other income	(82)	127	34	NM	NM
Other[b]	(8)	—	46	NM	NM
Discrete tax items[c]	(160)	(891)	(24)	(82)%	NM
Income tax on above items[d]	(215)	(4)	(11)	NM	NM
Adjusted net income attributable to First Data Corporation	$1,354	$1,425	$1,220	(5)%	17 %

(a) Represents amortization of intangibles established in connection with the 2007 merger, and acquisitions we have made since 2007, excluding the percentage of our consolidated amortization of acquisition intangibles related to non-wholly owned consolidated alliances equal to the portion of such alliances owned by our alliance partners. Also, includes amortization related to deferred financing costs of $17 million, $10 million, and $29 million for the years ended December 31, 2018, 2017, and 2016, respectively.

(b) The 2018 balance represents adjustments for non wholly-owned entities. The 2016 balance represents fees paid on debt modifications, employer taxes on vested equity awards related to the IPO, and loss attributed to pension distributions.

(c) We exclude from "Adjusted net income attributable to First Data Corporation" certain discrete tax items, such as tax law changes, tax impact of mergers and acquisitions, valuation allowance releases, and tax reserves related to issues that arose before KKR acquired us.

(d) The tax effect of the adjustments between our GAAP and adjusted results takes into account the tax treatment and related tax rate(s) that apply to each adjustment in the applicable tax jurisdiction(s). Generally, this results in a tax impact at the U.S. effective tax rate for certain adjustments, including the majority of amortization of intangible assets, deferred financing costs, stock compensation, and loss on debt extinguishment; whereas the tax impact of other adjustments, including restructuring expense, depends on whether the amounts are deductible in the respective tax jurisdictions and the applicable effective tax rate(s) in those jurisdictions.

Adjusted net income for the year ended December 31, 2018 decreased due to normalized tax rate applied in 2018 driven by the release of the tax valuation allowance in 2017, offset by better operating performance in 2018.

Adjusted net income for the year ended December 31, 2017 improved due to better operating performance and lower interest expense. Growth in depreciation partially offset adjusted net income for the year ended December 31, 2017.

Liquidity and Capital Resources

Our source of liquidity is principally cash generated from operating activities supplemented by our receivable securitization facility and, as necessary, on a short-term basis by borrowings against our senior secured revolving credit facility. We believe our current level of cash and short-term financing capabilities along with future cash flows from operations are sufficient to meet the ongoing needs of the business. To the extent future cash flows exceed the ongoing needs of the business, we may use all or a portion of the excess cash to reduce our debt balances.

Total borrowings and net debt

For the year ended December 31, 2018, we used excess cash generated by the business, divestiture proceeds, and existing cash on the consolidated balance sheet to pay down outstanding borrowings. The table below shows the net debt balances as of December 31, 2018 and 2017. Net debt is a non-GAAP measure defined as total long-term borrowings plus short-term and current portion of long-term borrowings at par value excluding lines of credit used for settlement purposes less cash and cash equivalents. We believe that net debt provides additional insight on the level and management of leverage. Net debt is not, and should not be viewed as, a substitute for total outstanding borrowings under GAAP.

	As of December 31,	
(in millions)	2018	2017
Total long-term borrowings	$16,429	$17,927
Total short-term and current portion of long-term borrowings	1,170	1,271
Total borrowings	17,599	19,198
Unamortized discount and unamortized deferred financing costs	94	126
Total borrowings at par	17,693	19,324
Less: settlement lines of credit and other arrangements	224	205
Gross debt excluding settlement lines of credit and other arrangements	17,469	19,119
Less: cash and cash equivalents	555	498
Net debt	$16,914	$18,621

Our current level of debt may limit our ability to get additional funding at our current funding rate beyond our senior secured revolving credit facility and receivable securitization facility, if needed. See note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for details regarding our debt structure.

On October 26, 2018, we refinanced our senior secured revolving credit facility and senior secured term loan facility with a $6 billion senior secured credit facility. See note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional details.

Credit ratings

As of February 26, 2019, our long-term corporate family rating from Moody’s was Ba3 (outlook positive). We were upgraded by Moody's during the second quarter of 2018 which resulted in a 25 basis point reduction in interest rates on our term loans maturing in 2022 and 2024. During the third quarter of 2018 our long-term local issuer credit rating from Standard and Poor’s was upgraded to BB- (outlook stable) and the long-term issuer default rating from Fitch was upgraded to BB- (outlook positive). A decrease in our credit ratings could affect our ability to access future financing at current funding rates, which could result in increased interest expense in the future.

As a result of the planned merger with Fiserv Inc. (Fiserv) as disclosed in note 20 "Subsequent Events" in our consolidated financial statements in Part II, Item 8 of this Form 10-K, all three credit agencies have put us on the watch list for upgrade.

Cash and cash equivalents

Investments (other than those included in settlement assets) with original maturities of three months or less (that are readily convertible to cash) are considered to be cash equivalents and are stated at cost, which approximates market value. As of December 31, 2018 and 2017, we held $555 million and $498 million in cash and cash equivalents, respectively.

The table below details the cash and cash equivalents as of December 31, 2018 and 2017:

	As of December 31, 2018				As of December 31, 2017			
(in millions)	Available	Unavailable		Total	Available	Unavailable		Total
Domestic	$28	$ 156	(a)	$184	$50	$ 101	(a)	$151
International	200	171	(b)	371	174	173	(b)	347
Total	$228	$ 327		$555	$224	$ 274		$498

(a) Represents cash held by two of our domestic entities that are not available to fund operations outside of these entities unless the Board of Directors of these respective entities declare a dividend. Also, one of these entities is subject to regulatory capital requirements that must be satisfied before a dividend may be declared.

(b) Consolidated foreign joint ventures held $169 million and $163 million in cash and cash equivalents as of December 31, 2018 and 2017, respectively. Distributions of these funds are subject to the joint ventures' Board of Directors authorization. In addition, $2 million and $10 million of the remaining unavailable cash and cash equivalents in our international subsidiaries is held in countries that have currency controls as of December 31, 2018 and 2017, respectively.

Cash flows

The table below summarizes cash flows for the years ended December 31, 2018, 2017, and 2016:

	Year ended December 31,		
Source/(use) (in millions)	2018	2017	2016
Net cash provided by operating activities	$2,307	$2,047	$2,111
Net cash used in investing activities	(99)	(1,952)	(361)
Net cash (used in) provided by financing activities	(2,124)	9	(1,734)

Cash flows from operating activities

The table below reconciles the change in operating cash flows for the years ended December 31, 2017 to December 31, 2018 and December 31, 2016 to December 31, 2017:

	Year ended December 31,	
Source/(use) (in millions)	2018	2017
Net cash provided by operating activities, previous period	$2,047	$2,111
Increases (decreases) in:		
Net income, excluding other operating expenses and other income[a]	366	270
Depreciation and amortization	17	12
Working capital[b]	(123)	(346)
Net cash provided by operating activities, end of period	$2,307	$2,047

(a) Excludes loss on debt extinguishment, stock-based compensation expense and other non-cash items.

(b) Change driven by timing of receipts and payments.

Our operating cash flow is impacted by our level of debt. Approximately $0.9 billion, $0.9 billion, and $1.0 billion in cash interest, net of interest rate swap settlements, was paid during 2018, 2017, and 2016, respectively.

See "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" for a detailed discussion on how a 100 basis point increase in the applicable London Interbank Offered Rate (LIBOR) index on an annualized basis would impact our annual interest expense.

Cash flows from investing activities

The table below summarizes the changes in investing activities for the years ended December 31, 2018 and 2017:

Source/(use) (in millions)	Year ended December 31, 2018	2017	Change
Acquisitions[(a)]	$(17)	$(1,607)	$1,590
Dispositions[(b)]	549	88	461
Capital expenditures[(c)]	(604)	(518)	(86)
Other[(d)]	(27)	85	(112)
Net cash used in investing activities	$(99)	$(1,952)	$1,853

(a) Change is related to acquisition of Acculynk, CardConnect and BluePay during 2017. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional detail about these acquisitions.

(b) Change driven by proceeds from the disposition of our remittance processing business and our card processing business in Central and Southeastern Europe during 2018 offset by 2017 sale of the Baltics. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional details about these dispositions.

(c) Change in capital expenditures is related to an increase in cash outlays for software, technology and building improvements.

(d) Other represents proceeds from maturity of net investment hedge, proceeds from sale of property and equipment, purchase of equity method investments, and other investing activities.

The table below summarizes the changes in investing activities for the years ended December 31, 2017 and 2016:

Source/(use) (in millions)	Year ended December 31, 2017	2016	Change
Acquisitions[(a)]	$(1,607)	$(6)	$(1,601)
Dispositions[(b)]	88	38	50
Capital expenditures	(518)	(477)	(41)
Other[(c)]	85	84	1
Net cash used in investing activities	$(1,952)	$(361)	$(1,591)

(a) Change is related to acquisition of Acculynk, CardConnect and BluePay during 2017. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional detail about these acquisitions.

(b) Change driven by proceeds from our 2017 Baltics disposition offset by 2016 sale of the Australian ATM business. See note 13 "Acquisitions and Dispositions" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional details about these dispositions.

(c) Other represents proceeds from maturity of net investment hedge, proceeds from sale of property and equipment, purchase of equity method investments, and other investing activities.

Cash flows from financing activities

The table below summarizes the changes in financing activities for the years ended December 31, 2018 and 2017:

Source/(use) (in millions)	Year ended December 31, 2018	2017	Change
Net debt transactions[(a)]	$(1,681)	$382	$(2,063)
Other[(b)]	(443)	(373)	(70)
Net cash (used in) provided by financing activities	$(2,124)	$9	$(2,133)

(a) Details regarding our debt structure are provided in note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

(b) Other represents payment of call premiums and debt issuance cost, payment of taxes related to net settlement of equity awards, distributions and dividends paid to noncontrolling interests and redeemable noncontrolling interest and other financing activities. Change is related to an increase in debt extinguishment payments.

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The table below summarizes the changes in financing activities for the years ended December 31, 2017 and 2016:

	Year ended December 31,		
Source/(use) (in millions)	2017	2016	Change
Net debt transactions[(a)]	$382	$(1,335)	$1,717
Other[(b)]	(373)	(399)	26
Net cash provided by (used in) financing activities	$9	$(1,734)	$1,743

(a) Details regarding our debt structure are provided in note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

(b) Other represents payment of call premiums and debt issuance cost, payment of taxes related to net settlement of equity awards, distributions and dividends paid to noncontrolling interests and redeemable noncontrolling interest and other financing activities.

Free Cash Flow

Free cash flow is a non-GAAP measure defined as cash flow provided by operating activities less capital expenditures and distributions to minority interests and other. We consider free cash flow to be a liquidity measure that provides useful information to management and users of our financial statements about the amount of cash generated by the business which can then be used to, among other things, reduce outstanding debt and/or complete strategic acquisitions. Free cash flow is not, and should not be viewed as, a substitute for GAAP reported financial information.

The table below reconciles cash flow from operations to free cash flow for the years ended December 31, 2018 and 2017:

	Year ended December 31,		
Source/(use) (in millions)	2018	2017	Change
Net cash provided by operating activities[(a)]	$2,307	$2,047	$260
Capital expenditures[(b)]	(604)	(518)	(86)
Distributions and dividends paid to noncontrolling interests, redeemable noncontrolling interest, and other	(255)	(260)	5
Net investment hedge	26	90	(64)
Free cash flow	$1,474	$1,359	$115

(a) Net cash provided by operating activities increased due to the items noted previously in the "Cash flows from operating activities".

(b) Change in capital expenditures is related to an increase in cash outlays for software, technology and building improvements.

The table below reconciles cash flow from operations to free cash flow for the years ended December 31, 2017 and 2016:

	Year ended December 31,		
Source/(use) (in millions)	2017	2016	Change
Net cash provided by operating activities[(a)]	$2,047	$2,111	$(64)
Capital expenditures	(518)	(477)	(41)
Distributions and dividends paid to noncontrolling interests, redeemable noncontrolling interest, and other[(b)]	(260)	(418)	158
Net investment hedge[(c)]	90	—	90
Free cash flow	$1,359	$1,216	$143

(a) Net cash provided by operating activities decreased due to the items noted previously in the "Cash flows from operating activities".

(b)

Distributions and dividends paid to noncontrolling interests and redeemable noncontrolling interest and other decreased due to lower noncontrolling interest earnings and the timing of distributions totaling $53 million. The December 31, 2016 balance includes a $102 million reclassification related to settlement activities to conform certain domestic and international businesses to our global policies, which increased "Cash and cash equivalents" and decreased "Accounts receivable, net" in our consolidated balance sheet. Free cash flow excludes the impact of reclassification.

(c) Change in net investment hedge is due to $90 million received from the maturity of three net investment hedges in 2017.

Letters, lines of credit, and other

	Total Available[a] As of December 31,		Total Outstanding As of December 31,	
(in millions)	2018	2017	2018	2017
Letters of credit[b]	$283	$283	$ 35	$ 29
Lines of credit and other	516	546	224	205

(a) Total available without giving effect to amounts outstanding.

(b) See note 2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

In the event one or more of the aforementioned lines of credit becomes unavailable, we will utilize our existing cash, cash flows from operating activities or our senior secured revolving credit facility to meet our liquidity needs.
Guarantees and covenants All obligations under the senior secured revolving credit facility and our senior secured term loan facilities are unconditionally guaranteed by most of our existing and future, direct and indirect, wholly-owned, material domestic subsidiaries. The senior secured facilities contain a number of covenants that, among other things, restrict our ability to incur additional indebtedness; create liens; enter into sale-leaseback transactions; engage in mergers or consolidations; sell or transfer assets; pay dividends and distributions or repurchase our capital stock; make investments, loans or advances; prepay certain indebtedness; make certain acquisitions; engage in certain transactions with affiliates; amend material agreements governing certain indebtedness; and change our lines of business. The senior secured facilities also require us to not exceed a maximum senior secured leverage ratio and contain certain customary affirmative covenants and events of default, including a change of control. The senior secured term loan facility also requires mandatory prepayments based on a percentage of excess cash flow generated by us if we exceed a certain leverage ratio.

All obligations under the senior secured notes have similarly guaranteed in accordance with their terms by each of our domestic subsidiaries that guarantee obligations under our senior secured term loan facility described above. These notes and facilities also contain a number of covenants similar to those described for the senior secured obligations noted above.

Although all of the described instruments of indebtedness contain restrictions on our ability to incur additional indebtedness, these restrictions are subject to numerous qualifications and exceptions, including the ability to incur indebtedness in connection with our settlement operations. We believe that the indebtedness that can be incurred under these exceptions as well as additional credit under the existing senior secured revolving credit facility are sufficient to satisfy our needs for the foreseeable future.
Covenant Compliance

Under the senior secured revolving credit and term loan facilities, certain limitations, restrictions, and defaults could occur if we are not able to satisfy and remain in compliance with specified financial ratios. We have agreed that we will not permit the Consolidated Senior Secured Debt to Covenant EBITDA (both as defined in the agreement) Ratio for any 12 month period (last four fiscal quarters) to be greater than 6.00 to 1.00.

The breach of this covenant could result in a default under the senior secured revolving credit facility and the senior secured term loan credit facility and the lenders could elect to declare all amounts borrowed due and payable. Any such acceleration could also result in a default under the indentures for the senior secured notes. As of December 31, 2018, we were in compliance with all applicable covenants, including our sole financial covenant with Consolidated Senior Secured Debt of $14.2 billion, Covenant EBITDA of $3.6 billion and a Ratio of 3.91 to 1.00.

Covenant EBITDA is calculated by adjusting EBITDA to exclude unusual items as permitted in calculating covenant compliance under the credit facilities. Covenant EBITDA is further adjusted to include net income attributable to noncontrolling interests and redeemable noncontrolling interest of certain non wholly-owned subsidiaries and to exclude other miscellaneous adjustments that are used in calculating covenant compliance under the agreements governing our senior secured credit facilities. Because not all companies use identical calculations, this presentation of Covenant EBITDA may not be comparable to similarly titled measures of other companies.

The calculation of Covenant EBITDA under our senior secured facilities was as follows:

(in millions)	Year ended December 31, 2018
Net income attributable to First Data Corporation	$ 1,005
Interest expense, net	917
Income tax expense	49
Depreciation and amortization	1,090
EBITDA	3,061
Loss on debt extinguishment	153
Stock-based compensation	248
Net income attributable to noncontrolling interests and redeemable noncontrolling interest	193
Projected near-term cost savings and revenue enhancements[a]	70
Restructuring, net	85
Non-operating foreign currency (gains) and losses	(6)
Equity entities taxes, depreciation and amortization[b]	17
Divestitures, net	(197)
Other[c]	6
Covenant EBITDA	$ 3,630

(a) Reflects cost savings and revenue enhancements projected to be realized as a result of specific actions as if they were achieved on the first day of the period. Includes cost savings initiatives associated with the business optimization projects and other technology initiatives. We may not realize the anticipated cost savings pursuant to our anticipated timetable or at all.

(b) Represents our proportional share of income taxes, depreciation, and amortization on equity method investments.

(c) Includes items such as pension losses, litigation and regulatory settlements, impairments, deal and deal integration costs, acquisitions and dispositions, and other as applicable to the period presented.

Off-Balance Sheet Arrangements

During 2018, 2017, and 2016, we did not engage in any off-balance sheet financing activities other than those included in the “Contractual Obligations” discussion below and those reflected in note 15 "Commitments and Contingencies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

Contractual Obligations

Our contractual obligations as of December 31, 2018 were as follows:

	Payments Due by Period				
(in millions)	Total	Less than 1 year	1-3 years	3-5 years	After 5 years
Borrowings[a]	$20,107	$ 920	$ 2,000	$ 9,170	$ 8,017
Capital lease obligations[b]	248	81	118	45	4
Operating leases	326	59	99	77	91
Purchase obligations[c]:					
Technology and telecommunications[d]	963	415	428	120	—
All other[e]	52	17	20	12	3
Total[f][g]	$21,696	$ 1,492	$ 2,665	$ 9,424	$ 8,115

(a) Includes future principal and cash interest payments on long-term borrowings through scheduled maturity dates. Includes $11.9 billion of variable rate debt, $2.8 billion in variable to fixed interest rate collars and $7.25 billion in interest rate step-up swaps, which mitigate exposure to interest rate fluctuations. Borrowings are discussed in note

2 "Borrowings" in our consolidated financial statements in Part II, Item 8 of this Form 10-K. Interest rate swaps and interest rate collars are discussed note 14 "Derivative Financial Instruments" in our consolidated financial statements in Part II, Item 8 of this Form 10-K. Interest payments for the variable rate debt and the associated interest rate swaps were calculated using interest rates as of December 31, 2018.

(b) Represents future payments on existing capital leases, including interest expense, through scheduled expiration dates.

(c) Many of our contracts contain clauses that allow us to terminate the contract with notice, and with or without a termination penalty. Termination penalties are generally an amount less than the original obligation. Certain contracts also have an automatic renewal clause if we do not provide written notification of our intent to terminate the contract. Obligations under certain contracts are usage-based and are, therefore, estimated in the above amount. Historically, we have not had any significant defaults of our contractual obligations or incurred significant penalties for termination of our contractual obligations.

(d) Technology and telecommunications represents obligations related to hardware purchases, including purchases of ATMs and terminals, as well as software licenses, hardware and software maintenance and support, technical consulting services, and telecommunications services.

(e) All other includes obligations related to materials, data, non-technical contract services, facility security, maintenance, and marketing promotions.

(f) We evaluate the need to make contributions to our pension plans after considering the funded status of the pension plans, movements in the discount rates, performance of the plan assets and related tax consequences. Expected contributions to our pension plan have not been included in the table as such amounts are dependent upon the considerations discussed above, and may result in a wide range of amounts. See note 16 "Employee Benefit Plans" in our consolidated financial statements in Part II, Item 8 of this Form 10-K.

(g) As of December 31, 2018, we had approximately $102 million of tax contingencies comprised of approximately $55 million reported in long-term income taxes payable in the “Other long-term liabilities” line of our consolidated balance sheet and approximately $47 million recorded as a decrease to our deferred tax assets. These amounts have been excluded from the table because the settlement period cannot be reasonably estimated. The timing of these payments will ultimately depend on the progress of tax examinations with the various tax authorities.

Critical Accounting Policies

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States, which often require management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. On an ongoing basis, we evaluate our critical estimates giving consideration to a combination of factors, including historical experience, current conditions, and various other assumptions considered to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. The accounting policies we consider most critical to understanding our financial results and condition and that require complex and subjective management judgments are discussed below.

Goodwill: Goodwill represents the excess of cost over the fair value of net assets acquired, including identifiable intangible assets, and has been allocated to reporting units. Our reporting units are businesses at the operating segment level or one level below the operating segment level for which discrete financial information is prepared and regularly reviewed by management.

We test goodwill annually for impairment, as well as upon an indicator of impairment, by first performing a qualitative assessment at the reporting unit level for all reporting units with the exception of the GBS reporting unit for which we begin with a quantitative assessment. The qualitative assessment evaluates company, industry, and macroeconomic events and circumstances to determine if it is more likely than not that the fair value of the reporting unit is less than its carrying value. If it is determined through the qualitative assessment that it is more likely than not that the fair value is less than the carrying value, we proceed to a quantitative assessment.

For reporting units tested using a quantitative assessment, fair value is based on a discounted cash flow model involving several assumptions. When appropriate we consider assumptions that we believe a hypothetical marketplace participant would use in estimating future cash flows. The key assumptions include segment EBITDA growth and weighted-average cost of capital (discount rate). We determined segment EBITDA growth based on management estimates and business plans. Discount rate assumptions are based on an assessment of the risk inherent in future cash flows of the respective reporting unit as well as cost of debt and equity. If it is determined through quantitative assessment that the fair value is less than the carrying value, the amount by which the carrying value exceeds the fair value, limited to the amount of goodwill recorded and taking into consideration the effect of any tax deductible goodwill, is recorded as an impairment of goodwill.

An impairment charge of a reporting unit's goodwill could have a material adverse effect on our financial results. An impairment charge may be caused by changes in the underlying business and economic conditions, the most relevant of which would be a deterioration in global economic conditions. Deterioration in global economic conditions could cause us to experience a decrease in our segment EBITDA. Furthermore, volatility in the debt markets which impact our debt yields, could affect these estimates used in the analysis discussed, which in turn could affect the fair value of the reporting unit. Thus, it is possible for reporting units that record impairments to record additional impairments in the future. All key assumptions and valuations are determined by and are the responsibility of management. The factors used in the impairment analysis are inherently subject to uncertainty. We believe that we have made reasonable estimates and assumptions to determine the fair value of our reporting units, if actual results are not consistent with these estimates and assumptions, goodwill and other intangible assets may be overstated which could trigger an impairment charge.

As of December 31, 2018, the carrying value of goodwill was $17.5 billion of which $15.1 billion related to our GBS reporting unit. As of October 1, 2018, the most recent impairment analysis date, our GBS reporting unit's fair value exceeded its carrying value by 50% and all other reporting units passed their respective qualitative assessments. Examples of events or circumstances that could reasonably be expected to negatively affect the underlying key assumptions and ultimately impact the estimated fair value of our reporting units may include such items as the following:

- Global economic, political, and other conditions may adversely affect trends in consumer, business, and government spending, which may adversely impact the demand for our services and our revenue and profitability;
- Our ability to anticipate and respond to changing industry trends and the needs and preferences of our clients and consumers may affect our competitiveness or demand for our products, which may adversely affect our operating results;
- Substantial and increasingly intense competition worldwide in the financial services, payments, and technology industries may materially and adversely affect our overall business and operations;
- Potential changes in the competitive landscape, including disintermediation from other participants in the payments value chain, could harm our business;
- The market for our electronic commerce services is evolving and may not continue to develop or grow rapidly enough for us to maintain and increase our profitability;
- If we are unable to maintain merchant relationships and alliances, our business may be adversely affected;
- Failure to obtain new clients or renew client contracts on favorable terms could adversely affect results of operations and financial condition; and
- Cost savings initiatives may not produce the savings expected and may negatively impact our other initiatives and efforts to grow our business.

See "Risk Factors" in Part I, Item 1A of this Form 10-K for further discussions of risks that could affect our business.

An additional analysis was performed for our GBS reporting unit, which sensitized the base discount rate by an additional 50 basis points. GBS passed by a margin of 39%. See note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information regarding goodwill.

Reserve for merchant credit losses: Our merchant clients (or those of our unconsolidated alliances) have the liability for any charges properly reversed by the cardholder. In the event, however, that we are not able to collect such amounts from the merchants due to merchant fraud, insolvency, bankruptcy or another reason, we may be liable for any such reversed charges. Our risk in this area primarily relates to situations where the cardholder has purchased goods or services to be delivered in the future and which have yet to be delivered.

Our obligation to stand ready to perform is minimal in relation to the total dollar volume processed. We require cash deposits, guarantees, letters of credit or other types of collateral from certain merchants to minimize this obligation. Cash and cash equivalent collateral is included within "Settlement assets" on the consolidated balance sheet. The amounts of collateral held by us and our unconsolidated alliances are as follows:

	As of December 31,	
(in millions)	2018	2017
Cash and cash equivalents collateral	$ 500	$ 499
Collateral in the form of letters of credit	96	133
Total collateral	$ 596	$ 632

We also utilize a number of systems and procedures to manage merchant risk. Despite these efforts, we historically have experienced some level of losses due to merchant defaults.

Our contingent obligation relates to imprecision in our estimates of required collateral. A provision for this obligation is recorded based primarily on historical experience of credit losses and other relevant factors such as economic downturns or increases in merchant fraud. The following table presents the aggregate merchant credit losses incurred compared to total dollar volumes processed:

Year ended
December 31,

(in millions)	2018	2017	2016
First Data and consolidated and unconsolidated alliances credit losses	$95	$ 98	$ 93
First Data and consolidated alliances credit losses	86	89	83
Total dollar volume processed (in billions)	2,631	2,401	2,153

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The reserve recorded on our consolidated balance sheets relates to the business conducted by our consolidated subsidiaries. The reserve for unconsolidated alliances is recorded only in the alliances' respective financial statements. We have not recorded any reserve for estimated losses in excess of reserves recorded by the unconsolidated alliances nor have we identified needs to do so. The following table presents the aggregate merchant credit loss reserves:

	As of December 31,	
(in millions)	2018	2017
First Data and consolidated and unconsolidated alliances merchant credit loss reserves	$ 32	$ 33
First Data and consolidated alliances merchant credit loss reserves	28	29

The credit loss reserves, both for us and our unconsolidated alliances, are comprised of amounts for known losses and a provision for losses incurred but not reported (IBNR). These reserves primarily are determined by performing a historical analysis of chargeback loss experience. Other factors are considered that could affect that experience in the future. Such items include the general economy and economic challenges in a specific industry or those affecting certain types of clients. Once these factors are considered, we or the unconsolidated alliance establishes a rate (percentage) that is calculated by dividing the expected chargeback (credit) losses by dollar volume processed. This rate is then applied against the dollar volume processed each month and charged against earnings. The resulting reserve balance is then compared to requirements for known losses and estimates for incurred but not reported items. Historically, this estimation process has proved to be materially accurate and we believe the recorded reserve approximates the fair value of the contingent obligation.

Income taxes: The determination of our provision for income taxes requires management's judgment in the use of estimates and the interpretation and application of complex tax laws. Judgment is also required in assessing the timing and amounts of deductible and taxable items. We establish contingency reserves for material, known tax exposures relating to deductions, transactions, and other matters involving some uncertainty as to the proper tax treatment of the item. Our reserves reflect our judgment as to the resolution of the issues involved if subject to judicial review. Several years may elapse before a particular matter, for which we have established a reserve, is audited and finally resolved or clarified. While we believe that our reserves are adequate to cover reasonably expected tax risks, issues raised by a tax authority may be finally resolved at an amount different than the related reserve. Such differences could materially increase or decrease our income tax provision in the current and/or future periods. When facts and circumstances change (including a resolution of an issue or statute of limitations expiration), these reserves are adjusted through the provision for income taxes in the period of change.

In the U.S. we have historically generated tax net operating loss carry forwards, largely as the result of the significant interest expense we have incurred. Judgment is required to determine whether some portion or all of the resulting deferred tax assets will not be realized. To the extent we determine that we will not realize the benefit of some or all of our deferred tax assets, then these assets are adjusted through our provision for income taxes in the period in which this determination is made.

We currently have tax net operating loss carry forwards in several jurisdictions in which we operate, including the United States, resulting in significant deferred tax assets. We establish a valuation allowance against our deferred tax assets when, based upon the weight of all available evidence, we believe it is more likely than not that some portion or all of the deferred tax assets will not be realized. We believe that a significant portion of the deferred tax assets will be realized because of the existence of sufficient taxable income within the carryforward period available under the tax law, but have established valuation allowances for those deferred tax assets that in our judgment will not be realized. In making this determination, we have considered the relative impact of all of the available positive and negative evidences regarding future sources of taxable income and tax planning strategies. However, there could be material impact to our effective tax rate if there is a significant change in our judgment. If and when our judgment changes, then the valuation allowances are adjusted through the provision for income taxes in the period in which this determination is made. See note 9 "Income Tax" in our consolidated financial statements in Part II, Item 8 of this

Form 10-K for additional information regarding our income tax provision.

New Accounting Guidance

See note 1 "Summary of Significant Accounting Policies" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for new accounting guidance.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk from changes in interest rates. Our interest rate-sensitive assets include cash equivalents as well as both fixed and floating rate interest-bearing securities. These investments arise primarily from settlement funds held by us pending

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settlement. Our interest rate-sensitive liabilities include our senior secured credit facilities which are subject to variable interest rates. We use a combination of interest rate collars and swaps to mitigate our exposure to interest rate fluctuations.

As of December 31, 2018, we have $12 billion in variable rate debt, which includes $472 million on our accounts receivable securitization facility, and also includes $250 million drawn on our revolving credit facility. We have $2.8 billion in variable to fixed interest rate collars, which are subject to contractual ceilings and floors, and $7.25 billion in variable to fixed interest rate step-up swaps. The $1.3 billion and $1.5 billion interest rate collars expire in January 2019 and September 2019, respectively, and have a one month LIBOR ceiling of 1.50% and 1.75%, respectively. With respect to our step-up swaps, the $4.75 billion of notional exposure step-up swaps, decreases by $750 million semi-annually, commencing in June 2019, and expires in December 2020. The remaining $2.5 billion of step-up swaps cover our exposure through May 2021.

Based on outstanding debt balances and interest rates as of December 31, 2018, a 1% increase in variable interest rates would result in a decrease to pretax income of $10 million over the next twelve months. This decrease is due to a $39 million increase in interest expense related to our balance of variable interest rate debt, net of interest rate collars and step-up swaps, partially offset by a $29 million increase in interest income, primarily on settlement assets. A decrease in interest rates would result in an increase to pretax income. Actual interest rates could change significantly more than 1%. There are inherent limitations in the sensitivity analysis presented and as a result, the analysis is unable to reflect the potential effects of more complex market changes that could arise, which may positively or negatively affect income.

Foreign Currency Risk

We are exposed to changes in currency rates as a result of our investments in foreign operations and revenues and expenses generated in currencies other than the U.S. dollar. Revenue and profit generated by international operations will increase or decrease compared to prior periods as a result of changes in foreign currency exchange rates. See note 14 "Derivative Financial Instruments" in our consolidated financial statements in Part II, Item 8 of this Form 10-K for additional information regarding the changes in foreign currency exchange rates.

A hypothetical 10% weakening/strengthening in the value of the U.S. dollar relative to all the currencies in which our revenues and profits are denominated would result in an increase/decrease to pretax income of approximately $57 million. This increase/decrease results from a $55 million increase/decrease related to foreign exchange on foreign currency earnings and a $2 million increase/decrease related to foreign exchange on intercompany loans. There are inherent limitations in the sensitivity analysis presented and as a result, the analysis is unable to reflect the potential effects of more complex market changes that could arise, which may positively or negatively affect income.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

FIRST DATA CORPORATION

INDEX TO FINANCIAL STATEMENTS
COVERED BY REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of First Data Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of First Data Corporation (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, cash flows and equity for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule of valuation and qualifying accounts (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2018 and 2017, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 26, 2019 expressed an unqualified opinion thereon.

Adoption of New Accounting Standard

As discussed in Note 1 to the financial statements, the Company changed its method of accounting for revenue as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, Revenue from Contracts with Customers (Topic 606), and the amendments in ASUs 2015-14, 2016-08, 2016-10 and 2016-12 effective January 1, 2018.

Basis for Opinion

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

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

/s/ Ernst & Young LLP

EY or one of its predecessors began serving consecutively as the Company's (or one of its predecessors) auditor in 1980.

Atlanta, Georgia
February 26, 2019

FIRST DATA CORPORATION
CONSOLIDATED STATEMENTS OF INCOME

(in millions, except per share amounts)	Year ended December 31, 2018	2017	2016
Revenues:			
Revenues excluding reimbursable items[(a)]	$8,679	$8,129	$7,839
Reimbursable items	819	3,923	3,745
Total revenues	9,498	12,052	11,584
Expenses:			
Cost of revenues (exclusive of items shown below)	3,005	3,128	3,192
Selling, general, and administrative	2,651	2,178	2,035
Depreciation and amortization	1,009	972	949
Other operating expenses, net	119	143	51
Total expenses excluding reimbursable items	6,784	6,421	6,227
Reimbursable items	819	3,923	3,745
Total expenses	7,603	10,344	9,972
Operating profit	1,895	1,708	1,612
Interest expense, net	(917)	(931)	(1,078)
Loss on debt extinguishment	(153)	(80)	(70)
Other income	201	16	17
Income before income taxes and equity earnings in affiliates	1,026	713	481
Income tax expense (benefit)	49	(729)	81
Equity earnings in affiliates	221	222	260
Net income	1,198	1,664	660
Less: Net income attributable to noncontrolling interests and redeemable noncontrolling interest	193	199	240
Net income attributable to First Data Corporation	$1,005	$1,465	$420
Net income attributable to First Data Corporation per share:			
Basic	$1.08	$1.60	$0.47
Diluted	$1.05	$1.56	$0.46
Weighted-average common shares outstanding:			
Basic	929	916	902
Diluted	957	940	921

(a) Includes processing fees, administrative service fees, and other fees charged to merchant alliances accounted for under the equity method of $203 million, $215 million, and $198 million for the years ended December 31, 2018, 2017, and 2016, respectively.

The 2018 results include the impact of adopting Accounting Standards Codification (ASC) 606 and ASC 340-40 (collectively, the New Revenue Standard). See note 1 "Summary of Significant Accounting Policies" for more information.

See notes to consolidated financial statements.

FIRST DATA CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Year ended December 31,		
(in millions)	2018	2017	2016
Net income	$1,198	$1,664	$660
Other comprehensive (loss) income, net of tax:			
Foreign currency translation adjustment	(127)	201	(153)
Pension liability adjustments	(2)	72	38
Derivative instruments	(46)	9	3
Other	2	—	—
Total other comprehensive (loss) income, net of tax	(173)	282	(112)
Comprehensive income	1,025	1,946	548
Less: Comprehensive income attributable to noncontrolling interests and redeemable noncontrolling interest	186	211	235
Comprehensive income attributable to First Data Corporation	$839	$1,735	$313

See notes to consolidated financial statements.

FIRST DATA CORPORATION
CONSOLIDATED BALANCE SHEETS

(in millions, except par value)	As of December 31, 2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	$555	$498
Accounts receivable, net of allowance for doubtful accounts of $46 and $45	2,217	2,176
Settlement assets	11,423	20,363
Prepaid expenses and other current assets	319	335
Total current assets	14,514	23,372
Property and equipment, net of accumulated depreciation of $1,647 and $1,588	905	951
Goodwill	17,460	17,710
Customer relationships, net of accumulated amortization of $5,509 and $5,940	1,763	2,184
Other intangibles, net of accumulated amortization of $2,271 and $2,665	1,893	1,935
Investment in affiliates	1,055	1,054
Other long-term assets	737	1,063
Total assets	$38,327	$48,269
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$1,636	$1,659
Short-term and current portion of long-term borrowings	1,170	1,271
Settlement obligations	11,423	20,363
Total current liabilities	14,229	23,293
Long-term borrowings	16,429	17,927
Deferred tax liabilities	97	77
Other long-term liabilities	528	886
Total liabilities	31,283	42,183
Commitments and contingencies (See note 15)		
Redeemable noncontrolling interest	77	72
First Data Corporation stockholders' equity:		
Class A Common stock, $0.01 par value; 1,600 shares authorized as of December 31, 2018 and December 31, 2017, 584 shares and 492 shares issued as of December 31, 2018 and December 31, 2017, respectively; and 568 shares and 482 shares outstanding as of December 31, 2018 and December 31, 2017, respectively	6	5
Class B Common stock, $0.01 par value; 448 and 523 shares authorized as of December 31, 2018 and December 31, 2017, respectively; 369 shares and 443 shares issued and outstanding as of December 31, 2018 and December 31, 2017, respectively	4	4
Preferred Stock, $0.01 par value; 100 shares authorized as of December 31, 2018 and December 31, 2017; no shares issued and outstanding as of December 31, 2018 and December 31, 2017	—	—
Class A Treasury stock, at cost, 16 shares and 11 shares as of December 31, 2018 and December 31, 2017, respectively	(251)	(149)
Additional paid-in capital	13,791	13,495
Accumulated loss	(8,067)	(9,059)
Accumulated other comprehensive loss	(1,310)	(1,144)
Total First Data Corporation stockholders' equity	4,173	3,152
Noncontrolling interests	2,794	2,862

Total equity	6,967	6,014
Total liabilities and equity	$38,327	$48,269

See notes to consolidated financial statements.

FIRST DATA CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
(in millions)	2018	2017	2016
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income	$1,198	$1,664	$660
Adjustments to reconcile to net cash provided by operating activities:			
Depreciation and amortization (including amortization netted against equity earnings in affiliates and revenues)	1,090	1,073	1,061
Deferred income taxes	107	(853)	(38)
Charges related to other operating expenses, net and other income	(82)	127	34
Loss on debt extinguishment	153	80	70
Stock-based compensation expense	248	245	263
Other non-cash and non-operating items, net	46	41	45
(Decrease) increase in cash, excluding the effects of acquisitions and dispositions, resulting from changes in:			
Accounts receivable, current and long term	(156)	(196)	(81)
Other assets, current and long term	4	(36)	61
Accounts payable and other liabilities, current and long term	(284)	(82)	35
Income tax accounts	(17)	(16)	1
Net cash provided by operating activities	2,307	2,047	2,111
CASH FLOWS FROM INVESTING ACTIVITIES			
Additions to property and equipment	(310)	(271)	(232)
Payments to secure customer service contracts, including outlays for conversion, and capitalized systems development costs	(294)	(247)	(245)
Acquisitions, net of cash acquired	(17)	(1,607)	(6)
Proceeds from dispositions	549	88	38
Proceeds from the maturity of net investment hedges	26	90	—
Proceeds from sale of property and equipment	1	—	38
Other investing activities, net	(54)	(5)	46
Net cash used in investing activities	(99)	(1,952)	(361)
CASH FLOWS FROM FINANCING ACTIVITIES			
Short-term borrowings, net	(130)	823	205
Proceeds from issuance of long-term debt	4,750	4,968	3,533
Payment of call premiums and debt issuance cost	(141)	(63)	(53)
Principal payments on long-term debt	(6,301)	(5,409)	(5,073)
Payment of taxes related to net settlement of equity awards	(115)	(94)	(61)
Proceeds from issuance of common stock	68	50	23
Distributions and dividends paid to noncontrolling interests and redeemable noncontrolling interest	(255)	(260)	(316)
Other financing activities, net	—		