

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

FORM 8-K

CURRENT REPORT

**Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

Date of Report (Date of earliest event reported): August 6, 2019



NCR CORPORATION

(Exact name of registrant as specified in its charter)

Commission File Number 001-00395

Maryland

(State or other jurisdiction of
incorporation or organization)

31-0387920

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

**864 Spring Street NW
Atlanta, GA 30308**

(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (937) 445-5000

N/A

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2 below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	NCR	New York Stock Exchange

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company

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

Item 8.01 Other Events.

As previously disclosed in the Quarterly Report on Form 10-Q of NCR Corporation ("NCR" or the "Company") for the quarter ended March 31, 2019 (as filed with the Securities and Exchange Commission (the "SEC") on May 7, 2019), effective in the January 1, 2019, NCR changed the management of its business to an industry basis from the previous model of management on a solution basis, which resulted in a corresponding change to NCR's reportable segments.

The Company is filing this Current Report on Form 8-K to update operating results for all periods covered in its Annual Report on Form 10-K for the year ended December 31, 2018 (as filed with the SEC on February 28, 2019), in order to give effect to the change in reportable segments. Specific information subject to update is as follows:

- Consent of Independent Registered Public Accounting Firm, attached as Exhibit 23.1 to this report and incorporated herein by reference;
- Part II, Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations, included in Exhibit 99.1 to this report and incorporated herein by reference; and
- Part II, Item 8: Financial Statements and Supplemental Data, included in Exhibit 99.2 to this report and incorporated herein by reference.

This Current Report on Form 8-K does not reflect events occurring after February 28, 2019, the date that the Company filed the 2018 Form 10-K, and does not modify or update the disclosures therein in any way, other than as required to reflect the change in accounting methodology as described above and set forth in Exhibits 99.1 and 99.2, attached hereto, and to incorporate the reclassifications to incorporate the change in reportable segments described above and set forth in Exhibit 99.2, attached hereto. For information on developments regarding the Company since the filing of the 2018 Form 10-K, please refer to the Company's reports filed with the SEC, including the Company's Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2019, and June 30, 2019 and other subsequent SEC filings.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits:

The following exhibits are attached with this current report on Form 8-K:

Exhibit No.	Description
	23.1 Consent of Independent Registered Public Accounting Firm
	99.1 Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations
	99.2 Part II. Item 8. Financial Statements and Supplemental Data
101	XBRL Instance Document and Related Items

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

NCR CORPORATION

By: _____ /s/ Andre J. Fernandez

Andre J. Fernandez
Executive Vice President and Chief Financial Officer

Date: August 6, 2019

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 (No. 333-231034) and S-8 (Nos. 333-18797, 333-139553, 333-215248 and 333-217574) of NCR Corporation of our report dated February 28, 2019, except with respect to our opinion on the financial statements insofar as it relates to the effects of the change in reportable segments discussed in Note 4 and 13, which is as of August 5, 2019, relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appears in NCR Corporation's Current Report on Form 8-K dated August 5, 2019.

/s/ PricewaterhouseCoopers LLP
Atlanta, Georgia
August 5, 2019

As described in its Current Report on Form 8-K filed with the Securities and Exchange Commission on August 6, 2019, the Company has updated operating results for all periods covered in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (as filed with the Securities and Exchange Commission on February 28, 2019), in order to give effect to the change in reportable segments. The Management's Discussion and Analysis that follows recasts the information included in the 2018 Form 10-K in order to reflect the change in reportable segments and should be read in conjunction with the updated financial statements included as an exhibit to the Current Report on Form 8-K filed on August 6, 2019.

PART II

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (MD&A)

BUSINESS OVERVIEW

NCR is a leading software- and services-led enterprise provider in the financial, retail, hospitality and telecommunications and technology industries, with business in 180 countries. NCR offers a range of solutions that help businesses of all sizes compete in an ever-evolving landscape of physical and digital consumers by providing software, advisory and consulting services, hardware, support and managed services that run businesses end to end. Our portfolio includes, but is not limited to, digital first offerings for banking, restaurants and retailers as well as payments, multi-vendor connected device services, automated teller machines (ATMs), point of sale (POS) terminals and self-service technologies. We also resell third-party networking products and provide related service offerings in the telecommunications and technology sectors. Our solutions create value for our customers by increasing productivity and allowing them to address consumer demand for convenience, value and individual service across different commerce channels using a digital first approach.

We have the following operating segments: Banking, Retail, Hospitality and Other. Each of our operating segments derives its revenue in each of the sales theaters in which NCR operates. As of January 1, 2019, NCR began management of its business on an industry basis, changing from the previous model of management on a solution basis. This change to our segment reporting for fiscal year 2019 and future periods is further described in Note 1, "Description of Business and Significant Accounting Policies" of the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report.

NCR provides specific solutions for customers of varying sizes in the industries we serve. NCR's solutions are built on a foundation of long-established industry knowledge and expertise.

NCR's reputation is founded upon over 134 years of providing quality products, services and solutions to our customers. At the heart of our customer and other business relationships is a commitment to acting responsibly, ethically and with the highest level of integrity. This commitment is reflected in NCR's Code of Conduct, which is available on the Corporate Governance page of our website.

2018 OVERVIEW

As more fully discussed in later sections of this MD&A, the following were significant themes and events for 2018:

- Revenue was \$6.4 billion, which decreased 2% from the prior year, driven by lower Retail and Hospitality revenue;
- Banking revenue remained consistent with prior year revenues;
- Retail revenue decreased 3% and operating margin rate decreased 390 basis points from the prior year;
- Hospitality revenue decreased 7% and operating margin rate declined 550 basis points from the prior year;
- Recurring revenue, which includes cloud, software maintenance and hardware maintenance, increased 3% from the prior year and comprised 46% of total revenue;
- Cash flows from operations and free cash flow were \$572 million and \$223 million, respectively, in 2018;
- Completed the acquisition of JetPay Corporation to expand our offerings to include end-to-end payment processing; and
- We repurchased approximately 6.1 million shares of our common stock for \$210 million during the twelve months ended December 31, 2018.

OVERVIEW OF STRATEGIC INITIATIVES AND TRENDS

The rise of digital first commerce, mobile engagement and globalization have dramatically altered the relationship between business and consumer. Increasingly, mega-trends such as big data, the Internet of things and the cloud are driving the next generation of changes in consumer behavior. Consumers now expect businesses to provide a rich, integrated and personalized experience across all commerce channels, including online, mobile and in-store. NCR is at the forefront of this commerce shift, assisting businesses of every size in their digital first channel transformation journeys. Our mission is to be the leading software- and services-led enterprise provider in the financial, retail, hospitality and telecommunications and technology industries, with solutions designed to allow businesses in the industries we serve to deliver a rich, integrated and personalized experience to consumers across digital and physical commerce channels, enabling our customers to move their business forward in a digital first environment. To fulfill this mission, we have developed a long-term growth strategy built on taking better care of our customers, improving execution of new product introductions, accelerating revenue growth and executing spend optimization programs. We believe that our mission and long-term strategy position NCR to continue to drive growth, sustainable revenue, profit and cash flow, and to improve value for all of our stakeholders.

To deliver on our mission and strategy, we are focused on the following main initiatives in 2019:

- *Customer Care* - Improve the customer experience and execution of new product introductions;
- *Stockholder Value* - Accelerate profitable top-line revenue growth by investing in and shifting our revenue mix to recurring software and services revenue streams we identify as strategic growth platforms, while improving the Company's cost structure;
- *Strategic Growth Platforms and Targeted Acquisitions* - Increase capital expenditures in strategic growth platforms and target acquisitions to gain solutions that drive the highest growth and return on investment;
- *Talent and Employee Care* - Develop, reward and retain talent with competitive recruiting, training and effective incentive-based compensation programs; and
- *Sales Enablement* - Provide our sales force with top-performing and secure products packaged to target our desired revenue mix and drive customer delight and stockholder value, as well as invest in appropriate training programs to enable success.

Potentially significant risks to the execution of our initiatives and achievement of our strategy include the strength of demand for the products we offer or will offer in the future consistent with our strategy and its effect on our businesses; domestic and global economic and credit conditions including, in particular, those resulting from the imposition or threat of protectionist trade policies or import or export tariffs, global and regional market conditions and spending trends in the financial, retail and hospitality industries, modified or new global or regional trade agreements, the determination by the United Kingdom to exit the European Union and the execution of the same; uncertainty over further potential changes in Eurozone participation and fluctuations in oil and commodity prices; our ability to transform our business model and to sell higher-margin software and services with recurring revenue, including our ability to successfully streamline our hardware operations; the success of our restructuring plans and spend optimization program; our ability to improve execution of new product offering or integration of acquired product offerings; market acceptance of new solutions; competition in the information technology industry; cybersecurity risks and compliance with data privacy and protection requirements; disruptions in or problems with our data center hosting facilities; defects or errors in our products; the historical seasonality of our sales; tax rates and new US tax legislation; and foreign currency fluctuations.

Cybersecurity Risk Management

Similar to most companies, NCR is subject to more frequent and increasingly sophisticated cybersecurity attacks. The Company maintains cybersecurity risk management policies and procedures including disclosure controls, which it regularly evaluates for updates, for handling and responding to cybersecurity events. These policies and procedures include internal notifications and engagements and, as necessary, cooperation with law enforcement. Personnel involved in handling and responding to cybersecurity events periodically undertake tabletop exercises to simulate an event. The internal notification procedures include notifying the applicable Company attorneys, which, depending on the level of severity assigned to the event, may include direct notice to, among others, the Company's General Counsel, Ethics & Compliance Officer, and Chief Privacy Officer. Company attorneys support efforts to evaluate the materiality of any incidents, determine whether notice to third parties such as customers or vendors is required, determine whether any prohibition on insider trading is appropriate, and assess whether disclosure to stockholders or governmental filings, including with the SEC, are required. The internal notification procedures also include notifying various NCR Information Technology Services managers, subject matter experts in the Company's software department and Company leadership, depending on the level of severity assigned to the event.

For further information on potential risks and uncertainties see Item 1A "Risk Factors."

RESULTS OF OPERATIONS

The following table shows our results for the years ended December 31:

In millions	2018	2017	2016
Revenue	\$6,405	\$6,516	\$6,543
Gross margin	1,675	1,855	1,818
Gross margin as a percentage of revenue	26.2%	28.5%	27.8%
Operating expenses			
Selling, general and administrative expenses	\$1,005	\$923	\$904
Research and development expenses	252	241	225
Restructuring-related charges	—	—	15
Asset impairment charges	227	—	—
Income from operations	\$191	\$691	\$674

The following tables show our revenue by geographic theater for the years ended December 31:

In millions	2018	% of Total	2017	% of Total	% Increase (Decrease)	% Increase (Decrease) Constant Currency ⁽¹⁾
Americas	\$ 3,707	58%	\$ 3,809	59%	(3)%	(2)%
Europe, Middle East Africa (EMEA)	1,751	27%	1,786	27%	(2)%	(4)%
Asia Pacific (APJ)	947	15%	921	14%	3%	4%
Consolidated revenue	\$ 6,405	100%	\$ 6,516	100%	(2)%	(2)%

In millions	2017	% of Total	2016	% of Total	% Increase (Decrease)	% Increase (Decrease) Adjusted Constant Currency ⁽¹⁾
Americas	\$ 3,809	59%	\$ 3,743	57%	2%	4%
Europe, Middle East Africa (EMEA)	1,786	27%	1,896	29%	(6)%	(4)%
Asia Pacific (APJ)	921	14%	904	14%	2%	3%
Consolidated revenue	\$ 6,516	100%	\$ 6,543	100%	—%	1%

The following table shows our revenue by segment for the years ended December 31:

In millions	2018	% of Total	2017	% of Total	% Increase (Decrease)	% Increase (Decrease) Constant Currency ⁽¹⁾
Banking	\$ 3,183	50%	\$ 3,175	49%	—%	1%
Retail	2,097	32%	2,169	33%	(3)%	(4)%
Hospitality	817	13%	878	13%	(7)%	(7)%
All Other	308	5%	294	5%	5%	4%
Consolidated revenue	\$ 6,405	100%	\$ 6,516	100%	(2)%	(2)%

In millions	2017	% of Total	2016	% of Total	% Increase (Decrease)	% Increase (Decrease) Adjusted Constant Currency ⁽¹⁾
Banking	\$ 3,175	49%	\$ 3,370	52%	(6)%	(5)%
Retail	2,169	33%	2,070	32%	5%	10%
Hospitality	878	13%	800	12%	10%	13%
All Other	294	5%	303	5%	(3)%	(3)%
Consolidated revenue	\$ 6,516	100%	\$ 6,543	100%	—%	1%

⁽¹⁾ The tables above include presentations of period-over-period revenue growth or decline on an adjusted constant currency or constant currency basis. Revenue growth on a constant currency basis is a non-GAAP measure that excludes the effects of foreign currency fluctuations. We calculate this information by translating prior period revenue growth at current period monthly average exchange rates. Revenue growth on an adjusted constant currency basis excludes the effects of foreign currency fluctuations and the impact of the IPS divestiture, and is calculated by translating prior period revenue growth at current period monthly average exchange rates and, for the 2017 comparison, by excluding the prior period results of the divested IPS business for the comparable period after the completion of the sale in May 2016. We believe that examining period-over-period revenue growth or decline excluding foreign currency fluctuations and adjusting for the impact of the IPS divestiture is useful for assessing the underlying performance of our business and provides additional insight into historical and/or future performance, and our management uses revenue growth adjusted for constant currency and the impact of the IPS divestiture to evaluate period-over-period operating performance on a more consistent and comparable basis. These non-GAAP measures should not be considered substitutes for, or superior to, period-over-period revenue growth under GAAP.

The following table provides a reconciliation of region revenue % growth (GAAP) to revenue % growth adjusted constant currency (non-GAAP) for the years ended December 31:

	2018			2017			Revenue % Growth Adjusted Constant Currency (non-GAAP)
	Revenue % Growth (GAAP)	Favorable (unfavorable) FX impact	Revenue % Growth Constant Currency (non-GAAP)	Revenue % Growth (GAAP)	Favorable (unfavorable) FX impact	Divestiture Impact	
Americas	(3)%	(1)%	(2)%	2%	—%	(2)%	4%
EMEA	(2)%	2%	(4)%	(6)%	(1)%	(1)%	(4)%
APJ	3%	(1)%	4%	2%	1%	(2)%	3%
Consolidated revenue	(2)%	—%	(2)%	—%	—%	(1)%	1%

The following table provides a reconciliation of segment revenue % growth (GAAP) to revenue % growth adjusted constant currency (non-GAAP) for the years ended December 31:

	2018			2017			Revenue % Growth Adjusted Constant Currency (non-GAAP)
	Revenue % Growth (GAAP)	Favorable (unfavorable) FX impact	Revenue % Growth Constant Currency (non-GAAP)	Revenue % Growth (GAAP)	Favorable (unfavorable) FX impact	Divestiture Impact	
Banking	—%	(1)%	1%	(6)%	—%	(1)%	(5)%
Retail	(3)%	1%	(4)%	5%	—%	(5)%	10%
Hospitality	(7)%	—%	(7)%	10%	—%	(3)%	13%
All Other	5%	1%	4%	(3)%	—%	—%	(3)%
Consolidated Revenue	(2)%	—%	(2)%	—%	—%	(1)%	1%

2018 compared to 2017 results discussion

Revenue

Revenue decreased 2% in 2018 from 2017 due to declines in Retail and Hospitality partially offset by a slight increase in Banking. Foreign currency fluctuations did not have an impact on the revenue comparison.

Banking revenue increased slightly due to increases in software and services revenue offset by a decrease in Automated Teller Machine (ATM) revenue. Foreign currency fluctuations had an unfavorable impact of 1% on the revenue comparison.

Retail revenue decreased 3% from 2017 driven by declines in self-checkout (SCO) and software license revenue partially offset by growth in services revenue. Foreign currency fluctuations had an favorable impact of 1% on the revenue comparison.

Hospitality revenue decreased 7% primarily due to declines in hardware revenue. Foreign currency fluctuations did not have a impact on the revenue comparison.

Gross Margin

Gross Margin as a percentage of revenue was 26.2% in 2018 compared to 28.5% in 2017. Gross margin for the year ended December 31, 2018 included \$102 million related to restructuring and transformation costs and \$23 million related to amortization of acquisition-related intangible assets. Gross margin for the year ended December 31, 2017 included \$11 million related to restructuring and transformation costs and \$50 million related to amortization of acquisition related intangible assets. Excluding these items, gross margin as a percentage of revenue decreased from 29.4% to 28.1%. Excluding these items, gross margin as a percentage of revenue declined mainly due to increased costs associated with alleviating supply chain constraints which were largely resolved by the end of 2018 as we executed our manufacturing network redesign strategy.

2017 compared to 2016 results discussion

Revenue

Revenue was flat in 2017 from 2016 due to growth in Retail and Hospitality offset by a decline in Banking. Foreign currency fluctuations did not have a significant impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 1%.

Banking revenue declined 6% due to declines in Automated Teller Machine (ATM) revenue partially offset by growth in services revenue. Foreign currency fluctuations did not have an impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 1%.

Retail revenue increased 5% driven by growth in self-checkout (SCO) revenue coupled with an increase in cloud and services revenue. Foreign currency fluctuations did not have an impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 5%.

Hospitality revenue increased 10% primarily driven by growth in both hardware and cloud revenue. Foreign currency fluctuations did not have an impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 3%.

Gross Margin

Gross margin as a percentage of revenue was 28.5% in 2017 compared to 27.8% in 2016. Gross margin for the year ended December 31, 2017 included \$11 million related to restructuring and transformation costs and \$50 million related to amortization of acquisition related intangible assets. Gross margin for the year ended December 31, 2016 included \$4 million related to restructuring and transformation costs and \$58 million related to amortization of acquisition-related intangible assets. Excluding these items, gross margin as a percentage of revenue increased from 28.7% to 29.4% driven by continued focus on productivity and efficiency improvements in our services portfolio in all segments.

Effects of Pension, Postemployment, and Postretirement Benefit Plans

NCR's income from continuing operations for the years ended December 31 was impacted by certain employee benefit plans as reflected in the table below:

In millions	2018	2017	2016
Pension (benefit) expense	\$(31)	\$36	\$103
Postemployment expense	40	24	10
Postretirement (benefit)	(4)	(3)	(11)
Total expense	\$5	\$57	\$102

In 2018, pension benefit was \$31 million compared to pension expense of \$36 million in 2017 and pension expense of \$103 million in 2016. In 2018, pension benefit included actuarial gains of \$45 million compared to actuarial losses of \$28 million in 2017 and \$85 million in 2016. Actuarial gains in 2018 were due to an increase in the discount rates as well as a favorable impact from a mortality update in the United Kingdom. Discount rates in 2017 remained consistent with 2016 and actuarial losses in 2017 were primarily due to a mortality update in the United States. Actuarial losses in 2016 were due to a decrease in the discount rates from the prior year, offset by a higher than expected return on global pension assets.

The components of pension, postemployment and postretirement, other than service cost, are included in other income (expense), net for all periods presented. Service cost is included within the income statement line items within income from operations as other employee compensation costs arising from service rendered during the periods presented.

Selling, General and Administrative Expenses

Selling, general and administrative expenses increased \$82 million to \$1,005 million in 2018 from \$923 million in 2017. As a percentage of revenue, these expenses were 15.7% in 2018 and 14.2% in 2017. In 2018, selling, general and administrative expenses included \$67 million of transformation and restructuring costs, \$62 million of acquisition-related amortization of intangibles and \$6 million of acquisition-related costs. In 2017, selling, general and administrative expenses included \$14 million of transformation and restructuring costs, \$65 million of acquisition-related amortization of intangibles and \$5 million of acquisition-related costs. Excluding these items, selling, general and administrative expenses increased as a percentage of revenue from 12.9% in 2017 to 13.6% in 2018 due to continued investment in the business.

Selling, general, and administrative expenses decreased \$19 million to \$923 million in 2017 from \$904 million in 2016. As a percentage of revenue, these expenses were 14.2% in 2017 and 13.8% in 2016. In 2017, selling, general, and administrative expenses included \$14 million of transformation and restructuring costs, \$65 million of acquisition-related amortization of intangibles and \$5 million of acquisition-related costs. In 2016, selling, general, and administrative expenses included \$7 million of transformation and restructuring costs, \$65 million of amortization of acquisition-related intangible assets and \$7 million of acquisition-related costs. Excluding these items, selling, general and administrative expenses increased as a percentage of revenue from 12.6% in 2016 to 12.9% in 2017 due to increased sales investment as we expanded our strategic offers and go to market strategy.

Research and Development Expenses

Research and development expenses increased \$11 million to \$252 million in 2018 from \$241 million in 2017. As a percentage of revenue, these costs were 3.9% in 2018 and 3.7% in 2017. In 2018, research and development expenses included \$10 million of costs related to our transformation and restructuring costs. In 2017, research and development expenses included \$4 million of transformation costs. After considering this item, research and development expenses increased slightly from 3.6% in 2017 to 3.8% in 2018.

Research and development expenses increased \$16 million to \$241 million in 2017 from \$225 million in 2016. As a percentage of revenue, these costs were 3.7% in 2017 and 3.4% in 2016. In 2017, research and development expenses included \$4 million of transformation costs. After considering this item, research and development expenses increased from 3.4% in 2016 to 3.6% in 2017 driven by planned incremental investments to further advance our software and hardware solutions.

Asset Impairment Charges

In 2018, asset impairment charges were \$227 million which included a \$146 million impairment of goodwill under our previous segment reporting structure which was assigned to the Hardware reporting unit and a \$37 million impairment charge related to long-lived assets held and used in our Hardware operations. Refer to Note 4, "Goodwill and Purchased Intangible Assets" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report for additional discussion. Additionally, in 2018, we recorded \$44 million for the write-off of certain internal and external use software capitalization projects that are no longer considered strategic

based on review by the new management team and as a result, the projects have been abandoned. In 2017 and 2016, there were no significant asset impairment charges recorded.

Restructuring-Related Charges

In 2016, the Company recorded restructuring-related charges of \$15 million related to the restructuring program announced in July 2014. The charges consist of severance and other employee related costs of \$4 million, other exit costs of \$9 million and asset-related charges of \$2 million. This program was completed during 2016 and therefore, no additional charges are included in 2017 and 2018.

Interest Expense

Interest expense was \$168 million in 2018 compared to \$163 million in 2017 and \$170 million in 2016. Interest expense in all years was primarily related to the Company's senior unsecured notes and borrowings under the Company's senior secured credit facility.

Other Income (Expense), net

Other income (expense), net was income of \$16 million in 2018, expense of \$46 million in 2017 and expense of \$125 million in 2016, with the components reflected in the following table:

In millions	2018	2017	2016
Interest income	\$5	\$3	\$4
Foreign currency fluctuations and foreign exchange contracts	(26)	(26)	(40)
Bank-related fees	(8)	(8)	(8)
Employee benefit plan	45	(15)	(75)
Divestiture and liquidation losses	—	—	(6)
Other income (expense), net	\$16	\$(46)	\$(125)

Income Taxes

Our effective tax rate was 187% in 2018, 50% in 2017, and 24% in 2016. During 2018, our tax rate was impacted by lower income before tax as well as our final assessment of the impact as a result of U.S. Tax Reform enacted in December 2017. We filed tax method changes that resulted in lower deferred tax assets subject to the downward rate remeasurement, and we recorded a valuation allowance on deferred tax assets related to foreign tax credits not able to be utilized as a result of U.S. Tax Reform. The net impact of these adjustments was an income tax expense of \$37 million. During 2017, our tax rate was impacted by a \$130 million provisional expense primarily related to the application of the newly enacted 21% corporate income tax rate to our net U.S. deferred income tax assets and the repatriation tax. During 2016, our tax rate was impacted by a less favorable mix of earnings, primarily driven by actuarial pension losses in foreign jurisdictions with a valuation allowance against deferred tax assets.

During the year ended December 31, 2018, the Company identified two out of period adjustments that net to \$2 million of income tax benefit. The first adjustment was due to an error in the calculation of deferred tax liabilities associated with software capitalization resulting in \$13 million of income tax benefit which should have been recorded in the fourth quarter of 2017 when deferred taxes were remeasured in connection with U.S. Tax Reform. The second adjustment was to write-off income tax assets related to expired foreign tax credits resulting in \$11 million of income tax expense which should have been recorded between 2010 through 2017. The Company determined the impact of these errors was not material to the annual or interim financial statements of previous periods and the effect of correcting these errors was not material to 2018 annual financial statements.

During 2018, the Internal Revenue Service (IRS) finalized an examination of our 2011, 2012 and 2013 income tax returns. We also concluded audits in Israel and Korea. While we are subject to numerous federal, state and foreign tax audits, we believe that appropriate reserves exist for issues that might arise from these audits. Should these audits be settled, the resulting tax effect could impact the tax provision and cash flows in future periods. During 2019, the Company expects to resolve certain tax matters related to U.S. and foreign jurisdictions. These resolutions could have a material impact on the effective tax rate in 2019.

We regularly review our deferred tax assets for recoverability and establish a valuation allowance if it is more likely than not that some portion or all of a deferred tax asset will not be realized. The determination as to whether a deferred tax asset will be realized is made

on a jurisdictional basis and is based on the evaluation of positive and negative evidence. This evidence includes historical taxable income/loss, projected future taxable income, the expected timing of the reversal of existing temporary differences and the implementation of tax planning strategies. Given current earnings and anticipated future earnings at certain subsidiaries, the Company believes that there is a reasonable possibility sufficient positive evidence may become available that would allow the release of a valuation allowance within the next twelve months.

Loss from Discontinued Operations

In 2018, loss from discontinued operations was \$52 million, net of tax, primarily related to updates in estimates and assumptions for the Fox River reserve, a ruling on the Kalamazoo environmental matter as well as audit settlements partially related to Teradata.

In 2017, loss from discontinued operations was \$5 million, net of tax, primarily related to updates in estimates and assumptions for the Fox River reserve partially offset by insurance recoveries received during the year.

In 2016, loss from discontinued operations was \$13 million, net of tax, primarily related to updates in estimates and accruals for litigation expenses related to the Fox River reserve.

Revenue and Operating Income by Segment

The Company manages and reports the following segments:

- **Banking** - We offer solutions to enable customers in the financial services industry to reduce costs, generate new revenue streams and enhance customer loyalty. These solutions include a comprehensive line of ATM and payment processing hardware and software; cash management and video banking software and customer-facing digital banking services; and related installation, maintenance, and managed and professional services.
- **Retail** - We offer solutions to customers in the retail industry designed to improve selling productivity and checkout processes as well as increase service levels. These solutions primarily include retail-oriented technologies, such as point of sale terminals and point of sale software; a retail software platform with a comprehensive suite of retail software applications; innovative self-service kiosks, such as self-checkout; as well as bar-code scanners. We also offer installation, maintenance, managed and professional services as well as payment processing solutions.
- **Hospitality** - We offer technology solutions to customers in the hospitality industry, serving businesses that range from a single store or restaurant to global chains and sports and entertainment venues. Our solutions include point of sale hardware and software solutions, installation, maintenance, managed and professional services as well as payment processing solutions.
- **Other** - This category includes telecommunications and technology solutions where we offer maintenance as well as managed and professional services for third-party hardware provided to select manufacturers who value and leverage our global service capability.

Each of these segments derives its revenue by selling in the sales theaters in which NCR operates. Segments are measured for profitability by the Company's chief operating decision maker based on revenue and segment operating income. For purposes of discussing our operating results by segment, we exclude the impact of certain non-operational items from segment operating income, consistent with the manner by which management reviews each segment, evaluates performance, and reports our segment results under GAAP. This format is useful to investors because it allows analysis and comparability of operating trends. It also includes the same information that is used by NCR management to make decisions regarding the segments and to assess our financial performance. Our segment results are reconciled to total Company results reported under GAAP in Note 13, "Segment Information and Concentrations" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report.

In the segment discussions below, we have disclosed the impact of foreign currency fluctuations and the IPS divestiture as it relates to our segment revenue due to their significance.

Banking Segment

The following table presents the Banking revenue and segment operating income for the years ended December 31:

In millions	2018	2017	2016
Revenue	\$3,183	\$3,175	\$3,370
Operating income	\$412	\$421	\$441
Operating income as a percentage of revenue	12.9%	13.3%	13.1%

Banking revenue increased slightly in 2018 compared to 2017 driven by an increase in hardware maintenance and cloud revenue offset by a decline in ATM revenue of 3%. While there were supply chain constraints throughout the year due to increased demand for our new ATM product family, by the end of the year, we largely resolved supply chain constraints and our overall plan to improve ATM manufacturing operations were progressing with strong production levels exiting the year. Foreign currency fluctuations had an unfavorable impact of 1% on the revenue comparison.

Banking revenue decreased 6% in 2017 compared to 2016 driven by declines in ATM revenue of 17% partially offset by growth in services revenue. ATM revenue decreased mainly due to delays in customer spending in North America as well as declines in the Middle East and Africa. Foreign currency fluctuations had a no impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 1%.

Operating income decreased in 2018 compared to 2017 primarily driven by a decrease in ATM volume and the impact of increased costs associated with alleviating supply chain constraints partially offset by a favorable impact from services productivity initiatives and higher cloud revenue. Operating income decreased in 2017 compared to 2016 primarily driven by lower revenue partially offset by services productivity initiatives and higher cloud revenue.

Retail Segment

The following table presents the Retail revenue and segment operating income for the years ended December 31:

In millions	2018	2017	2016
Revenue	\$2,097	\$2,169	\$2,070
Operating income	\$142	\$231	\$191
Operating income as a percentage of revenue	6.8%	10.7%	9.2%

Retail revenue decreased 3% in 2018 compared to 2017 primarily driven by a decline in self check-out revenues of 15% and software license revenue partially offset by growth in services revenue. Self-checkout revenue decreased due to the timing of customer roll-outs in the current year partially offset by increases in cloud and services revenue. Foreign currency fluctuations had a favorable impact of 1% in the year-over-year comparison.

Retail revenue increased 5% in 2017 compared to 2016 primarily driven by growth in self check-out revenues of 16% coupled with increases in cloud and services revenues. Self-checkout revenue increased due to store transformation trends. Foreign currency fluctuations had no impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 5%.

Operating income decreased in 2018 compared to 2017 primarily due to lower revenue as well as the impact of increased costs associated with alleviating supply chain constraints. Operating income increased in 2017 compared to 2016 primarily driven by higher revenue as well as continued focus on productivity and efficiency improvements.

Hospitality Segment

The following table presents the Hospitality revenue and segment operating income for the years ended December 31:

In millions	2018	2017	2016
Revenue	\$817	\$878	\$800
Operating (loss) income	\$85	\$140	\$151
Operating (loss) income as a percentage of revenue	10.4%	15.9%	18.9%

Hospitality revenues decreased by 7% in 2018 compared to 2017 driven by a decrease in hardware revenue due to several large customer roll-outs in the prior year and lower software license revenue offset by an increase in cloud and services revenue. Foreign currency fluctuations had no impact on the revenue comparison.

Hospitality revenues increased by 10% in 2017 compared to 2016 driven by growth in hardware revenue due to several large customer roll-outs as well as an increase in cloud revenue. The increase in hardware revenue was mainly driven by North America. Foreign currency fluctuations had no impact on the revenue comparison and the IPS divestiture unfavorably impacted the revenue comparison by 3%.

Operating income decreased in 2018 compared to 2017 driven by lower revenue and the impact of increased cost associated with improving the supply chain constraints. Operating income decreased in 2017 compared to 2016 driven by new product introductions and an unfavorable mix of revenue.

Other

The following table shows the Other revenue and operating income for the years ended December 31:

In millions	2018	2017	2016
Revenue	\$308	\$294	\$303
Operating (loss) income	\$49	\$48	\$47
Operating (loss) income as a percentage of revenue	15.9%	16.3%	15.5%

Other revenues increased by 5% in 2018 compared to 2017 driven by a increase in hardware revenue as well as growth in services revenue. Foreign currency fluctuations had a favorable impact of 1% on the revenue comparison.

Other revenues decreased by 3% in 2017 compared to 2016 driven by declines in hardware revenues. Foreign currency fluctuations had no impact on the revenue comparison.

Operating income increased slightly in 2018 compared to 2017 driven by an increase in revenue partially offset by a unfavorable product mix. Operating income increased slightly in 2017 compared to 2016 driven by an improved product mix.

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES

In the year ended December 31, 2018, cash provided by operating activities was \$572 million and in the year ended December 31, 2017 cash provided by operating activities was \$752 million. The decrease was due to lower earnings and lower working capital.

NCR's management uses a non-GAAP measure called "free cash flow" to assess the financial performance of the Company. We define free cash flow as net cash provided by (used in) operating activities and cash provided by (used in) discontinued operations, less capital expenditures for property, plant and equipment, less additions to capitalized software plus discretionary pension contributions and settlements. Free cash flow does not have a uniform definition under GAAP, and therefore NCR's definition of this measure may differ from that of other companies. We believe free cash flow information is useful for investors because it relates the operating cash flows from the Company's continuing and discontinued operations to the capital that is spent and to improve business operations. In particular, free cash flow indicates the amount of cash available after capital expenditures for, among other things, investments in the Company's existing businesses, strategic acquisitions and investments, repurchase of NCR stock and repayment of debt obligations. Free cash flow does not represent the residual cash flow available for discretionary expenditures, since there may be other non-discretionary expenditures that are not deducted from the measure. This non-GAAP measure should not be considered a substitute for, or superior to, cash flows from operating activities under GAAP. The table below reconciles net cash provided by (used in) operating activities, the most directly comparable GAAP measure, to NCR's non-GAAP measure of free cash flow for the years ended December 31:

In millions	2018	2017	2016
Net cash provided by operating activities	\$572	\$752	\$896
Capital expenditures for property, plant and equipment	(143)	(128)	(73)
Additions to capitalized software	(170)	(166)	(154)
Net cash used in discontinued operations	(36)	(8)	(39)
Pension discretionary contributions and settlements	—	—	—
Free cash flow (non-GAAP)	\$223	\$450	\$630

In 2018, net cash provided by operating activities decreased \$180 million, and net cash used in discontinued operations increased \$28 million, which contributed to a net decrease in free cash flow of \$227 million in comparison to 2017. Additionally, capital expenditures for property, plant and equipment increased \$15 million primarily due to expenditures related to the new global headquarters in Atlanta

Georgia. Additions to capitalized software increased \$4 million due to continued investment in software solution enhancements. The net cash used in discontinued operations in 2018 increased \$28 million in comparison to 2017 primarily due to increased remediation spend associated with the Fox River environmental matters in 2018.

In 2017, net cash provided by operating activities decreased \$144 million, and net cash used in discontinued operations decreased \$31 million, which contributed to a net decrease in free cash flow of \$180 million in comparison to 2016. Additionally, capital expenditures for property, plant and equipment increased \$55 million primarily due to expenditures related to the new global headquarters in Atlanta Georgia. Expenditures related to the new global headquarters were approximately \$60 million offset by approximately \$44 million of reimbursements by the lessor which was included in net cash provided by operating activities. Additions to capitalized software increased \$12 million due to continued investment in software solution enhancements. The net cash used in discontinued operations in 2017 was lower than 2016 primarily due to decreased litigation payments associated with the Fox River and Kalamazoo environmental matters as well as insurance settlements received in 2017.

Financing activities and certain other investing activities are not included in our calculation of free cash flow. Our other investing activities primarily include business acquisitions, divestitures and investments as well as proceeds from the sales of property, plant and equipment.

Our financing activities primarily include proceeds from the issuance of preferred stock, employee stock plans, borrowings on term credit facilities and the issuance of unsecured notes, as well as payments made for share repurchases, repayments of term credit facilities and tax withholding on behalf of employees. During the years ended December 31, 2018, 2017, and 2016, we repurchased a total of \$210 million, \$350 million and \$250 million, respectively, of our common stock. During the years ended December 31, 2018, 2017 and 2016, proceeds from employee stock plans was \$20 million, \$15 million and \$15 million, respectively. During the years ended December 31, 2018, 2017 and 2016, payments made for tax withholding on behalf of employees totaled \$36 million, \$31 million and \$16 million, respectively.

Long Term Borrowings As of December 31, 2018, our senior secured credit facility consisted of a term loan facility with an aggregate principal amount outstanding of \$759 million, and a revolving credit facility in an aggregate principal amount of \$1.10 billion, of which \$120 million was outstanding. Additionally, the revolving credit facility has up to \$400 million available to certain foreign subsidiaries. Loans under the revolving credit facility are available in U.S. Dollars, Euros and Pound Sterling. The revolving credit facility also allows a portion of the availability to be used for outstanding letters of credit, and as of December 31, 2018, there were no letters of credit outstanding. As of December 31, 2017, the outstanding principal balance of the term loan facility was \$810 million and no amounts were outstanding under the revolving credit facility.

As of December 31, 2018 and 2017, we had outstanding \$700 million in aggregate principal balance of 6.375% senior unsecured notes due 2023, \$600 million in aggregate principal balance of 5.00% senior unsecured notes due 2022, \$500 million in aggregate principal balance of 4.625% senior unsecured notes due 2021 and \$400 million in aggregate principal balance of 5.875% senior unsecured notes due 2021.

Our revolving trade receivables securitization facility provides the Company with up to \$200 million in funding based on the availability of eligible receivables and other customary factors and conditions. As of December 31, 2018 and December 31, 2017, the Company had \$100 million and zero, respectively, outstanding under the facility.

See Note 6, "Debt Obligations" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report for further information on the senior secured credit facility, the senior unsecured notes and the trade receivables securitization facility.

Employee Benefit Plans We expect to make pension, postemployment and postretirement plan contributions of approximately \$60 million in 2019. See Note 9, "Employee Benefit Plans" of the Notes to the Consolidated Financial Statements included in Item 8 of Part II of this Report for additional discussion on our pension, postemployment and postretirement plans.

Transformation and Restructuring Initiatives Our previously announced transformation and restructuring initiatives continue to progress on track. In Services, our performance and profit improvement program continues to deliver revenue growth and margin expansion. In Hardware, we are continuing the move to a more variable cost structure by reducing the number of manufacturing plants and ramping up production with contract manufacturers. Additionally, we have announced a spend optimization program to drive cost savings through operational efficiencies to generate at least \$100 million of savings in 2019. This initiative will create efficiencies in our corporate functions, reduce spend in the non-strategic areas and limit discretionary spending. In 2019, for all initiatives, we expect to incur a pre-tax charge of \$60 million and a cash impact of \$70 million to \$80 million.

Series A Convertible Preferred Stock On December 4, 2015, NCR issued 820,000 shares of Series A Convertible Preferred Stock to certain entities affiliated with the Blackstone Group L.P. (collectively, Blackstone) for an aggregate purchase price of \$820 million, or \$1,000 per share, pursuant to an Investment Agreement between the Company and Blackstone, dated November 11, 2015. In connection with the issuance of the Series A Convertible Preferred Stock, the Company incurred direct and incremental expenses of \$26 million. These direct and incremental expenses reduced the Series A Convertible Preferred Stock, and will be accreted through retained earnings as a deemed dividend from the date of issuance through the first possible known redemption date, March 16, 2024. Holders of Series A Convertible Preferred Stock are entitled to a cumulative dividend at the rate of 5.5% per annum, payable quarterly in arrears and payable in-kind for the first sixteen dividend payments, after which, beginning in the first quarter of 2020, dividends will be payable in cash or in-kind at the option of the Company. During the year ended December 31, 2018 and 2017, the Company paid dividends-in-kind of \$46 million and \$45 million respectively, associated with the Series A Convertible Preferred Stock. As of December 31, 2018 and 2017, the Company had accrued dividends of \$3 million and \$3 million, respectively. There were no cash dividends declared in the years ended December 31, 2018 and 2017.

The Series A Convertible Preferred Stock is convertible at the option of the holders at any time into shares of common stock at a conversion price of \$30.00 per share and a conversion rate of 33.333 shares of common stock per share of Series A Convertible Preferred Stock. As of December 31, 2018 and 2017, the maximum number of common shares that could be required to be issued if converted was 29.0 million and 27.5 million shares, respectively, which would represent approximately 20% and 18% of our outstanding common stock as of December 31, 2018 and 2017 including the preferred shares on an as-converted basis.

Under the Investment Agreement, Blackstone agreed not to sell or otherwise transfer its shares of Series A Convertible Preferred Stock (or any shares of common stock issued upon conversion thereof) without the Company's consent until June 4, 2017. In March 2017, we provided Blackstone with an early release from this lock-up, allowing Blackstone to sell approximately 49% of its shares of Series A Convertible Preferred Stock, and in return, Blackstone agreed to amend the Investment Agreement to extend the lock-up on the remaining 51% of its shares of Series A Convertible Preferred Stock for six months until December 1, 2017.

In connection with the early release of the lock-up, Blackstone offered for sale 342,000 shares of Series A Convertible Preferred Stock in an underwritten public offering. In addition, Blackstone converted 90,000 shares of Series A Convertible Preferred Stock into shares of our common stock and we repurchased those shares of common stock for \$48.47 per share. The underwritten offering and the stock repurchase were consummated on March 17, 2017.

Cash and Cash Equivalents Held by Foreign Subsidiaries Cash and cash equivalents held by the Company's foreign subsidiaries were \$443 million and \$442 million at December 31, 2018 and 2017, respectively. As a result of U.S. Tax Reform, including the repatriation tax, in general we will not be subject to additional U.S. taxes if cash and cash equivalents and short-term investments held outside the U.S. are distributed to the U.S. in the form of dividends or otherwise. However, we may be subject to foreign withholding taxes, which could be significant.

Summary As of December 31, 2018, our cash and cash equivalents totaled \$464 million and our total debt was \$3.18 billion. Our borrowing capacity under our senior secured credit facility was \$980 million and under our trade receivables securitization facility was \$100 million at December 31, 2018. Our ability to generate positive cash flows from operations is dependent on general economic conditions, and the competitive environment in our industry, and is subject to the business and other risk factors described in Item 1A of Part I of this Report. If we are unable to generate sufficient cash flows from operations, or otherwise comply with the terms of our credit facilities, we may be required to seek additional financing alternatives.

We believe that we have sufficient liquidity based on our current cash position, cash flows from operations and existing financing to meet our expected pension, postemployment and postretirement plan contributions, remediation payments related to the Fox River environmental matter, debt servicing obligations, payments related to transformation initiatives, and our operating requirements for the next twelve months.

Contractual Obligations In the normal course of business, we enter into various contractual obligations that impact, or could impact, the liquidity of our operations. The following table and discussion outlines our material obligations as of December 31, 2018 on an undiscounted basis, with projected cash payments in the years shown:

In millions	Total Amounts	2019	2020-2021	2022-2023	2024 & Thereafter	All Other
Debt obligations	\$ 3,183	\$ 85	\$ 1,795	\$ 1,300	\$ 3	\$ —
Interest on debt obligations	563	163	275	123	2	—
Estimated environmental liability payments	21	20	1	—	—	—
Lease obligations	778	128	176	114	360	—
Purchase obligations	1,042	1,042	—	—	—	—
Uncertain tax positions	91	—	—	—	—	91
Total obligations	\$ 5,678	\$ 1,438	\$ 2,247	\$ 1,537	\$ 365	\$ 91

As of December 31, 2018, we had short and long-term debt totaling \$3.17 billion, which includes debt issuance costs as a direct reduction from the carrying amount of debt.

For purposes of this table, we used interest rates as of December 31, 2018 to estimate the future interest on debt obligations outstanding as of December 31, 2018 and have assumed no voluntary prepayments of existing debt. See Note 6, "Debt Obligations" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report for additional disclosure related to our debt obligations and the related interest rate terms.

The estimated environmental liability payments included in the table of contractual obligations shown above are related to the Fox River environmental matter. The amounts shown are our expected payments, net of the payment obligations of co-obligors; the amounts do not include an estimate for payments to be received from insurers or indemnification parties. Additionally, the amounts above do not include an estimate for payments related to the Kalamazoo environmental matter. For additional information, refer to Note 10, "Commitments and Contingencies" included in Item 8 of Part II of this Report.

Our lease obligations are primarily for future rental amounts for our world headquarters in Atlanta, Georgia as well as for certain sales and manufacturing facilities in various domestic and international locations and leases related to equipment and vehicles.

Purchase obligations represent committed purchase orders and other contractual commitments for goods or services. The purchase obligation amounts were determined through information in our procurement systems and payment schedules for significant contracts. Included in the amounts are committed payments in relation to the long-term service agreement with Accenture under which NCR's transaction processing activities and functions are performed.

We have a \$91 million liability related to our uncertain tax positions. Due to the nature of the underlying liabilities and the extended time often needed to resolve income tax uncertainties, we cannot make reliable estimates of the amount or timing of cash payments that may be required to settle these liabilities. For additional information, refer to Note 7, "Income Taxes" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report.

Our U.S. and international employee benefit plans, which are described in Note 9, "Employee Benefit Plans" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report, could require significant future cash payments. We expect mandatory contributions to our U.S. pension plan could be required beginning in 2021 based on current funding requirements and assuming the Company does not complete any actions, including, but not limited to, a pre-fund or de-risking action. The funded status of NCR's U.S. pension plan is an underfunded position of \$494 million as of December 31, 2018 compared to an underfunded position of \$506 million as of December 31, 2017. Our international retirement plans were in an underfunded status of \$139 million as of December 31, 2018, as compared to an underfunded status of \$187 million as of December 31, 2017. The decrease in our underfunded position is primarily attributable to an increase in discount rates as well as a favorable impact from a mortality update in the United Kingdom. Contributions to international pension plans are expected to be approximately \$28 million in 2019.

We also have product warranties that may affect future cash flows. These items are not included in the table of obligations shown above, but are described in detail in Note 10, "Commitments and Contingencies" of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Report.

Our senior secured credit facility and the indentures for our senior unsecured notes include affirmative and negative covenants that restrict or limit our ability to, among other things, incur indebtedness; create liens on assets; engage in certain fundamental corporate changes or changes to our business activities; make investments; sell or otherwise dispose of assets; engage in sale-leaseback or hedging transactions; pay dividends or make similar distributions; repay other indebtedness; engage in certain affiliate transactions; or enter

into agreements that restrict our ability to create liens, pay dividends or make loan repayments. Our senior secured credit facility also includes financial covenants that require us to maintain:

- a consolidated leverage ratio on the last day of any fiscal quarter, not to exceed (i) in the case of any fiscal quarter ending on or prior to December 31, 2017, (a) the sum of 4.25 and an amount (not to exceed 0.50) to reflect debt used to reduce NCR's unfunded pension liabilities to (b) 1.00, (ii) in the case of any fiscal quarter ending after December 31, 2017 and on or prior to December 31, 2019, (a) the sum of 4.00 and an amount (not to exceed 0.50) to reflect debt used to reduce NCR's unfunded pension liabilities to (b) 1.00, and (iii) in the case of any fiscal quarter ending after December 31, 2019, the sum of (a) 3.75 and an amount (not to exceed 0.50) to reflect debt used to reduce NCR's unfunded pension liabilities to (b) 1.00; and
- an interest coverage ratio on the last day of any fiscal quarter greater than or equal to 3.50 to 1.00.

At December 31, 2018, the maximum consolidated leverage ratio under the senior secured credit facility was 4.10 to 1.00.

Off-Balance Sheet Arrangements We have no significant contractual obligations not fully recorded on our Consolidated Balance Sheets or fully disclosed in the notes to our consolidated financial statements. We have no material off-balance sheet arrangements as defined by SEC Regulation S-K Item 303 (a) (4) (ii).

See Note 10, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for additional information on guarantees associated with our business activities.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our consolidated financial statements are prepared in accordance with GAAP. In connection with the preparation of these financial statements, we are required to make assumptions, estimates and judgments that affect the reported amounts of assets, liabilities, revenue, expenses and the related disclosure of contingent liabilities. These assumptions, estimates and judgments are based on historical experience and are believed to be reasonable at the time. However, because future events and their effects cannot be determined with certainty, the determination of estimates requires the exercise of judgment. Our critical accounting policies are those that require assumptions to be made about matters that are highly uncertain. Different estimates could have a material impact on our financial results. Judgments and uncertainties affecting the application of these policies and estimates may result in materially different amounts being reported under different conditions or circumstances. Our management continually reviews these assumptions, estimates and judgments to ensure that our financial statements are presented fairly and are materially correct.

In many cases, the accounting treatment of a particular transaction is specifically dictated by GAAP and does not require significant management judgment in its application. There are also areas in which management's judgment in selecting among available alternatives would not produce a materially different result. The significant accounting policies and estimates that we believe are the most critical to aid in fully understanding and evaluating our reported financial results are discussed in the paragraphs below. Our senior management has reviewed these critical accounting policies and related disclosures with our independent registered public accounting firm and the Audit Committee of our Board of Directors. See Note 1, "Basis of Presentation and Significant Accounting Policies" of the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, which contains additional information regarding our accounting policies and other disclosures required by GAAP.

Revenue Recognition NCR frequently enters contracts that include multiple performance obligations, including hardware, software, professional consulting services, installation services and maintenance support services. The Company records revenue when, or as, performance obligations are satisfied by transferring control of a promised good or service to the customer. The Company evaluates the transfer of control primarily from the customer's perspective where the customer has the ability to direct the use of and obtain substantially all of the remaining benefits from that good or service. The Company does not adjust the transaction price for taxes collected from customers, as those amounts are netted against amounts remitted to government authorities.

If a contract has multiple performance obligations, the Company allocates the transaction price, at contract inception, to each performance obligation on a relative standalone selling price basis. The primary method used to estimate standalone selling price is the price that the Company charges for that good or service when the Company sells it separately in similar circumstances to similar customers.

We recognize two different types of revenue - product and service revenue. Our product revenue includes hardware and software which is generally recognized at a point in time, once all conditions for revenue recognition have been met. For hardware products, control is generally transferred when the customer has the ability to direct the use of and obtain substantially all of the remaining benefits of the products, which generally coincides with when the customer has assumed risk of loss of the goods sold. For software products, control is generally transferred when the customer takes possession of, or has complete access to, the software. In certain instances, customer acceptance is required prior to the passage of title and risk of loss of the delivered products. In such cases, revenue is not

recognized until the customer acceptance is obtained. Delivery, acceptance, and transfer of title and risk of loss generally occur in the same reporting period. NCR's customers may request that delivery and passage of title and risk of loss occur on a bill and hold basis.

Our services revenue includes software as a service (SaaS), professional consulting, installation and maintenance support. SaaS primarily consists of fees to provide our customers access to our platform and cloud-based applications. Revenue from SaaS contracts is recognized as variable consideration directly allocated based on customer usage or on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Professional consulting primarily consists of software implementation, integration, customization and optimization services. Revenue from professional consulting contracts that involve significant production, modification or customization of the software is recognized over time as the services are performed. Revenue from professional consulting contracts that does not involve significant production, modification or customization of the software is recognized when the services are completed or customer acceptance of the service is received, if required. For installation and maintenance, control is transferred as the services are provided or ratably over the service period, or, if applicable, after customer acceptance of the service. We apply the 'as invoiced' practical expedient, for performance obligations satisfied over time, if the amount we may invoice corresponds directly with the value to the customer of the Company's performance to date. This expedient permits us to recognize revenue in the amount we invoice the customer.

The nature of our arrangements gives rise to several types of variable consideration including service level agreement credits, stock rotation rights, trade-in credits and volume-based rebates. At contract inception, we include this variable consideration in our transaction price when there is a basis to reasonably estimate the amount of the fee and it is probable there will not be a significant reversal. These estimates are generally made using the expected value method and a portfolio approach, based on historical experience, anticipated performance and our best judgment at the time. These estimates are reassessed at each reporting date. Because of our confidence in estimating these amounts, they are included in the transaction price of our contracts and the associated remaining performance obligations.

If a contract includes software and services that involve significant production, modification or customization of the software, the services are not distinct from the software. For these contracts, both the software and professional services revenue is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying our performance obligations. Incurred cost represents work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer. Estimated losses, if any, are recognized as soon as such losses become known.

We account for shipping and handling activities related to contracts with customers as costs to fulfill our promise to transfer the associated products, rather than as a separate performance obligation. Accordingly, we record amounts billed for shipping and handling costs as a component of net product sales, and classify such costs as a component of cost of products.

Allowance for Doubtful Accounts We evaluate the collectability of our accounts receivable based on a number of factors. We establish provisions for doubtful accounts using percentages of our accounts receivable balance as an overall proxy to reflect historical average credit losses and also use management judgment that may include elements that are uncertain, including specific provisions for known issues. The percentages are applied to aged accounts receivable balances. Aged accounts are determined based on the number of days the receivable is outstanding, measured from the date of the invoice, or from the date of revenue recognition. As the age of the receivable increases, the provision percentage also increases. This policy is applied consistently among all of our operating segments.

Based on the factors below, we periodically review customer account activity in order to assess the adequacy of the allowances provided for potential losses. Factors include economic conditions and judgments regarding collectability of account balances, each customer's payment history and creditworthiness.

The allowance for doubtful accounts was \$31 million as of December 31, 2018, \$37 million as of December 31, 2017, and \$41 million as of December 31, 2016. These allowances represent, as a percentage of gross receivables, 2.2% in 2018, 2.8% in 2017, and 3.1% in 2016.

Given our experience, the reserves for potential losses are considered adequate, but if one or more of our larger customers were to default on its obligations, we could be exposed to potentially significant losses in excess of the provisions established. We continually evaluate our reserves for doubtful accounts and economic deterioration could lead to the need to increase our allowances.

Inventory Valuation Inventories are stated at the lower of cost or net realizable value, using the average cost method. Each quarter, we reassess raw materials, work-in-process, parts and finished equipment inventory costs to identify purchase or usage variances from standards, and valuation adjustments are made. Additionally, to properly provide for potential exposure due to slow-moving, excess, obsolete or unusable inventory, inventory values are reduced based on forecasted usage, orders, technological obsolescence and inventory aging. These factors are impacted by market conditions, technology changes and changes in strategic direction, and require estimates and management judgment that may include elements that are uncertain. On a quarterly basis, we review the current net realizable value of inventory and adjust for any inventory exposure due to age or excess of cost over net realizable value.

We have inventory in more than 40 countries around the world. We purchase inventory from third party suppliers and manufacture inventory at our plants. This inventory is transferred to our distribution and sales organizations at cost plus a mark-up. This mark-up is referred to as inter-company profit. Each quarter, we review our inventory levels and analyze our inter-company profit to determine the correct amount of inter-company profit to eliminate. Key assumptions are made to estimate product gross margins, the product mix of existing inventory balances and current period shipments. Over time, we refine these estimates as facts and circumstances change. If our estimates require refinement, our results could be impacted. The policies described are applied consistently across all of our operating segments.

Warranty Reserves One of our key objectives is to provide superior quality products and services. To that end, we provide a standard manufacturer's warranty typically extending up to 12 months, allowing our customers to seek repair of products under warranty at no additional cost. A corresponding estimated liability for potential warranty costs is recorded at the time of the sale. We sometimes offer extended warranties in the form of product maintenance services to our customers for purchase. We defer the fair value of this revenue and recognize revenue over the life of the extended warranty period. Refer to Note 10, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for further information regarding our accounting for extended warranties.

Future warranty obligation costs are based upon historical factors such as labor rates, average repair time, travel time, number of service calls per machine and cost of replacement parts. When a sale is consummated, the total customer revenue is recognized and the associated warranty liability is recorded based upon the estimated cost to provide the service over the warranty period.

Total warranty costs were \$42 million in 2018, \$43 million in 2017, and \$42 million in 2016. Warranty costs as a percentage of total product revenue was 1.8% in 2018, 1.7% in 2017, and 1.5% in 2016. Historically, the principal factor used to estimate our warranty costs has been service calls per machine. Significant changes in this factor could result in actual warranty costs differing from accrued estimates. Although no near-term changes in our estimated warranty reserves are currently anticipated, in the unlikely event of a significant increase in warranty claims by one or more of our larger customers, costs to fulfill warranty obligations would be higher than provisioned, thereby impacting results.

Goodwill Goodwill is tested at the reporting unit level for impairment on an annual basis during the fourth quarter or more frequently if certain events occur indicating that the carrying value of goodwill may be impaired. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include a decline in expected cash flows, a significant adverse change in legal factors or in the business climate, a decision to sell a business, unanticipated competition, or slower growth rates, among others.

In the evaluation of goodwill for impairment, we have the option to perform a qualitative assessment to determine whether further impairment testing is necessary or to perform a quantitative assessment by comparing the fair value of a reporting unit to its carrying amount, including goodwill. Under the qualitative assessment, an entity is not required to calculate the fair value of a reporting unit unless the entity determines that it is more likely than not that its fair value is less than its carrying amount. If under the quantitative assessment the fair value of a reporting unit is less than its carrying amount, then the amount of the impairment loss, if any, is determined based on the amount by which the carrying amount exceeds the fair value up to the total value of goodwill assigned to the reporting unit. Fair values of the reporting units are estimated using a weighted methodology considering the output from both the income and market approaches. The income approach incorporates the use of a discounted cash flow (DCF) analysis. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including revenue growth, operating income margin and discount rate. Several of these assumptions vary among reporting units. The cash flow forecasts are generally based on approved strategic operating plans. The market approach is performed using the Guideline Public Companies (GPC) method which is based on earnings multiple data. We perform a reconciliation between our market capitalization and our estimate of the aggregate fair value of the reporting units, including consideration of a control premium.

Under the previous segment reporting model, late in the quarter ended June 30, 2018, we determined there was an indication that the carrying value of the net assets assigned to the Hardware reporting unit may not be recoverable. This determination was based on the lowering of our full year forecast for 2018, driven by reduced revenue and gross margin rates expected for the third and fourth quarters of 2018, and the resulting impact on the current year and future cash flow projections of the Hardware reporting unit. Given the undiscounted cash flows of the asset group, which we determined to be at the reporting unit level, were below the carrying value of the net assets, we recorded an impairment charge for the difference between the fair value and the carrying value of the long-lived assets. The fair value of the long-lived assets was determined based on the nature of the asset through either third party appraisals, replacement cost or discounted cash flow analysis.

As a result, in the three months ended June 30, 2018 the Company recorded impairment charges of \$21 million related to property, plant and equipment held and used in NCR's hardware reporting unit, \$16 million related to purchased intangibles and \$146 million for goodwill assigned to the Hardware reporting unit. These charges were recorded in the line item asset impairment charges in our Consolidated Statement of Operations for the twelve months ended December 31, 2018.

We performed our annual impairment assessment of goodwill during the fourth quarter of 2018, which did not indicate an impairment existed for the Software or Services segments.

Valuation of Long-lived Assets and Amortizable Other Intangible Assets We perform impairment tests for our long-lived assets if an event or circumstance indicates that the carrying amount of our long-lived assets may not be recoverable. In response to changes in industry and market conditions, we may also strategically realign our resources and consider restructuring, disposing of, or otherwise exiting businesses. Such activities could result in impairment of our long-lived assets or other intangible assets. We also are subject to the possibility of impairment of long-lived assets arising in the ordinary course of business. We consider the likelihood of impairment if certain events occur indicating that the carrying value of the long-lived assets may be impaired and we may recognize impairment if the carrying amount of a long-lived asset or intangible asset is not recoverable from its undiscounted cash flows. Impairment is measured as the difference between the carrying amount and the fair value of the asset. We use both the income approach and market approach to estimate fair value. Our estimates of fair value are subject to a high degree of judgment since they include a long-term forecast of future operations. Accordingly, any value ultimately derived from our long-lived assets may differ from our estimate of fair value.

Pension, Postretirement and Postemployment Benefits We sponsor domestic and foreign defined benefit pension and postemployment plans as well as domestic postretirement plans. As a result, we have significant pension, postretirement and postemployment benefit costs, which are developed from actuarial valuations. Actuarial assumptions attempt to anticipate future events and are used in calculating the expense and liability relating to these plans. These factors include assumptions we make about interest rates, expected investment return on plan assets, rate of increase in healthcare costs, total and involuntary turnover rates, and rates of future compensation increases. In addition, our actuarial consultants advise us about subjective factors such as withdrawal rates and mortality rates to use in our valuations. We generally review and update these assumptions on an annual basis at the beginning of each fiscal year. We are required to consider current market conditions, including changes in interest rates, in making these assumptions. The actuarial assumptions that we use may differ materially from actual results due to changing market and economic conditions, higher or lower withdrawal rates, or longer or shorter life spans of participants. These differences may result in a significant impact to the amount of pension, postretirement or postemployment benefits expense we have recorded or may record. Ongoing pension, postemployment and postretirement expense impacts all of our segments. Pension mark-to-market adjustments, settlements, curtailments and special termination benefits are excluded from our segment results as those items are not included in the evaluation of segment performance. See Note 13, "Segment Information and Concentrations," in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for a reconciliation of our segment results to income from operations.

The key assumptions used in developing our 2018 expense were discount rates of 3.2% for our U.S. pension plan and 3.1% for our postretirement plan, and an expected return on assets assumption of 3.1% for our U.S. pension plan in 2018. The U.S. plan represented 62% of the pension obligation and 100% of the postretirement medical plan obligation as of December 31, 2018. Holding all other assumptions constant, a 0.25% change in the discount rate used for the U.S. plan would have increased or decreased 2018 ongoing pension expense by approximately \$3 million and would have had an immaterial impact on 2018 postretirement income. A 0.25% change in the expected rate of return on plan assets assumption for the U.S. pension plan would have increased or decreased 2018 ongoing pension expense by approximately \$3 million. Our expected return on plan assets has historically been and will likely continue to be material to net income. For 2019, we intend to use discount rates of 3.8% and 3.7% in determining the 2019 U.S. pension and postretirement expense, respectively. We intend to use an expected rate of return on assets assumption of 3.6% for the U.S. pension plan.

Effective January 1, 2017, we changed the method used to estimate the service and interest components of net periodic benefit cost for our significant pension plans where yield curves are available. Previously, we estimated such cost components utilizing a single weighted-average discount rate derived from the yield curve used to measure the pension benefit obligation. The new methodology utilizes a full yield curve approach by applying the specific spot rates along the yield curve used in the determination of the pension benefit obligation to their underlying projected cash flows and provides a more precise measurement of service and interest costs by improving the correlation between projected cash flows and their corresponding spot rates. This change does not affect the measurement of our total benefit obligation and is applied prospectively as a change in estimate.

We recognize additional changes in the fair value of plan assets and net actuarial gains or losses of our pension plans upon remeasurement, which occurs at least annually in the fourth quarter of each year. The remaining components of pension expense, primarily net service cost, interest cost, and the expected return on plan assets, are recorded on a quarterly basis as ongoing pension expense. While it is

required that we review our actuarial assumptions each year at the measurement date, we generally do not change them between measurement dates. We use a measurement date of December 31 for all of our plans. Changes in assumptions or asset values may have a significant effect on the annual measurement of expense or income in the fourth quarter.

The most significant assumption used in developing our 2019 postemployment plan expense is the assumed rate of involuntary turnover of 4.3%. The involuntary turnover rate is based on historical trends and projections of involuntary turnover in the future. A 0.25% change in the rate of involuntary turnover would have increased or decreased 2018 expense by approximately \$2 million. The sensitivity of the assumptions described above is specific to each individual plan and not to our pension, postretirement and postemployment plans in the aggregate.

Environmental and Legal Contingencies Each quarter, we review the status of each claim and legal proceeding and assess our potential financial exposure. If the potential loss from any claim or legal proceeding would be material and is considered probable and the amount can be reasonably estimated, we accrue a liability for the estimated loss. To the extent that the amount of such a probable loss is estimable only by reference to a range of equally likely outcomes, and no amount within the range appears to be a better estimate than any other amount, we accrue the amount at the low end of the range. Because of uncertainties related to these matters, the use of estimates, assumptions and judgments, and external factors beyond our control, accruals are based on the best information available at the time. At environmental sites, or portions of environmental sites, where liability is determined to be probable but a remedy has not yet been determined, we accrue for the costs of investigations and studies for the affected areas but not for the costs of remediation. As additional information becomes available, we reassess the potential liability related to our pending claims and litigation and may revise our estimates. Such revisions in the estimates of the potential liabilities could have a material impact on our results of operations and financial position. When insurance carriers or third parties have agreed to pay any amounts related to costs, and we believe that it is probable that we can collect such amounts, those amounts are reflected as receivables in our Consolidated Balance Sheet.

The most significant legal contingencies impacting our Company are the Fox River and Kalamazoo River matters, which are further described in detail in Note 10, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report. NCR has been identified as a potentially responsible party (PRP) at both sites.

As described below and in Note 10, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, while substantial progress has been made in the Fox River clean-up including a consent decree that establishes the general parameters of NCR's liability therefor (the consent decree remained subject to appeal as of December 31, 2018), and while significant litigation activities have taken place with respect to the Kalamazoo River, the extent of our potential liabilities continues to be subject to significant uncertainties described below.

Our net reserves for, respectively, the Fox River matter and the Kalamazoo matter, as of December 31, 2018 were approximately \$17 million and \$47 million, as further discussed in Note 10, "Commitments and Contingencies" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report. The Company regularly re-evaluates the assumptions used in determining the appropriate reserve for the Fox River and Kalamazoo matters as additional information becomes available and, when warranted, makes appropriate adjustments.

Income Taxes We recognize deferred tax assets and liabilities based on the differences between the financial statement carrying amounts and the tax basis of assets and liabilities. The deferred tax assets and liabilities are determined based on the enacted tax rates expected to apply in the periods in which the deferred tax assets or liabilities are anticipated to be settled or realized.

We regularly review our deferred tax assets for recoverability and establish a valuation allowance if it is more likely than not that some portion or all of a deferred tax asset will not be realized. The determination as to whether a deferred tax asset will be realized is made on a jurisdictional basis and is based on the evaluation of positive and negative evidence. This evidence includes historical taxable income, projected future taxable income, the expected timing of the reversal of existing temporary differences and the implementation of tax planning strategies. Projected future taxable income is based on our expected results and assumptions as to the jurisdiction in which the income will be earned. The expected timing of the reversals of existing temporary differences is based on current tax law and our tax methods of accounting. As a result of this determination, we had valuation allowances of \$485 million as of December 31, 2018 and \$415 million as of December 31, 2017, related to certain deferred income tax assets, primarily tax loss carryforwards, in jurisdictions where there is uncertainty as to the ultimate realization of a benefit from those tax assets.

If we are unable to generate sufficient future taxable income, or if there is a material change in the actual effective tax rates or the time period within which the underlying temporary differences become taxable or deductible, or if the tax laws change unfavorably, then we could be required to increase our valuation allowance against our deferred tax assets, resulting in an increase in our effective tax rate.

The Tax Cuts and Jobs Act of 2017 ("U.S. Tax Reform") was enacted in December 2017. The legislation significantly changed the U.S. tax law by, among other things, lowering U.S. corporate income tax rates, implementing a territorial tax system and imposing a one-time tax on deemed repatriated earnings of foreign subsidiaries. The legislation reduced the U.S. corporate income tax rate from 35% to 21%, effective January 1, 2018. The SEC staff issued guidance to address the application of U.S. GAAP in situations when a registrant does not have the necessary information available, prepared, or analyzed (including computations) in reasonable detail to complete the accounting for certain income tax effects of U.S. Tax Reform and allows the registrant to record provisional amounts during a measurement period not to extend beyond one year of the enactment date. The provisional impacts related to the one-time repatriation tax and remeasurement of deferred tax balances were recorded in our consolidated financial statements for the year ended December 31, 2017. We recorded additional impacts related to the remeasurement of deferred tax balances and the establishment of valuation allowances on foreign tax credits during the year ended December 31, 2018. As of December 31, 2018, we have completed our assessment of the impact of U.S. Tax Reform.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon settlement. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

The provision for income taxes may change period-to-period based on non-recurring events, such as the settlement of income tax audits and changes in tax laws, as well as recurring factors including the geographic mix of income before taxes, state and local taxes and the effects of various global income tax strategies. We maintain certain strategic management and operational activities in overseas subsidiaries and our foreign earnings are taxed at rates that are generally lower than in the United States. As of December 31, 2018, we did not provide for U.S. federal income taxes or foreign withholding taxes on approximately \$2.7 billion of undistributed earnings of our foreign subsidiaries as such earnings are expected to be reinvested indefinitely.

Refer to Note 7, "Income Taxes" in the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report for disclosures related to foreign and domestic pretax income, foreign and domestic income tax (benefit) expense and the effect foreign taxes have on our overall effective tax rate.

Stock-based Compensation We measure compensation cost for stock awards at fair value and recognize compensation expense over the service period for which awards are expected to vest. We utilize the Black-Scholes option pricing model to estimate the fair value of options at the date of grant, which requires the input of highly subjective assumptions, including expected volatility and expected holding period. We estimate forfeitures for awards granted which are not expected to vest. The estimation of stock awards that will ultimately vest requires judgment, and to the extent that actual results or updated estimates differ from our current estimates, such amounts will be recorded as a cumulative adjustment in the period in which estimates are revised. We consider many factors when estimating expected forfeitures, including types of awards and historical experience. Actual results and future changes in estimates may differ from our current estimates.

We have performance-based awards that vest only if specific performance conditions are satisfied, typically at the end of a multi-year performance period, and the service requirement is fulfilled. The number of shares that will be earned can vary based on actual performance. No shares will vest if the objectives are not met, and in the event the objectives are exceeded, additional shares will vest up to a maximum amount. The cost of these awards is expensed over the service period based upon management's estimates of achievement against the performance criteria. Because the actual number of shares to be awarded is not known until the end of the performance period, the actual compensation expense related to these awards could differ from our current expectations.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

A discussion of recently issued accounting pronouncements is described in Note 1, "Basis of Presentation and Significant Accounting Policies" of the Notes to Consolidated Financial Statements in Item 8 of Part II of this Report, and we incorporate by reference such discussion in this MD&A.

As described in its Current Report on Form 8-K filed with the Securities and Exchange Commission on August 6, 2019, the Company has updated operating results for all periods covered in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 (as filed with the Securities and Exchange Commission on February 28, 2019), in order to give effect to the change in reportable segments. The Financial Statements that follow recasts the information included in the 2018 Form 10-K in order to reflect the change in reportable segments and should be read in conjunction with the updated management's discussion and analysis included as an exhibit to the Current Report on Form 8-K filed on August 6, 2019.

PART II

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTAL DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of NCR Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of NCR Corporation and its subsidiaries (the "Company") as of December 31, 2018 and December 31, 2017, and the related consolidated statements of operations, comprehensive income, changes in shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, including the related notes and financial statement schedule (not presented herein) listed in the index appearing under Item 15(a)(2) of the Company's 2018 Annual Report on Form 10-K (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Notes 1 and 2 to the consolidated financial statements, the Company changed the manner in which it accounts for revenues from contracts with customers in 2018.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting (not presented herein) appearing under Item 9A of the Company's 2018 Annual Report on Form 10-K. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as

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

As described in Management's Report on Internal Control over Financial Reporting, management has excluded JetPay Corporation from its assessment of internal control over financial reporting as of December 31, 2018 because it was acquired by the Company in a purchase business combination during 2018. We have also excluded JetPay Corporation from our audit of internal control over financial reporting. JetPay Corporation is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent 1% and 0.1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2018.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

Atlanta, Georgia

February 28, 2019, except with respect to our opinion on the consolidated financial statements insofar as it relates to the effects of the change in reportable segments discussed in Note 4 and Note 13, as to which the date is August 5, 2019.

We have served as the Company's auditor since 1993.

NCR Corporation
Consolidated Statements of Operations

For the years ended December 31, (in millions, except per share amounts)	2018	2017	2016
Product revenue	\$ 2,341	\$ 2,579	\$ 2,737
Service revenue	4,064	3,937	3,806
Total revenue	6,405	6,516	6,543
Cost of products	1,988	2,021	2,099
Cost of services	2,742	2,640	2,626
Selling, general and administrative expenses	1,005	923	904
Research and development expenses	252	241	225
Asset impairment charges	227	—	—
Restructuring-related charges	—	—	15
Total operating expenses	6,214	5,825	5,869
Income from operations	191	691	674
Interest expense	(168)	(163)	(170)
Other income (expense), net	16	(46)	(125)
Income (loss) from continuing operations before income taxes	39	482	379
Income tax expense	73	242	92
Income (loss) from continuing operations	(34)	240	287
Loss from discontinued operations, net of tax	(52)	(5)	(13)
Net income (loss)	(86)	235	274
Net income attributable to noncontrolling interests	2	3	4
Net income (loss) attributable to NCR	\$ (88)	\$ 232	\$ 270
Amounts attributable to NCR common stockholders:			
Income (loss) from continuing operations	\$ (36)	\$ 237	\$ 283
Series A convertible preferred stock dividends	(49)	(47)	(49)
Deemed dividend on modification of Series A convertible preferred stock	—	(4)	—
Deemed dividend on Series A convertible preferred stock related to redemption	—	(58)	—
Income (loss) from continuing operations attributable to NCR	(85)	128	234
Loss from discontinued operations, net of tax	(52)	(5)	(13)
Net income (loss) attributable to NCR common stockholders	\$ (137)	\$ 123	\$ 221
Income (loss) per share attributable to NCR common stockholders:			
Income (loss) per common share from continuing operations			
Basic	\$ (0.72)	\$ 1.05	\$ 1.86
Diluted	\$ (0.72)	\$ 1.01	\$ 1.80
Net income (loss) per common share			
Basic	\$ (1.16)	\$ 1.01	\$ 1.76
Diluted	\$ (1.16)	\$ 0.97	\$ 1.71
Weighted average common shares outstanding			
Basic	118.4	121.9	125.6
Diluted (continuing operations)	118.4	127.0	157.4
Diluted (net income)	118.4	127.0	129.2

The accompanying notes are an integral part of the Consolidated Financial Statements.

NCR Corporation
Consolidated Statements of Comprehensive Income

For the years ended December 31 (in millions)	2018	2017	2016
Net income (loss)	\$ (86)	\$ 235	\$ 274
Other comprehensive income (loss):			
Currency translation adjustments			
Currency translation adjustments	(53)	39	(57)
Derivatives			
Unrealized gain (loss) on derivatives	11	(16)	19
Gains on derivatives arising during the period	(7)	(1)	(1)
Less income tax benefit (expense)	(1)	3	(4)
Employee benefit plans			
Prior service benefit	(4)	—	—
Amortization of prior service cost	(9)	(11)	(19)
Net (loss) gain arising during the period	12	(13)	(1)
Amortization of actuarial (loss) gain	—	(2)	(2)
Less income tax benefit (expense)	1	5	5
Other comprehensive income (loss)	(50)	4	(60)
Total comprehensive income (loss)	(136)	239	214
Less comprehensive income attributable to noncontrolling interests:			
Net income	2	3	4
Currency translation adjustments	(2)	(2)	(5)
Amounts attributable to noncontrolling interests	—	1	(1)
Comprehensive income (loss) attributable to NCR common stockholders	\$ (136)	\$ 238	\$ 215

The accompanying notes are an integral part of the Consolidated Financial Statements.

NCR Corporation
Consolidated Balance Sheets

As of December 31 (in millions except per share amounts)	2018	2017
Assets		
Current assets		
Cash and cash equivalents	\$ 464	\$ 537
Accounts receivable, net	1,356	1,270
Inventories	806	780
Other current assets	397	243
Total current assets	3,023	2,830
Property, plant and equipment, net	359	341
Goodwill	2,692	2,741
Intangibles, net	595	578
Prepaid pension cost	140	118
Deferred income taxes	448	460
Other assets	504	586
Total assets	\$ 7,761	\$ 7,654
Liabilities and stockholders' equity		
Current liabilities		
Short-term borrowings	\$ 185	\$ 52
Accounts payable	897	762
Payroll and benefits liabilities	238	219
Deferred service revenue and customer deposits	461	458
Other current liabilities	501	398
Total current liabilities	2,282	1,889
Long-term debt	2,980	2,939
Pension and indemnity plan liabilities	759	798
Postretirement and postemployment benefits liabilities	118	133
Income tax accruals	91	148
Other liabilities	259	200
Total liabilities	6,489	6,107
Commitments and Contingencies (Note 10)		
Redeemable noncontrolling interest	14	15
Series A convertible preferred stock: par value \$0.01 per share, 3.0 shares authorized, 0.9 and 0.8 shares issued and outstanding as of December 31, 2018 and 2017, respectively; redemption amount and liquidation preference of \$871 and \$825 as of December 31, 2018 and 2017, respectively	859	810
Stockholders' equity		
NCR stockholders' equity		
Preferred stock: par value \$0.01 per share, 100.0 shares authorized, no shares issued and outstanding as of December 31, 2018 and 2017, respectively	—	—
Common stock: par value \$0.01 per share, 500.0 shares authorized, 118.7 and 122.0 shares issued and outstanding as of December 31, 2018 and 2017, respectively	1	1
Paid-in capital	34	60
Retained earnings	606	857
Accumulated other comprehensive loss	(246)	(199)
Total NCR stockholders' equity	395	719
Noncontrolling interests in subsidiaries	4	3
Total stockholders' equity	399	722
Total liabilities and stockholders' equity	\$ 7,761	\$ 7,654

The accompanying notes are an integral part of the Consolidated Financial Statements.

NCR Corporation
Consolidated Statements of Cash Flows

For the years ended December 31 (in millions)	2018	2017	2016
Operating activities			
Net income (loss)	\$ (86)	\$ 235	\$ 274
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Loss from discontinued operations	52	5	13
Depreciation and amortization	330	354	344
Stock-based compensation expense	72	77	61
Deferred income taxes	14	173	10
Gain on sale of property, plant and equipment and other assets	(2)	(3)	—
Loss on divestiture	—	—	2
Impairment of long-lived and other assets	239	1	2
Changes in assets and liabilities:			
Receivables	(155)	29	(89)
Inventories	(70)	(68)	(86)
Current payables and accrued expenses	198	(78)	216
Deferred service revenue and customer deposits	(13)	10	88
Employee benefit plans	(60)	(4)	33
Other assets and liabilities	53	21	28
Net cash provided by operating activities	572	752	896
Investing activities			
Expenditures for property, plant and equipment	(143)	(128)	(73)
Proceeds from sales of property, plant and equipment	3	6	—
Additions to capitalized software	(170)	(166)	(154)
Business acquisitions, net	(206)	(8)	—
Proceeds from divestiture	—	3	47
Other investing activities, net	(4)	3	(9)
Net cash used in investing activities	(520)	(290)	(189)
Financing activities			
Short term borrowings, net	(1)	(4)	(8)
Payments on term credit facilities	(51)	(61)	(97)
Payments on revolving credit facilities	(2,233)	(1,940)	(1,431)
Borrowings on revolving credit facilities	2,453	1,940	1,331
Debt issuance costs	—	—	(9)
Repurchases of Company common stock	(210)	(350)	(250)
Tax withholding payments on behalf of employees	(36)	(31)	(16)
Proceeds from employee stock plans	20	15	15
Other financing activities	—	(3)	(2)
Net cash used in financing activities	(58)	(434)	(467)
Cash flows from discontinued operations			
Net cash used in discontinued operations operating activities	(36)	(8)	(39)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(25)	16	(29)
Increase (decrease) in cash, cash equivalents and restricted cash	(67)	36	172
Cash, cash equivalents and restricted cash at beginning of period	543	507	335
Cash, cash equivalents and restricted cash at end of period	\$ 476	\$ 543	\$ 507

in millions

Reconciliation of cash, cash equivalents and restricted cash as shown in the Consolidated Statement of Cash Flows

	2018	2017	2016
Cash and cash equivalents	\$ 464	\$ 537	\$ 498
Restricted cash included in Other assets	12	6	9
Total cash, cash equivalents and restricted cash	\$ 476	\$ 543	\$ 507

Supplemental data

Cash paid during the year for:

Income taxes	\$ 106	\$ 98	\$ 66
Interest	\$ 160	\$ 159	\$ 155

The accompanying notes are an integral part of the Consolidated Financial Statements.

NCR Corporation
Consolidated Statements of Changes in Stockholders' Equity

in millions	NCR Stockholders							Total
	Common Stock		Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Non-Redeemable Noncontrolling Interests in Subsidiaries		
	Shares	Amount						
December 31, 2015	133	\$ 1	\$ —	\$ 869	\$ (150)	\$ 6	\$ 726	
Comprehensive income (loss):								
Net income (loss)	—	—	—	270	—	2	272	
Other comprehensive income (loss)	—	—	—	—	(55)	(2)	(57)	
Total comprehensive income (loss)	—	—	—	270	(55)	—	215	
Employee stock purchase and stock compensation plans	2	—	59	—	—	—	59	
Dividend distribution to minority shareholder	—	—	—	—	—	(2)	(2)	
Repurchase of Company common stock	(10)	—	(27)	(223)	—	—	(250)	
Series A convertible preferred stock dividends	—	—	—	(49)	—	—	(49)	
December 31, 2016	125	1	32	867	(205)	4	699	
Comprehensive income (loss):								
Net income (loss)	—	—	—	232	—	3	235	
Other comprehensive income (loss)	—	—	—	—	6	(2)	4	
Total comprehensive income (loss)	—	—	—	232	6	1	239	
Cumulative effect of a change in accounting principle related to employee share-based payments	—	—	—	39	—	—	39	
Employee stock purchase and stock compensation plans	1	—	61	—	—	—	61	
Dividend distribution to minority shareholder	—	—	—	—	—	(2)	(2)	
Repurchase of Company common stock	(7)	—	(178)	(172)	—	—	(350)	
Series A convertible preferred stock dividends	—	—	—	(47)	—	—	(47)	
Deemed dividend on modification of Series A Convertible Preferred Stock	—	—	—	(4)	—	—	(4)	
Deemed dividend on redemption of Series A Convertible Preferred Stock	—	—	58	(58)	—	—	—	
Redemption of Series A Convertible Preferred Stock	3	—	87	—	—	—	87	
December 31, 2017	122	1	60	857	(199)	3	722	
Comprehensive income (loss):								
Net income (loss)	—	—	—	(88)	—	1	(87)	
Other comprehensive income (loss)	—	—	—	—	(48)	—	(48)	
Total comprehensive income (loss)	—	—	—	(88)	(48)	1	(135)	
Cumulative effects of adoption of new accounting standards	—	—	—	14	1	—	15	
Employee stock purchase and stock compensation plans	2	—	56	—	—	—	56	
Repurchase of Company common stock	(6)	—	(82)	(128)	—	—	(210)	
Series A convertible preferred stock dividends	—	—	—	(49)	—	—	(49)	
December 31, 2018	118	\$ 1	\$ 34	\$ 606	\$ (246)	\$ 4	\$ 399	

The accompanying notes are an integral part of the Consolidated Financial Statements.

NCR Corporation
Notes to Consolidated Financial Statements

1. BASIS OF PRESENTATION AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business NCR is a leading software- and services-led enterprise provider in the financial, retail, hospitality and telecommunications and technology industries, with business in 180 countries. NCR offers a range of solutions that help businesses of all sizes compete in an ever-evolving landscape of physical and digital consumers by providing software, advisory and consulting services, hardware, support and managed services that run businesses end to end. Our portfolio includes, but is not limited to, digital first offerings for banking, restaurants and retailers as well as payments, multi-vendor connected device services, automated teller machines (ATMs), point of sale (POS) terminals and self-service technologies. We also resell third-party networking products and provide related service offerings in the telecommunications and technology sectors. Our solutions create value for our customers by increasing productivity and allowing them to address consumer demand for convenience, value and individual service across different commerce channels using a digital first approach.

Effective January 1, 2019, NCR changed the management of its business to an industry basis from the previous model of management on a solution basis, which resulted in a corresponding change to NCR's reportable segments. We have reclassified prior period segment disclosures to conform to the current period presentation. See Note 13, "Segment Information and Concentrations" for additional information.

Use of Estimates The preparation of financial statements in accordance with generally accepted accounting principles in the United States (U.S. GAAP) requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and revenue and expenses during the periods reported. Actual results could differ from those estimates.

Subsequent Events The Company evaluated subsequent events through the date that our Consolidated Financial Statements were issued. No matters were identified that required adjustment of the Consolidated Financial Statements or additional disclosure.

Basis of Consolidation The consolidated financial statements include the accounts of NCR and its majority-owned subsidiaries. Long-term investments in affiliated companies in which NCR owns between 20% and 50%, and therefore, exercises significant influence, but which it does not control, are accounted for using the equity method. Investments in which NCR does not exercise significant influence (generally, when NCR has an investment of less than 20% and no significant influence, such as representation on the investee's board of directors) are accounted for using the cost method. All significant inter-company transactions and accounts have been eliminated. In addition, the Company is required to determine whether it is the primary beneficiary of economic income or losses that may be generated by variable interest entities in which the Company has such an interest. In circumstances where the Company determined it is the primary beneficiary, consolidation of that entity would be required. For the periods presented, no variable interest entities have been consolidated.

Reclassifications Certain prior-period amounts have been reclassified in the accompanying Consolidated Financial Statements and Notes thereto in order to conform to the current period presentation.

Revenue Recognition The Company records revenue, net of sales tax, when the following five steps have been completed:

- Identification of the contract(s) with a customer
- Identification of the performance obligation(s) in the contract
- Determination of the transaction price
- Allocation of the transaction price to the performance obligations in the contract
- Recognition of revenue when, or as, we satisfy performance obligations

The Company records revenue when, or as, performance obligations are satisfied by transferring control of a promised good or service to the customer. The Company evaluates the transfer of control primarily from the customer's perspective where the customer has the ability to direct the use of and obtain substantially all of the remaining benefits from that good or service.

Our product revenue includes hardware and software which is generally recognized at a point in time, once all conditions for revenue recognition have been met. For hardware products, control is generally transferred when the customer has the ability to direct the use of and obtain substantially all of the remaining benefits of the products, which generally coincides with when the customer has assumed risk of loss of the goods sold. For software products, control is generally transferred when the customer takes possession of, or has complete access to, the software. In certain instances, customer acceptance is required prior to the

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

passage of title and risk of loss of the delivered products. In such cases, revenue is not recognized until the customer acceptance is obtained. Delivery, acceptance, and transfer of title and risk of loss generally occur in the same reporting period. NCR's customers may request that delivery and passage of title and risk of loss occur on a bill and hold basis. As of December 31, 2018 and 2017, the revenue recognized from bill and hold transactions approximated 1% of total revenue.

Our services revenue includes software as a service (SaaS), professional consulting, installation and maintenance support. SaaS primarily consists of fees to provide our customers access to our platform and cloud-based applications. Revenue from SaaS contracts is recognized as variable consideration directly allocated based on customer usage or on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Professional consulting primarily consists of software implementation, integration, customization and optimization services. Revenue from professional consulting contracts that involve significant production, modification or customization of the software is recognized over time as the services are performed. Revenue from professional consulting contracts that does not involve significant production, modification or customization of the software is recognized when the services are completed or customer acceptance of the service is received, if required. For installation and maintenance, control is transferred as the services are provided or ratably over the service period, or, if applicable, after customer acceptance of the service. We apply the 'as invoiced' practical expedient, for performance obligations satisfied over time, if the amount we may invoice corresponds directly with the value to the customer of the Company's performance to date. This expedient permits us to recognize revenue in the amount we invoice the customer.

NCR frequently enters contracts that include multiple performance obligations, including hardware, software, professional consulting services, installation services and maintenance support services. For these arrangements, the Company allocates the transaction price, at contract inception, to each performance obligation on a relative standalone selling price basis. The primary method used to estimate standalone selling price is the price that the Company charges for that good or service when the Company sells it separately in similar circumstances to similar customers.

If a contract includes software and services that involve significant production, modification or customization of the software, the services are not distinct from the software. For these contracts, both the software and professional services revenue is recognized over time using costs incurred to date relative to total estimated costs at completion to measure progress toward satisfying our performance obligations. Incurred cost represents work performed, which corresponds with, and thereby best depicts, the transfer of control to the customer. Estimated losses, if any, are recognized as soon as such losses become known.

The nature of our arrangements gives rise to several types of variable consideration including service level agreement credits, stock rotation rights, trade-in credits and volume-based rebates. At contract inception, we include this variable consideration in our transaction price when there is a basis to reasonably estimate the amount of the fee and it is probable there will not be a significant reversal. These estimates are generally made using the expected value method and a portfolio approach, based on historical experience, anticipated performance and our best judgment at the time. These estimates are reassessed at each reporting date. Because of our confidence in estimating these amounts, they are included in the transaction price of our contracts and the associated remaining performance obligations.

As a practical expedient, we do not adjust the promised amount of consideration for the effects of a significant financing component when we expect, at contract inception, that the period between our transfer of a promised product or service to a customer and when the customer pays for that product or service will be one year or less. Payment terms with our customers are established based on industry and regional practices and generally do not exceed 30 days. We do not typically include extended payment terms in our contracts with customers.

The Company also does not adjust the transaction price for taxes collected from customers, as those amounts are netted against amounts remitted to government authorities.

We account for shipping and handling activities related to contracts with customers as costs to fulfill our promise to transfer the associated products, rather than as a separate performance obligation. Accordingly, we record amounts billed for shipping and handling costs as a component of net product sales, and classify such costs as a component of cost of products.

In addition to the standard product warranty, the Company periodically offers extended warranties to its customers in the form of product maintenance services. For contracts that are not separately priced but include product maintenance, the Company defers revenue at an amount based on the selling price, using objective and reliable evidence, and recognizes the deferred revenue over the service term. For separately priced product maintenance contracts, NCR defers the stated amount of the separately priced contract and recognizes the deferred revenue ratably over the service term.

Remaining Performance Obligations Remaining performance obligations represent the transaction price of orders for which

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

products have not been delivered or services have not been performed. As of December 31, 2018, the aggregate amount of the transaction price allocated to remaining performance obligations was approximately \$3.2 billion. The Company expects to recognize revenue on approximately three-quarters of the remaining performance obligations over the next 12 months, with the remainder recognized thereafter. The majority of our professional services are expected to be recognized over the next 12 months but this is contingent upon a number of factors, including customers' needs and schedules.

The Company has made two elections which affect the value of remaining performance obligations described above. We do not disclose remaining performance obligations for SaaS contracts where variable consideration is directly allocated based on usage or when the original expected length is one year or less.

Warranty and Sales Returns Provisions for product warranties and sales returns and allowances are recorded in the period in which NCR becomes obligated to honor the related right, which generally is the period in which the related product revenue is recognized. The Company accrues warranty reserves based upon historical factors such as labor rates, average repair time, travel time, number of service calls per machine and cost of replacement parts. When a sale is consummated, a warranty reserve is recorded based upon the estimated cost to provide the service over the warranty period. The Company accrues sales returns and allowances using percentages of revenue to reflect the Company's historical average of sales return claims.

Research and Development Costs Research and development costs primarily include payroll and benefit-related costs, contractor fees, facilities costs, infrastructure costs, and administrative expenses directly related to research and development support and are expensed as incurred, except certain software development costs are capitalized after technological feasibility of the software is established.

Advertising Advertising costs are recognized in selling, general and administrative expenses when incurred.

Stock Compensation Stock-based compensation represents the costs related to share-based awards granted to employees and non-employee directors. The Company's outstanding stock-based compensation awards are classified as equity. The Company measures stock-based compensation cost at the grant date, based on the estimated fair value of the award and recognizes the cost over the requisite service period. See Note 7, "Stock Compensation Plans" for further information on NCR's stock-based compensation plans.

Income Taxes Income tax expense is provided based on income before income taxes. Deferred income taxes reflect the impact of temporary differences between assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes. These deferred taxes are determined based on the enacted tax rates expected to apply in the periods in which the deferred assets or liabilities are expected to be settled or realized. NCR records valuation allowances related to its deferred income tax assets when it is more likely than not that some portion or all of the deferred income tax assets will not be realized.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being sustained upon examination by authorities. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law and until such time that the related tax benefits are recognized.

On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act of 2017 ("U.S. Tax Reform") that instituted fundamental changes to the taxation of multinational corporations. See Note 7, "Income Taxes" for additional information on the Company's assessment and related impacts.

Earnings Per Share Basic earnings per share (EPS) is calculated by dividing net income, less any dividends, accretion or decrution, redemption or induced conversion on our Series A Convertible Preferred Stock, by the weighted average number of shares outstanding during the reported period.

In computing diluted EPS, we adjust the numerator used in the basic EPS computation, subject to anti-dilution requirements, to add back the dividends (declared or cumulative undeclared) applicable to the Series A Convertible Preferred Stock. Such add-back would also include any adjustments to equity in the period to accrete the Series A Convertible Preferred Stock to its redemption price, or recorded upon a redemption or induced conversion. We adjust the denominator used in the basic EPS computation, subject to anti-dilution requirements, to include the dilution from potential shares resulting from the issuance of the Series A Convertible Preferred Stock, restricted stock units, and stock options.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

The holders of Series A Convertible Preferred Stock and unvested restricted stock units do not have nonforfeitable rights to common stock dividends or common stock dividend equivalents. Accordingly, the Series A Convertible Preferred Stock and unvested restricted stock units do not qualify as participating securities. See Note 8, "Stock Compensation Plans" for share information on NCR's stock compensation plans.

The components of basic earnings (loss) per share are as follows:

In millions, except per share amounts	Year ended December 31		
	2018	2017	2016
Income (loss) from continuing operations	\$ (36)	\$ 237	\$ 283
Series A convertible preferred stock dividends	(49)	(47)	(49)
Deemed dividend on modification of Series A Convertible Preferred Stock	—	(4)	—
Deemed dividend on Series A Convertible Preferred Stock redemption	—	(58)	—
Net income (loss) from continuing operations attributable to NCR common stockholders	(85)	128	234
Loss from discontinued operations, net of tax	(52)	(5)	(13)
Net income (loss) attributable to NCR common stockholders	\$ (137)	\$ 123	\$ 221
Denominator			
Basic weighted average number of shares outstanding	118.4	121.9	125.6
Basic earnings (loss) per share:			
From continuing operations	\$ (0.72)	\$ 1.05	\$ 1.86
From discontinued operations	(0.44)	(0.04)	(0.10)
Total basic earnings (loss) per share	\$ (1.16)	\$ 1.01	\$ 1.76

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

The components of diluted earnings (loss) per share are as follows:

In millions, except per share amounts	Year ended December 31		
	2018	2017	2016
Income (loss) from continuing operations	\$ (36)	\$ 237	\$ 283
Series A convertible preferred stock dividends	(49)	(47)	—
Deemed dividend on modification of Series A Convertible Preferred Stock	—	(4)	—
Deemed dividend on Series A Convertible Preferred Stock redemption	—	(58)	—
Net income (loss) from continuing operations attributable to NCR common stockholders	(85)	128	283
Loss from discontinued operations, net of tax	(52)	(5)	(13)
Series A convertible preferred stock dividends	—	—	(49)
Net income (loss) attributable to NCR common stockholders	\$ (137)	\$ 123	\$ 221
Basic weighted average number of shares outstanding	118.4	121.9	125.6
Dilutive effect of as-if Series A Convertible Preferred Stock	—	—	28.2
Dilutive effect of employee stock options and restricted stock units	—	5.1	3.6
Denominator - from continuing operations	118.4	127.0	157.4
Basic weighted average number of shares outstanding	118.4	121.9	125.6
Dilutive effect of employee stock options and restricted stock units	—	5.1	3.6
Denominator - total	118.4	127.0	129.2
Diluted earnings (loss) per share:			
From continuing operations	\$ (0.72)	\$ 1.01	\$ 1.80
From discontinued operations	(0.44)	(0.04)	(0.10)
Total diluted earnings (loss) per share	\$ (1.16)	\$ 0.97	\$ 1.71

For 2018, diluted earnings (loss) per share from continuing operations and total diluted earnings (loss) per share, it is more dilutive to assume the Series A Convertible Preferred Stock is not converted to common stock and therefore weighted average outstanding shares of common stock are not adjusted by the as-if converted Series A Convertible Preferred Stock shown above because the effect would be anti-dilutive. If the as-if converted Series A Convertible Preferred Stock had been dilutive, approximately 28.3 million additional shares would have been included in the diluted weighted average number of shares outstanding for the year ended December 31, 2018. For 2018, there were 6.5 million weighted anti-dilutive restricted stock units outstanding.

For 2017, diluted earnings (loss) per share from continuing operations and total diluted earnings (loss) per share, it is more dilutive to assume the Series A Convertible Preferred Stock is not converted to common stock and therefore weighted average outstanding shares of common stock are not adjusted by the as-if converted Series A Convertible Preferred Stock shown above because the effect would be anti-dilutive. If the as-if converted Series A Convertible Preferred Stock had been dilutive, approximately 27.4 million additional shares, considering the existing and redeemed shares, would have been included in the diluted weighted average number of shares outstanding for the year ended December 31, 2017. For 2017, there were 0.8 million weighted anti-dilutive restricted stock units outstanding.

For 2016, diluted earnings (loss) per share from continuing operations, it is more dilutive to assume the Series A Convertible Preferred Stock is converted to common stock and therefore weighted average outstanding shares of common stock are adjusted by the as-if converted Series A Convertible Preferred Stock. For 2016, total diluted earnings (loss) per share, it is more dilutive to assume the Series A Convertible Preferred Stock is not converted to common stock and therefore weighted average outstanding shares of common stock are not adjusted by the as-if converted Series A Convertible Preferred Stock shown above because the effect would be anti-dilutive. Therefore, total diluted earnings (loss) per share less diluted earnings (loss) per share from continuing

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

operations does not equal diluted earnings (loss) per share from discontinued operations. For 2016, there were 0.4 million weighted anti-dilutive restricted stock units outstanding.

Cash and Cash Equivalents All short-term, highly liquid investments having original maturities of three months or less, including time deposits, are considered to be cash equivalents.

Accounts Receivable, net Accounts receivable, net includes amounts billed and currently due from customers as well as amounts unbilled which typically result from sales under contracts where revenue recognized exceeds the amount billed to the customer and where the Company has an unconditional right to consideration. The amounts due are stated at their net estimated realizable value. NCR establishes provisions for doubtful accounts using percentages of accounts receivable balances to reflect historical average credit losses and specific provisions for known issues, such as risks of default.

Allowance for Doubtful Accounts NCR establishes provisions for doubtful accounts using percentages of accounts receivable balances to reflect historical average credit losses and specific provisions for known issues.

Inventories Inventories are stated at the lower of cost or net realizable value, using the average cost method. Cost includes materials, labor and manufacturing overhead related to the purchase and production of inventories. Service parts are included in inventories and include reworkable and non-reworkable service parts. The Company regularly reviews inventory quantities on hand, future purchase commitments with suppliers and the estimated utility of inventory. If the review indicates a reduction in utility below carrying value, inventory is reduced to a new cost basis. Excess and obsolete write-offs are established based on forecasted usage, orders, technological obsolescence and inventory aging.

Contract Assets and Liabilities Contract assets include unbilled amounts where right to payment is not solely subject to the passage of time. Amounts may not exceed their net realizable value. Contract liabilities consist of advance payments, billings in excess of revenue recognized and deferred revenue.

Our contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. If the net position is a contract asset, the current portion is included in other current assets and the non-current portion is included in other assets in the Consolidated Balance Sheet. If the net position is a contract liability, the current portion is included in contract liabilities and the non-current portion is included in other liabilities in the Consolidated Balance Sheet.

The following table presents the net contract asset and contract liability balances as of December 31, 2018 and January 1, 2018:

In millions	Location in the Consolidated Balance Sheet	December 31, 2018	January 1, 2018
Current portion of contract assets	Other current assets	\$ 22	\$ 28
Current portion of contract liabilities	Contract liabilities	\$ 461	\$ 458
Non-current portion of contract liabilities	Other liabilities	\$ 85	\$ 95

During the twelve months ended December 31, 2018, the Company recognized \$355 million in revenue that was included in contract liabilities as of January 1, 2018.

Deferred Commissions Our incremental costs of obtaining a contract, which consist of certain sales commissions, primarily for our SaaS revenue, are deferred and amortized on a straight-line basis over the period of expected benefit. We determined the period of expected benefit by taking into consideration customer contracts, the estimated life of the customer relationship, including renewals when the renewal commission is not commensurate with the initial commission, the expected life of the underlying technology and other factors. We classify deferred commissions as current or non-current based on the timing of when we expect to recognize the expense. The current and non-current portions of deferred commissions are included in other current assets and other assets, respectively, in the Consolidated Balance Sheet as of December 31, 2018. Amortization of deferred commissions is included in selling, general and administrative expenses in the Consolidated Statements of Operations for the year ended December 31, 2018.

Set-up Fees and Costs Fees for the design, configuration, implementation and installation related to the software applications that are provided as a service are recognized over the contract term, which is generally 5 years. The related costs incurred that are determined to be incremental and recoverable contract-specific costs are deferred and amortized over the period of benefit, which is generally 7 years.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Settlement Processing Assets and Obligations Funds settlement refers to the process of transferring funds for sales and credits between card issuers and merchants. Depending on the type of transaction, either the credit card interchange system or the debit network is used to transfer the information and funds between the sponsoring bank and card issuing bank to complete the link between merchants and card issuers. In certain of our processing arrangements, merchant funding primarily occurs after the sponsoring bank receives the funds from the card issuer through the card networks, creating a net settlement obligation on the Company's Consolidated Balance Sheet. In a limited number of other arrangements, the sponsoring bank funds the merchants before it receives the net settlement funds from the card networks, creating a net settlement asset on the Company's Consolidated Balance Sheet. Additionally, certain of the Company's sponsoring banks collect the gross revenue from the merchants, pay the interchange fees and assessments to the credit card associations, collect their fees for processing and pay the Company a net residual payment representing the Company's fees for the services. In these instances, the Company does not reflect the related settlement processing assets and obligations in its Consolidated Balance Sheet.

Settlement processing assets consist primarily of our portion of settlement assets due from customers and receivables from merchants for the portion of the discount fee related to reimbursement of the interchange expense, our receivable from the processing bank for transactions we have funded merchants in advance of receipt of card association funding, merchant reserves held, sponsoring bank reserves and exception items, such as customer chargeback amounts receivable from merchants. Settlement processing obligations consist primarily of merchant reserves, our liability to the processing bank for transactions for which we have received funding from the members but have not funded merchants and exception items. Settlement processing assets are recorded within other current assets and settlement processing liabilities are recorded within other current liabilities in the Consolidated Balance Sheet. As of December 31, 2018, settlement processing assets were \$30 million and settlement processing liabilities were \$28 million. Settlement receivables are generally collected within four business days. Settlement obligations are generally paid within three business days, regardless of when the related settlement receivables are collected.

Capitalized Software Certain direct development costs associated with internal-use software are capitalized within other assets and amortized over the estimated useful lives of the resulting software. NCR typically amortizes capitalized internal-use software on a straight-line basis over four to seven years beginning when the asset is substantially ready for use, as this is considered to approximate the usage pattern of the software. When it becomes probable that internal-use software being developed will not be completed or placed into service, the internal-use software is reported at the lower of the carrying amount or fair value.

Costs incurred for the development of software that will be sold, leased or otherwise marketed are capitalized when technological feasibility has been established. These costs are included within other assets and are amortized on a sum-of-the-years' digits or straight-line basis over the estimated useful lives ranging from three to five years, using the method that most closely approximates the sales pattern of the software. Amortization begins when the product is available for general release. Costs capitalized include direct labor and related overhead costs. Costs incurred prior to technological feasibility or after general release are expensed as incurred. NCR performs periodic reviews to ensure that unamortized program costs remain recoverable from future revenue. If future revenue does not support the unamortized program costs, the amount by which the unamortized capitalized cost of a software product exceeds the net realizable value is written off.

The following table identifies the activity relating to total capitalized software:

In millions	2018	2017	2016
Beginning balance as of January 1	\$ 366	\$ 345	\$ 311
Capitalization	170	166	154
Amortization	(160)	(145)	(118)
Impairment	(51)	—	(2)
Ending balance as of December 31	<u>\$ 325</u>	<u>\$ 366</u>	<u>\$ 345</u>

During the year ended December 31, 2018, we recorded the write-off of certain internal and external use software capitalization projects that are no longer considered strategic based on review by the new management team and as a result, the projects have been abandoned.

Goodwill and Other Intangible Assets Goodwill represents the excess of purchase price over the fair value of the net tangible and identifiable intangible assets of businesses acquired. Goodwill is tested at the reporting unit level for impairment on an annual basis during the fourth quarter or more frequently if certain events occur indicating that the carrying value of goodwill may be impaired. A significant amount of judgment is involved in determining if an indicator of impairment has occurred. Such indicators

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

may include a decline in expected cash flows, a significant adverse change in legal factors or in the business climate, a decision to sell a business, unanticipated competition, or slower growth rates, among others. During the second quarter of 2018, under our previous reporting segment structure, we determined there was an indication that the carrying value of the net assets assigned to the Hardware reporting unit may not be recoverable and completed an impairment assessment of goodwill. As a result of the assessment, we recorded an impairment charge for the full value of the goodwill assigned to the Hardware reporting unit. Refer to Note 4, "Goodwill and Purchased Intangible Assets" for further discussion. Additionally, in connection with the change in reportable segments, effective January 1, 2019, the Company determined its reporting units and then assigned goodwill to the new reporting units based on the relative fair value allocation approach. Based on this analysis, it was determined that the fair value of all reporting units were substantially in excess of the carrying value.

In the evaluation of goodwill for impairment, we have the option to perform a qualitative assessment to determine whether further impairment testing is necessary or to perform a quantitative assessment by comparing the fair value of a reporting unit to its carrying amount, including goodwill. Under the qualitative assessment, an entity is not required to calculate the fair value of a reporting unit unless the entity determines that it is more likely than not that its fair value is less than its carrying amount. If under the quantitative assessment the fair value of a reporting unit is less than its carrying amount, then the amount of the impairment loss, if any, is determined based on the amount by which the carrying amount exceeds the fair value up to the total value of goodwill assigned to the reporting unit. Fair values of the reporting units are estimated using a weighted methodology considering the output from both the income and market approaches. The income approach incorporates the use of discounted cash flow (DCF) analysis. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including revenue growth, operating income margin and discount rate. Several of these assumptions vary among reporting units. The cash flow forecasts are generally based on approved strategic operating plans. The market approach is performed using the Guideline Public Companies (GPC) method which is based on earnings multiple data. We perform a reconciliation between our market capitalization and our estimate of the aggregate fair value of the reporting units, including consideration of a control premium. During the fourth quarter of each year presented, we performed our annual impairment assessment of goodwill which did not indicate that an impairment existed. Refer to Note 4, "Goodwill and Purchased Intangible Assets" for further discussion.

Acquired intangible assets other than goodwill are amortized over their weighted average amortization period unless they are determined to be indefinite. Acquired intangible assets are carried at cost, less accumulated amortization. For intangible assets purchased in a business combination, the estimated fair values of the assets received are used to establish the carrying value. The fair value of acquired intangible assets is determined using common techniques, and the Company employs assumptions developed using the perspective of a market participant.

Property, Plant and Equipment Property, plant and equipment and leasehold improvements are stated at cost less accumulated depreciation. Depreciation is computed over the estimated useful lives of the related assets primarily on a straight-line basis. Machinery and other equipment are depreciated over 3 to 20 years and buildings over 25 to 45 years. Leasehold improvements are depreciated over the life of the lease or the asset, whichever is shorter. Assets classified as held for sale are not depreciated. Upon retirement or disposition of property, plant and equipment, the related cost and accumulated depreciation or amortization are removed from the Company's accounts, and a gain or loss is recorded. Depreciation expense related to property, plant and equipment was \$81 million, \$86 million, and \$90 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Valuation of Long-Lived Assets Long-lived assets such as property, plant and equipment and finite-lived intangible assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable or in the period in which the held for sale criteria are met. For assets held and used, this analysis consists of comparing the asset's carrying value to the expected future cash flows to be generated from the asset on an undiscounted basis. If the carrying amount of the asset is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows, or external appraisals, as applicable. Long-lived assets are reviewed for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified. Refer to Note 4, "Goodwill and Purchased Intangible Assets" for further discussion.

Pension, Postretirement and Postemployment Benefits NCR has significant pension, postretirement and postemployment benefit costs, which are developed from actuarial valuations. Actuarial assumptions are established to anticipate future events and are used in calculating the expense and liabilities relating to these plans. These factors include assumptions the Company makes about interest rates, expected investment return on plan assets, rate of increase in healthcare costs, total and involuntary turnover rates, and rates of future compensation increases. In addition, NCR also uses subjective factors, such as withdrawal rates and mortality rates to develop the Company's valuations. NCR generally reviews and updates these assumptions on an annual basis. NCR is required to consider current market conditions, including changes in interest rates, in making these assumptions. The actuarial assumptions that NCR uses may differ materially from actual results due to changing market and economic conditions, higher or lower withdrawal rates, or longer or shorter life spans of participants. These differences may result in a significant impact to the

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

amount of pension, postretirement or postemployment benefits expense, and the related assets and liabilities, the Company has recorded or may record.

Environmental and Legal Contingencies In the normal course of business, NCR is subject to various proceedings, lawsuits, claims and other matters, including, for example, those that relate to the environment and health and safety, labor and employment, employee benefits, import/export compliance, intellectual property, data privacy and security, product liability, commercial disputes and regulatory compliance, among others. Additionally, NCR is subject to diverse and complex laws, regulations, and standards including those relating to corporate governance, public disclosure and reporting, environmental safety and the discharge of materials into the environment, product safety, import and export compliance, data privacy and security, antitrust and competition, government contracting, anti-corruption, and labor and human resources, which are rapidly changing and subject to many possible changes in the future. Compliance with these laws and regulations, including changes in accounting standards, taxation requirements, and federal securities laws among others, may create a substantial burden on, and substantially increase the costs to NCR or could have an impact on NCR's future operating results. NCR believes that the amounts provided in its Consolidated Financial Statements are adequate in light of the probable and estimable liabilities. However, there can be no assurances that the actual amounts required to satisfy alleged liabilities from various lawsuits, claims, legal proceedings and other matters, including the Fox River and Kalamazoo River environmental matters discussed in Note 10, "Commitments and Contingencies" and to comply with applicable laws and regulations, will not exceed the amounts reflected in NCR's Consolidated Financial Statements or will not have a material adverse effect on the Company's consolidated results of operations, financial condition or cash flows. Any costs that may be incurred in excess of those amounts provided as of December 31, 2018 cannot currently be reasonably determined or are not currently considered probable.

Legal fees and expenses related to loss contingencies are typically expensed as incurred, except for certain costs associated with NCR's environmental remediation obligations. Costs and fees associated with litigating the extent and type of required remedial actions and the allocation of remediation costs among potentially responsible parties are typically included in the measurement of the environmental remediation liabilities.

Leases The Company accounts for material escalation clauses, free or reduced rents and landlord incentives contained in operating type leases on a straight-line basis over the lease term, including any reasonably assured lease renewals. For leasehold improvements that are funded by the landlord, the Company records the incentive as deferred rent. The deferred rent is then amortized as reductions to lease expense over the lease term. For capital leases where NCR is the lessee, we record an amortizable debt and a related fixed asset in the Consolidated Balance Sheet.

Foreign Currency For many NCR international operations, the local currency is designated as the functional currency. Accordingly, assets and liabilities are translated into U.S. Dollars at year-end exchange rates, and revenue and expenses are translated at average exchange rates prevailing during the year. Currency translation adjustments from local functional currency countries resulting from fluctuations in exchange rates are recorded in other comprehensive income. Where the U.S. Dollar is the functional currency, remeasurement adjustments are recorded in other (expense), net.

Derivative Instruments In the normal course of business, NCR enters into various financial instruments, including derivative financial instruments. The Company accounts for derivatives as either assets or liabilities in the Consolidated Balance Sheets at fair value and recognizes the resulting gains or losses as adjustments to earnings or other comprehensive income. For derivative instruments that are designated and qualify as hedging instruments, the Company formally documents the relationship between hedging instruments and hedged items, as well as the risk management objective and strategy for undertaking various hedge transactions. Hedging activities are transacted only with highly rated institutions, reducing exposure to credit risk in the event of nonperformance. Additionally, the Company completes assessments related to the risk of counterparty nonperformance on a regular basis.

The accounting for changes in fair value of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship, and further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, the Company has designated the hedging instrument, based on the exposure being hedged, as a fair value hedge, a cash flow hedge or a hedge of a net investment in a foreign operation. For derivative instruments designated as fair value hedges, the effective portion of the hedge is recorded as an offset to the change in the fair value of the hedged item, and the ineffective portion of the hedge, if any, is recorded in the Consolidated Statement of Operations. For derivative instruments designated as cash flow hedges and determined to be highly effective, the gains or losses are deferred in other comprehensive income and recognized in the determination of income as adjustments of carrying amounts when the underlying hedged transaction is realized, canceled or otherwise terminated. When hedging certain foreign currency transactions of a long-term investment nature (net investments in foreign operations) gains and losses are recorded in the currency translation adjustment component of accumulated other comprehensive loss. Gains and losses on foreign exchange contracts that are not used to hedge currency

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Notes to Consolidated Financial Statements-(Continued)

transactions of a long-term investment nature, or that are not designated as cash flow or fair value hedges, are recognized in other (expense), net as exchange rates change.

Fair Value of Assets and Liabilities Fair value is defined as an exit price, representing an amount that would be received to sell an asset or the amount paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the guidance prioritizes the inputs used to measure fair value into the following three-tier fair value hierarchy:

- Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities
- Level 2: Unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active or inputs, other than quoted prices in active markets, that are observable either directly or indirectly
- Level 3: Unobservable inputs for which there is little or no market data

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. The Company reviews the fair value hierarchy classification on a quarterly basis. Changes to the observability of valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy.

NCR measures its financial assets and financial liabilities at fair value based on one or more of the following three valuation techniques:

- Market approach: Prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.
- Cost approach: Amount that would be required to replace the service capacity of an asset (replacement cost).
- Income approach: Techniques to convert future amounts to a single present amount based upon market expectations (including present value techniques, option pricing and excess earnings models).

We regularly review our investments to determine whether a decline in fair value, if any, below the cost basis is other than temporary. If the decline in the fair value is determined to be other than temporary, the cost basis of the security is written down to fair value and the amount of the write-down is included in the Consolidated Statement of Operations. For qualifying investments in debt or equity securities, a temporary impairment charge would be recognized in other comprehensive income (loss).

Redeemable Noncontrolling Interests and Related Party Transactions In 2011, we sold a 49% voting equity interest in NCR Brasil - Indústria de Equipamentos para Automação S.A., a subsidiary of the Company (NCR Manaus) to Scopus Tecnologia Ltda. (Scopus). Under our investment agreements with Scopus, Scopus may elect to sell its shares in NCR Manaus at the then-current fair value to a third party that is not a competitor of NCR. If Scopus is unable to locate a buyer, Scopus may require NCR to purchase its noncontrolling interest for its then-current fair value.

We recognized \$59 million, \$79 million and \$82 million in revenue related to Banco Bradesco SA (Bradesco), the parent of Scopus, for the years ended December 31, 2018, 2017 and 2016, respectively, and we had \$15 million and \$18 million in receivables outstanding from Bradesco as of December 31, 2018 and 2017, respectively.

Recent Accounting Pronouncements

Issued

In February 2016, the Financial Accounting Standards Board (FASB) issued a new leasing standard that supersedes prior guidance related to accounting for leases. The guidance is intended to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The standard is effective for the first interim period within annual periods beginning after December 15, 2018, with early adoption permitted. The standard is required to be adopted using the modified retrospective approach and NCR plans to apply the provisions of the new leasing standard at the effective date rather than at the beginning of the earliest period presented under the transition method provided. The standard also includes options to elect a number of practical expedients. We plan to elect the package of practical expedients to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs, as well as the practical expedient to not reassess certain land easements. We do not plan to elect the practical expedient to

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Notes to Consolidated Financial Statements-(Continued)

use hindsight when determining the lease term. The standard also provides a practical expedient that permits lessees to make an accounting policy election by class of underlying asset to account for each separate lease component of a contract and its associated non-lease components as a single lease component. Where we are the lessee, we plan to make an accounting policy election on and after the effective date to combine the lease and non-lease components as a single component for the majority of our classes of underlying assets. We purchased and are currently in the advanced stages of user acceptance testing of our new lease accounting software. The software is not yet fully operational. We are also in the process of making appropriate changes to our business processes, systems and controls to support the new standard, and we are continuing to evaluate the impact of the standard on our consolidated financial statements and related disclosures. At this time the Company cannot estimate the quantitative impact of adopting the new standard, but it is expected to have a material effect to the total assets and total liabilities reported on the consolidated balance sheet, and is not expected to have a material effect to the consolidated statement of operations or the consolidated statement of cash flows.

In August 2018, the FASB issued an accounting standard update with new guidance on fair value measurement disclosure requirements which requires the disclosure of additions to and transfers into and out of Level 3 of the fair value hierarchy. The update also requires disclosure about the uncertainty in measurement as of the reporting date. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019 with early adoption permitted. The impact of adopting this guidance is not expected to have a material impact on our consolidated financial statements.

In August 2018, the FASB issued additional guidance for an accounting update that was issued in April 2015 related to accounting for implementation costs incurred in a cloud computing arrangement that is also a service contract. If a cloud computing arrangement also includes an internal-use software, an intangible asset is recognized and a liability is recognized for any payments related to the software license. However, if a cloud computing arrangement does not include a software license, the entity should account for the arrangement as a service contract and any fees associated with the service are expensed as incurred. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019, with early adoption permitted. The impact of adopting this guidance is not expected to have a material impact on our consolidated financial statements.

In October 2018, the FASB issued an accounting standards update for hedge accounting guidance that was issued in August 2017 which we adopted during the first quarter of this year. This guidance allows for the use of a broad Treasury repurchase agreement financing rate which is referred to as the Secured Overnight Financing Rate (SOFR) to be used as an additional benchmark rate for hedge accounting purposes. This guidance is effective for entities that have already adopted the amendments of the hedge accounting guidance referenced above for fiscal years beginning after December 15, 2018 on a prospective basis for qualifying new or re-designated hedging relationships entered into on or after the date of adoption. The adoption of this accounting standard update is not expected to have a material effect on our consolidated financial statements.

Adopted

In May 2014, the FASB issued a new revenue recognition standard that superseded existing revenue recognition guidance. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The standard was effective for the first interim period within annual periods beginning after December 15, 2017, with early adoption permitted for annual periods beginning after December 15, 2016, and can be adopted either retrospectively to each prior reporting period presented (“full retrospective method”) or as a cumulative effect adjustment as of the date of adoption (“modified retrospective method”). Effective January 1, 2018, we adopted the standard using the modified retrospective method applied to contracts that were not complete as of the date of adoption and recorded a cumulative adjustment to increase retained earnings by \$2 million. Adoption of the new standard resulted in changes to our accounting policies for revenue recognition and deferred commissions. Refer to Note 2, "Revenue Recognized Under Previous Guidance", for presentation of what revenue would have been in the current periods had the Company continued to recognize revenue under the previous accounting guidance.

In August 2016, the FASB issued an accounting standards update which provides guidance regarding the classification of certain cash receipts and cash payments on the statement of cash flows, where specific guidance is provided for issues not previously addressed. This guidance is effective for annual reporting periods, including interim reporting within those periods, beginning after December 15, 2017, with early adoption permitted, and is required to be adopted using a retrospective approach. The adoption of this accounting standards update did not have a material effect on the Company's statement of cash flows.

In October 2016, the FASB issued an accounting standards update which requires the recognition of the income tax consequences of an intra-entity transfer of an asset, other than inventory, when the transfer occurs. This standard is effective for interim and annual periods beginning after December 15, 2017. Early adoption is permitted. Effective January 1, 2018, we adopted the

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Notes to Consolidated Financial Statements-(Continued)

standard using the modified retrospective method and recorded a cumulative adjustment to increase retained earnings by \$13 million.

In November 2016, the FASB issued an accounting standards update which clarifies how entities should present restricted cash and restricted cash equivalents in the statement of cash flows. The guidance requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. The accounting standards update is required to be adopted for annual periods beginning after December 15, 2017, including interim periods within that annual period. The amendment is to be applied retrospectively with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's statement of cash flows.

In January 2017, the FASB issued an accounting standards update which clarifies the definition of a business which is used across several areas of accounting. The area expected to see the most change is the evaluation of whether a transaction should be accounted for as an acquisition (or disposal) of assets, or as a business combination. The new guidance clarifies that to be a business there must also be at least one substantive process, and narrows the definition of outputs by more closely aligning it with how outputs are described in the new revenue recognition standard. The accounting standards update is required to be adopted for annual periods beginning after December 15, 2017, including interim periods within that annual period. The amendment is to be applied prospectively with early adoption permitted. The adoption of this standard did not have a material effect on our financial condition, results of operations or disclosures, as the standard applies only to businesses acquired after the adoption date.

In January 2017, the FASB issued an accounting standards update with new guidance intended to simplify the subsequent measurement of goodwill. The standards update eliminates the requirement for an entity to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, an entity will perform its annual, or interim, goodwill impairment testing by comparing the fair value of a reporting unit with its carrying amount and recording an impairment charge for the amount by which the carrying amount exceeds the fair value. The standards update is effective prospectively for annual and interim goodwill impairment testing performed in fiscal years beginning after December 15, 2019, which we early adopted as of January 1, 2018. Refer to Note 4, "Goodwill and Purchased Intangible Assets" for further discussion.

In March 2017, the FASB issued an accounting standards update with new guidance on an employer's presentation of defined benefit retirement costs in the income statement. Employers will present the service cost component of net periodic benefit cost in the same income statement line item(s) as other employee compensation costs arising from services rendered during the period. Only the service cost component will be eligible for capitalization in assets. Employers will present the other components of the net periodic benefit cost separately from the line item(s) that includes the service cost and outside of any subtotal of operating income, if one is presented. These components will not be eligible for capitalization in assets. The guidance is effective for fiscal years beginning after December 15, 2017, and interim periods therein, with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's net income, cash flows or financial condition.

In May 2017, the FASB issued an accounting standards update which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. This update requires modification only if the fair value, vesting conditions or the classification of the award changes as a result of the change in terms or conditions. This guidance is effective for fiscal years beginning after December 15, 2017, and interim periods therein, with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's net income, cash flows or financial condition.

In August 2017, the FASB issued an accounting standards update which simplifies certain aspects of hedge accounting and improves disclosures of hedging arrangements through the elimination of the requirement to separately measure and report hedge ineffectiveness. This update generally requires the entire change in the fair value of a hedging instrument to be presented in the same income statement line as the hedged item in order to align financial reporting of hedge relationships with economic results. Entities must apply the amendments to cash flow and net investment hedge relationships that exist on the date of adoption using a modified retrospective approach. The presentation and disclosure requirements must be applied prospectively. This guidance is effective for fiscal years beginning after December 15, 2018, and interim periods therein, with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's net income, cash flows or financial condition.

In February 2018, the FASB issued an accounting standards update which permits entities to reclassify tax effects stranded in accumulated other comprehensive income as a result of the enactment of the Tax Cuts and Jobs Act (U.S. Tax Reform) to retained earnings. Entities can elect to apply the guidance retrospectively or in the period of adoption. This guidance is effective for fiscal years beginning after December 15, 2018, and interim periods therein, with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's net income, cash flows or financial condition.

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Notes to Consolidated Financial Statements-(Continued)

In March 2018, the FASB issued an accounting standards update which allowed SEC registrants to record provisional amounts in earnings for the year ended December 31, 2017 due to the complexities involved in accounting for the enactment of U.S. Tax Reform. The standard was effective upon issuance. The Company recognized the estimated income tax effects of U.S. Tax Reform in its 2017 Consolidated Financial Statements in accordance with SEC Staff Accounting Bulletin No. 118 (SAB No. 118). Refer to Note 7, "Income Taxes", for further information regarding the assessment of the impact of U.S. Tax Reform in the years ended December 31, 2018 and 2017.

In August 2018, the FASB issued an accounting standards update which require additional disclosures related to the weighted-average interest crediting rates for cash balance plans and an explanation for the reasons for significant gains and losses related to changes in the benefit obligation for the period. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020 on a retrospective basis with early adoption permitted. The adoption of this accounting standards update did not have a material effect on the Company's net income, cash flows or financial condition.

2. REVENUE RECOGNIZED UNDER PREVIOUS GUIDANCE

As noted in Note 1, "Basis of Presentation and Significant Accounting Policies" the Company adopted the new revenue recognition guidance effective January 1, 2018, using the modified retrospective approach. As a result, we recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of retained earnings as of January 1, 2018. Adopting the new standard primarily impacted the deferral of incremental commission costs of obtaining SaaS contracts with customers. Other changes impact the timing of recognition for term-based software license sales and renewals, and estimating variable consideration at contract inception.

The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods. As such, the following table presents the results under the previous guidance:

In millions, except per share amounts	For the year ended December 31, 2018		
	Under Current Guidance	Adjustments	Under Previous Guidance
Consolidated Statement of Operations			
Product revenue	\$ 2,341	\$ (32)	\$ 2,309
Cost of products	1,988	(16)	1,972
Selling, general and administrative expenses	1,005	1	1,006
Total operating expenses	6,214	(15)	6,199
Income (loss) from operations	191	(17)	174
Loss from continuing operations before income taxes	39	(17)	22
Income tax benefit	73	(4)	69
Loss from continuing operations	(34)	(13)	(47)
Net loss	(86)	(13)	(99)
Net loss attributable to NCR	\$ (88)	\$ (13)	\$ (101)
Loss per common share from continuing operations			
Basic	\$ (0.72)	\$ (0.11)	\$ (0.83)
Diluted	\$ (0.72)	\$ (0.11)	\$ (0.83)
Net loss per common share			
Basic	\$ (1.16)	\$ (0.11)	\$ (1.27)
Diluted	\$ (1.16)	\$ (0.11)	\$ (1.27)

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Notes to Consolidated Financial Statements-(Continued)

In millions	As of December 31, 2018		
	Under Current Guidance	Adjustments	Under Previous Guidance
Consolidated Balance Sheet			
Assets			
Accounts receivable, net	\$ 1,356	\$ 22	\$ 1,378
Other current assets	397	(9)	388
Total current assets	3,023	13	3,036
Deferred income taxes	448	5	453
Other assets	504	(14)	490
Total Assets	\$ 7,761	\$ 4	\$ 7,765
Liabilities			
Contract liabilities	\$ 461	\$ 18	\$ 479
Other current liabilities	501	3	504
Total current liabilities	2,282	21	2,303
Total liabilities	6,489	21	6,510
Retained earnings	606	(17)	589
Total NCR stockholders' equity	395	(17)	378
Total stockholders' equity	399	(17)	382
Total liabilities and stockholders' equity	\$ 7,761	\$ 4	\$ 7,765

3. BUSINESS COMBINATIONS AND DIVESTITURES

JetPay Acquisition

On December 6, 2018, NCR completed its acquisition of JetPay Corporation ("JetPay"), for which it purchased (i) all outstanding shares of common stock at a price of \$5.05 per share, (ii) shares of Series A Preferred Stock at \$5.05 per share, (iii) shares of Series A-1 Convertible Preferred Stock at a price of \$600 per share, (iv) shares of Series A-2 Convertible Preferred Stock of JetPay at a price of \$600 per share, and (v) transaction costs paid on behalf of the seller for an aggregate purchase price of \$193 million which was paid in cash. As a result of the acquisition, JetPay became a fully owned subsidiary of NCR.

JetPay is a provider of end-to-end payment processing and human capital management solutions. The acquisition is consistent with NCR's continued transformation to a software- and services- driven business. JetPay complements and extends our existing capabilities by allowing us to monetize transactions via payments.

Recording of Assets Acquired and Liabilities Assumed The fair value of consideration transferred to acquire JetPay was allocated to the identifiable assets acquired and liabilities assumed based upon their estimated fair values as of the date of the acquisition as set forth below. This allocation is open as of December 31, 2018.

The allocation of the purchase price for JetPay is as follows:

In millions	Fair Value
Cash acquired	\$ 4
Tangible assets acquired	76
Acquired intangible assets other than goodwill	109
Acquired goodwill	96
Deferred tax liabilities	(16)
Liabilities assumed	(76)
Total purchase consideration	\$ 193

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Notes to Consolidated Financial Statements-(Continued)

Goodwill represents the future economic benefits arising from other assets acquired that could not be individually separately recognized. The goodwill arising from the acquisition consists of revenue synergies expected from combining the operations of NCR and JetPay. It is expected that none of the goodwill recognized in connection with the acquisition will be deductible for tax purposes. The goodwill arising from the acquisition has been allocated to our Software segment under the previous segment reporting structure and has been allocated to Retail and Hospitality segments under the new segment reporting structure. Refer to Note 4, "Goodwill and Purchased Intangible Assets" for the carrying amounts of goodwill by segment as of December 31, 2018 which have been reclassified to conform to the current period presentation.

The following table sets forth the components of the intangible assets acquired as of the acquisition date:

	Estimated Fair Value	Weighted Average Amortization Period ⁽¹⁾
	(In millions)	(In years)
Direct customer relationships	\$ 69	14
Technology - Software	39	9
Tradenames	1	1
Total acquired intangible assets	<u>\$ 109</u>	

⁽¹⁾ Determination of the weighted average period of the individual categories of intangible assets was based on the nature of applicable intangible asset and the expected future cash flows to be derived from the intangible asset. Amortization of intangible assets with definite lives is recognized over the period of time the assets are expected to contribute to future cash flows.

In connection with the closing of the acquisition, the Company incurred approximately \$4 million of transactions costs, which has been included within selling, general and administrative expenses in the Consolidated Statements of Operations for the year ended December 31, 2018.

Unaudited Pro forma Information The following unaudited pro forma information presents the consolidated results of NCR and JetPay for the years ended December 31, 2017 and 2018. The unaudited pro forma information is presented for illustrative purposes only. It is not necessarily indicative of the results of operations of future periods, or the results of operations that actually would have been realized had the entities been a single company during the periods presented or the results that the combined company will experience after the acquisition. The unaudited pro forma information does not give effect to the potential impact of current financial conditions, regulatory matters or any anticipated synergies, operating efficiencies or cost savings that may be associated with the acquisition. The unaudited pro forma information also does not include any integration costs or remaining future transaction costs that the companies may incur related to the acquisition as part of combining the operations of the companies.

The unaudited pro forma consolidated results of operations, assuming the acquisition had occurred on January 1, 2017, are as follows:

In millions	2018	2017
Revenue	\$ 6,468	\$ 6,592
Net income attributable to NCR	\$ (46)	\$ 217

The unaudited pro forma results for the year ended December 31, 2018 include:

- \$4 million, net of tax, in additional amortization expense for acquired intangible assets;
- \$4 million, net of tax, in eliminated transaction costs as if those costs were incurred in the prior year period; and
- \$7 million, net of tax, in additional interest expense from the incremental borrowings under the Senior Secured Credit Facility.

The unaudited pro forma results for the year ended December 31, 2017, include:

- \$5 million, net of tax, in additional amortization expense for acquired intangible assets;
- \$4 million, net of tax, in transaction costs; and
- \$7 million, net of tax, in additional interest expense from the incremental borrowings under the Senior Secured Credit Facility.

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Notes to Consolidated Financial Statements-(Continued)

Other acquisitions

During the third quarter of 2018, we completed the acquisition of Zipscene LLC which aggregates and enriches data from hospitality customers to provide marketing insights back to our customers and will enable us to increase data monetization. During the fourth quarter of 2018, we completed its acquisition of StopLift Checkout Vision Systems ("StopLift"). StopLift designs Artificial Intelligence technology which identifies fraudulent behavior at the point-of-sale and in self-checkout systems.

4. GOODWILL AND PURCHASED INTANGIBLE ASSETS
Goodwill

As discussed in Note 1, "Basis of Presentation and Significant Accounting Policies", effective January 1, 2019, the Company began management of its business on a industry basis, changing from the previous model of management on a solution basis, which resulted in a corresponding change to NCR's reportable segments. In connection with the change in reportable segments, the Company determined its reporting units and then assigned goodwill to the new reporting units based on the relative fair value allocation approach. Based on this analysis, it was determined that the fair value of all reporting units were substantially in excess of the carrying value. We have reclassified prior period goodwill disclosures to conform to the current period presentation.

The carrying amounts of goodwill by segment are included in the tables below. Foreign currency fluctuations are included within other adjustments.

In millions	January 1, 2018			Additions	Impairment	Other	December 31, 2018		
	Goodwill	Accumulated Impairment Losses	Total				Goodwill	Accumulated Impairment Losses	Total
Banking	\$ 1,721	\$ (14)	\$ 1,707	\$ —	\$ (87)	\$ (3)	\$ 1,718	\$ (101)	\$ 1,617
Retail	478	(5)	473	94	(29)	(1)	571	(34)	537
Hospitality	377	(3)	374	13	(20)	(5)	385	(23)	362
Other	188	(1)	187	—	(10)	(1)	187	(11)	176
Total goodwill	\$ 2,764	\$ (23)	\$ 2,741	\$ 107	\$ (146)	\$ (10)	\$ 2,861	\$ (169)	\$ 2,692

In millions	January 1, 2017			Additions	Impairment	Other	December 31, 2017		
	Goodwill	Accumulated Impairment Losses	Total				Goodwill	Accumulated Impairment Losses	Total
Banking	\$ 1,715	\$ (14)	\$ 1,701	\$ —	\$ —	\$ 6	\$ 1,721	\$ (14)	\$ 1,707
Retail	476	(5)	471	—	—	2	478	(5)	473
Hospitality	372	(3)	369	—	—	5	377	(3)	374
Other	187	(1)	186	—	—	1	188	(1)	187
Total goodwill	\$ 2,750	\$ (23)	\$ 2,727	\$ —	\$ —	\$ 14	\$ 2,764	\$ (23)	\$ 2,741

Under the previous segment reporting structure, late in the quarter ended June 30, 2018, we determined there was an indication that the carrying value of the net assets assigned to the Hardware reporting unit may not be recoverable. This determination was based on the lowering of our full year forecast for 2018, driven by reduced revenue and gross margin rates expected for the third and fourth quarters of 2018, and the resulting impact on the current year and future cash flow projections of the Hardware reporting unit.

Given the undiscounted cash flows of the asset group, which we determined to be at the reporting unit level, were below the carrying value of the net assets, we recorded an impairment charge for the difference between the fair value and the carrying value of the long-lived assets. The fair value of the long-lived assets was determined based on the nature of the asset through either third party appraisals, replacement cost or discounted cash flow analysis.

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Notes to Consolidated Financial Statements-(Continued)

As a result, in the three months ended June 30, 2018 the Company recorded impairment charges of \$21 million related to property, plant and equipment held and used in NCR's hardware reporting unit, \$16 million related to purchased intangibles and \$146 million for goodwill assigned to the Hardware reporting unit. These charges were recorded in the line item asset impairment charges in our Consolidated Statement of Operations for the year ended December 31, 2018. The impairment charges were allocated to the current segment reporting structure based on the relative fair value of each segment as of January 1, 2019.

As discussed in Note 1, "Basis of Presentation and Significant Accounting Policies," NCR completed the annual goodwill impairment test during the fourth quarter of 2018, under the previous segment reporting model, which did not indicate an impairment existed for the Software or Services segments.

Purchased Intangible Assets

NCR's purchased intangible assets were specifically identified when acquired, and are deemed to have finite lives. These assets are reported in intangibles, net in the Consolidated Balance Sheets. The gross carrying amount and accumulated amortization for NCR's identifiable intangible assets were as set forth in the table below:

In millions	Amortization Period (in Years)	December 31, 2018		December 31, 2017	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Identifiable intangible assets					
Reseller & customer relationships	1 - 20	\$ 726	\$ (218)	\$ 659	\$ (170)
Intellectual property	2 - 8	443	(373)	410	(351)
Customer contracts	8	89	(87)	89	(81)
Tradenames	2 - 10	75	(60)	73	(51)
Total identifiable intangible assets		\$ 1,333	\$ (738)	\$ 1,231	\$ (653)

The aggregate amortization expense (actual and estimated) for identifiable intangible assets for the following periods is:

In millions	For the year ended December 31, 2018	For the years ended December 31 (estimated)				
		2019	2020	2021	2022	2023
Amortization expense	\$ 85	\$ 88	\$ 69	\$ 60	\$ 55	\$ 53

5. SERIES A PREFERRED STOCK

On December 4, 2015, NCR issued 820,000 shares of Series A Convertible Preferred Stock to certain entities affiliated with the Blackstone Group L.P. (collectively, Blackstone) for an aggregate purchase price of \$820 million, or \$1,000 per share, pursuant to an Investment Agreement between the Company and Blackstone, dated November 11, 2015. In connection with the issuance of the Series A Convertible Preferred Stock, the Company incurred direct and incremental expenses of \$26 million, including financial advisory fees, closing costs, legal expenses and other offering-related expenses. These direct and incremental expenses originally reduced the Series A Convertible Preferred Stock, and will be accreted through retained earnings as a deemed dividend from the date of issuance through the first possible known redemption date, March 16, 2024. During the twelve months ended December 31, 2018, 2017 and 2016, the Company paid dividends-in-kind of \$46 million, \$45 million, and \$47 million, respectively, associated with the Series A Convertible Preferred Stock. As of December 31, 2018 and 2017, the Company had accrued dividends of \$3 million, respectively, associated with the Series A Convertible Preferred Stock. There were no cash dividends declared during the twelve months ended December 31, 2018 or 2017.

Under the Investment Agreement, Blackstone agreed not to sell or otherwise transfer its shares of Series A Convertible Preferred Stock (or any shares of common stock issued upon conversion thereof) without the Company's consent until June 4, 2017. In March 2017, we provided Blackstone with an early release from this lock-up, allowing Blackstone to sell approximately 49% of its shares of Series A Convertible Preferred Stock, and in return, Blackstone agreed to amend the Investment Agreement to extend the lock-up on the remaining 51% of its shares of Series A Convertible Preferred Stock for six months until December 1, 2017.

In connection with the early release of the lock-up, Blackstone offered for sale 342,000 shares of Series A Convertible Preferred Stock in an underwritten public offering. In addition, Blackstone converted 90,000 shares of Series A Convertible Preferred Stock

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Notes to Consolidated Financial Statements-(Continued)

into shares of our common stock and we repurchased those shares of common stock for \$48.47 per share. The underwritten offering and the stock repurchase were consummated on March 17, 2017.

The repurchase of the common shares immediately upon conversion is considered a redemption of the related preferred shares. As a result, the excess of the fair value of consideration transferred over the carrying value, of \$58 million, was included as a deemed dividend in adjusting the income from common stockholders in calculating earnings per share for the year ended December 31, 2017. Additionally, we determined that the changes to the lock-up period were considered a modification of the Series A Convertible Preferred Stock. The impact of the modification, calculated as the difference in the fair value immediately before and immediately after the changes, of \$4 million, was included as a deemed dividend in adjusting the income from common stockholders in calculating earnings per share for the year ended December 31, 2017. This adjustment was recorded as an increase to the Series A Convertible Preferred Shares and will reduce the accretion of the direct and incremental expenses associated with the original offering as described above. Refer to Note 1, "Basis of Presentation and Significant Accounting Policies" for additional discussion.

Dividend Rights The Series A Convertible Preferred Stock ranks senior to the shares of the Company's common stock, with respect to dividend rights and rights on the distribution of assets on any voluntary or involuntary liquidation, dissolution or winding up of the affairs of the Company. The Series A Convertible Preferred Stock has a liquidation preference of \$1,000 per share. Holders of Series A Convertible Preferred Stock are entitled to a cumulative dividend at the rate of 5.5% per annum, payable quarterly in arrears and payable in-kind for the first sixteen dividend payments, after which, beginning in the first quarter of 2020, dividends will be payable in cash or in-kind at the option of the Company. If the Company does not declare and pay a dividend, the dividend rate will increase to 8.0% per annum until all accrued but unpaid dividends have been paid in full. Dividends are paid in-kind, through the issuance of additional shares of Series A Convertible Preferred Stock, for the first sixteen dividend payment dates, after which dividends will be payable in cash or in-kind at the option of the Company.

Conversion Features The Series A Convertible Preferred Stock is convertible at the option of the holders at any time into shares of common stock at a conversion price of \$30.00 per share and a conversion rate of 33.333 shares of common stock per share of Series A Convertible Preferred Stock. As of December 31, 2018 and 2017, the maximum number of common shares that could be required to be issued upon conversion of the outstanding shares of Series A Convertible Preferred Stock was 29.0 million and 27.5 million shares, respectively. The conversion rate is subject to the following customary anti-dilution and other adjustments:

- the issuance of common stock as a dividend or the subdivision, combination, or reclassification of common stock into a greater or lesser number of shares of common stock;
- the dividend, distribution or other issuance of rights, options or warrants to holders of Common Stock entitling them to subscribe for or purchase shares of common stock at a price per share that is less than the volume-weighted average price per share of common stock;
- the completion of a tender offer or exchange offer of shares of common stock at a premium to the volume-weighted average price per share of common stock and certain other above-market purchases of common stock;
- the issuance of a dividend or similar distribution in-kind, which can include shares of any class of capital stock, evidences of the Company's indebtedness, assets or other property or securities, to holders of common stock;
- a transaction in which a subsidiary of the Company ceases to be a subsidiary of the Company as a result of the distribution of the equity interests of the subsidiary to the holders of the Company's common stock; and
- the payment of a cash dividend to the holders of common stock.

At any time after December 4, 2018, all outstanding shares of Series A Convertible Preferred Stock are convertible at the option of the Company if the volume-weighted average price of the common stock exceeds \$54.00 for at least 30 trading days in any period of 45 consecutive trading days. The \$54.00 may be adjusted pursuant to the anti-dilution provisions above.

The Series A Convertible Preferred Stock, and the associated dividends for the first sixteen payments, did not generate a beneficial conversion feature (BCF) upon issuance as the fair value of the Company's common stock was greater than the conversion price. The Company will determine and, if required, measure a BCF based on the fair value of our stock price on the date dividends are declared subsequent to the sixteenth dividend. If a BCF is recognized, a reduction to retained earnings and the Series A Convertible Preferred Stock will be recorded, and then subsequently accreted through the first redemption date.

Additionally, the Company determined that the nature of the Series A Convertible Preferred Stock was more akin to an equity instrument and that the economic characteristics and risks of the embedded conversion options were clearly and closely related to the Series A Convertible Preferred Stock. As such, the conversion options were not required to be bifurcated from the host under ASC 815, *Derivatives and Hedging*.

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Notes to Consolidated Financial Statements-(Continued)

Redemption Rights On any date during the three months commencing on and immediately following March 16, 2024 and the three months commencing on and immediately following every third anniversary of March 16, 2024, holders of Series A Convertible Preferred Stock have the right to require the Company to repurchase all or any portion of the Series A Convertible Preferred Stock at 100% of the liquidation preference thereof plus all accrued but unpaid dividends. Upon certain change of control events involving the Company, holders of Series A Convertible Preferred Stock can require the Company to repurchase, subject to certain exceptions, all or any portion of the Series A Convertible Preferred Stock at the greater of (1) an amount in cash equal to 100% of the liquidation preference thereof plus all accrued but unpaid dividends and (2) the consideration the holders would have received if they had converted their shares of Series A Convertible Preferred Stock into common stock immediately prior to the change of control event.

The Company has the right, upon certain change of control events involving the Company, to redeem the Series A Convertible Preferred Stock at the greater of (1) an amount in cash equal to the sum of the liquidation preference of the Series A Convertible Preferred Stock, all accrued but unpaid dividends and the present value, discounted at a rate of 10%, of any remaining scheduled dividends through the fifth anniversary of the first dividend payment date, assuming the Company chose to pay such dividends in cash (the "make-whole provision") and (2) the consideration the holders would have received if they had converted their shares of Series A Convertible Preferred Stock into common stock immediately prior to the change of control event.

Since the redemption of the Series A Convertible Preferred Stock is contingently or optionally redeemable and therefore not certain to occur, the Series A Convertible Preferred Stock is not required to be classified as a liability under ASC 480, *Distinguishing Liabilities from Equity*. As the Series A Convertible Preferred Stock is redeemable in certain circumstances at the option of the holder and is redeemable in certain circumstances upon the occurrence of an event that is not solely within our control, we have classified the Series A Convertible Preferred Stock in mezzanine equity on the Consolidated Balance Sheets.

As noted above, the Company determined that the nature of the Series A Convertible Preferred Stock was more akin to an equity instrument. However, the Company determined that the economic characteristics and risks of the embedded put options, call option and make-whole provision were not clearly and closely related to the Series A Convertible Preferred Stock. Therefore, the Company assessed the put and call options further, and determined they did not meet the definition of a derivative under ASC 815, *Derivatives and Hedging*. Under the same analysis, the Company determined the make-whole provision did meet the definition of a derivative, but that the value of the derivative was minimal due to the expectations surrounding the scenarios under which the call option and make-whole provision would be exercised.

Voting Rights Holders of Series A Convertible Preferred Stock are entitled to vote with the holders of the common stock on an as-converted basis. Holders of Series A Convertible Preferred Stock are entitled to a separate class vote with respect to certain designees for election to the Company's Board of Directors, amendments to the Company's organizational documents that have an adverse effect on the Series A Convertible Preferred Stock and issuances by the Company of securities that are senior to, or equal in priority with, the Series A Convertible Preferred Stock.

Registration Rights Holders of Series A Convertible Preferred Stock have certain customary registration rights with respect to the Series A Convertible Preferred Stock and the shares of common stock into which they are converted, pursuant to the terms of a registration rights agreement.

6. DEBT OBLIGATIONS

The following table summarizes the Company's short-term borrowings and long-term debt:

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions, except percentages	December 31, 2018		December 31, 2017	
	Amount	Weighted-Average Interest Rate	Amount	Weighted-Average Interest Rate
Short-Term Borrowings				
Current portion of Senior Secured Credit Facility ⁽¹⁾	\$ 84	4.51%	\$ 51	3.21%
Trade Receivables Securitization Facility	100	3.37%	—	
Other ⁽²⁾	1	4.92%	1	3.71%
Total short-term borrowings	\$ 185		\$ 52	
Long-Term Debt				
Senior Secured Credit Facility:				
Term loan facility ⁽¹⁾	\$ 675	4.51%	\$ 759	3.21%
Revolving credit facility ⁽¹⁾	120	4.49%	—	
Senior Notes:				
5.00% Senior Notes due 2022	600		600	
4.625% Senior Notes due 2021	500		500	
5.875% Senior Notes due 2021	400		400	
6.375% Senior Notes due 2023	700		700	
Deferred financing fees	(18)		(23)	
Other ⁽²⁾	3	0.59%	3	1.62%
Total long-term debt	\$ 2,980		\$ 2,939	

⁽¹⁾ Interest rates are weighted average interest rates as of December 31, 2018 and 2017.

⁽²⁾ Interest rates are weighted average interest rates as of December 31, 2018 and 2017 primarily related to various international credit facilities and a note payable in the U.S.

Senior Secured Credit Facility On March 31, 2016, the Company amended and restated its senior secured credit facility with and among certain foreign subsidiaries of NCR (the Foreign Borrowers), the lenders party thereto and JPMorgan Chase Bank, NA (JPMCB) as the administrative agent, and refinanced its term loan facility and revolving credit facility thereunder (the Senior Secured Credit Facility). As of December 31, 2018, the Senior Secured Credit Facility consisted of a term loan facility with an aggregate principal amount outstanding of \$759 million and a revolving credit facility with an aggregate principal amount of \$1.1 billion, of which \$120 million was outstanding. The revolving credit facility also allows a portion of the availability to be used for outstanding letters of credit, and as of December 31, 2018, there were no letters of credit outstanding.

Up to \$400 million of the revolving credit facility is available to the Foreign Borrowers. Term loans were made to the Company in U.S. Dollars, and loans under the revolving credit facility are available in U.S. Dollars, Euros and Pound Sterling.

The outstanding principal balance of the term loan facility is required to be repaid in equal quarterly installments of approximately \$11 million beginning June 30, 2016, \$17 million beginning June 30, 2018, and \$23 million beginning June 30, 2019, with the balance being due at maturity on March 31, 2021. Borrowings under the revolving portion of the credit facility are due March 31, 2021. Amounts outstanding under the Senior Secured Credit Facility bear interest at LIBOR (or, in the case of amounts denominated in Euros, EURIBOR), or, at NCR's option, in the case of amounts denominated in U.S. Dollars, at a base rate equal to the highest of (a) the federal funds rate plus 0.50%, (b) JPMCB's "prime rate" and (c) the one-month LIBOR rate plus 1.00% (the Base Rate), plus, in each case, a margin ranging from 1.25% to 2.25% for LIBOR-based loans that are either term loans or revolving loans and EURIBOR-based revolving loans and ranging from 0.25% to 1.25% for Base Rate-based loans that are either term loans or revolving loans, in each case, depending on the Company's consolidated leverage ratio. The terms of the Senior Secured Credit Facility also require certain other fees and payments to be made by the Company, including a commitment fee on the undrawn portion of the revolving credit facility.

The obligations of the Company and Foreign Borrowers under the Senior Secured Credit Facility are guaranteed by certain of the Company's wholly-owned domestic subsidiaries. The Senior Secured Credit Facility and these guarantees are secured by a first priority lien and security interest in certain equity interests owned by the Company and the guarantor subsidiaries in certain of their respective domestic and foreign subsidiaries, and a perfected first priority lien and security interest in substantially all of the Company's U.S. assets and the assets of the guarantor subsidiaries, subject to certain exclusions. These security interests would

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Notes to Consolidated Financial Statements-(Continued)

be released if the Company achieves an “investment grade” rating, and will remain released so long as the Company maintains that rating.

The Senior Secured Credit Facility includes affirmative and negative covenants that restrict or limit the ability of the Company and its subsidiaries to, among other things, incur indebtedness; create liens on assets; engage in certain fundamental corporate changes or changes to the Company's business activities; make investments; sell or otherwise dispose of assets; engage in sale-leaseback or hedging transactions; repurchase stock, pay dividends or make similar distributions; repay other indebtedness; engage in certain affiliate transactions; or enter into agreements that restrict the Company's ability to create liens, pay dividends or make loan repayments. The Senior Secured Credit Facility also includes financial covenants that require the Company to maintain:

- a consolidated leverage ratio on the last day of any fiscal quarter, not to exceed (i) in the case of any fiscal quarter ending after December 31, 2017 and on or prior to December 31, 2019, (a) the sum of 4.00 and an amount (not to exceed 0.50) to reflect debt used to reduce NCR's unfunded pension liabilities to (b) 1.00, and (ii) in the case of any fiscal quarter ending after December 31, 2019, the sum of (a) 3.75 and an amount (not to exceed 0.50) to reflect debt used to reduce NCR's unfunded pension liabilities to (b) 1.00; and
- an interest coverage ratio on the last day of any fiscal quarter greater than or equal to 3.50 to 1.00.

At December 31, 2018, the maximum consolidated leverage ratio under the Senior Secured Credit Facility was 4.10 to 1.00.

The Senior Secured Credit Facility also includes provisions for events of default, which are customary for similar financings. Upon the occurrence of an event of default, the lenders may, among other things, terminate the loan commitments, accelerate all loans and require cash collateral deposits in respect of outstanding letters of credit. If the Company is unable to pay or repay the amounts due, the lenders could, among other things, proceed against the collateral granted to them to secure such indebtedness.

The Company may request, at any time and from time to time, but the lenders are not obligated to fund, the establishment of one or more incremental term loans and/or revolving credit facilities (subject to the agreement of existing lenders or additional financial institutions to provide such term loans and/or revolving credit facilities) with commitments in an aggregate amount not to exceed the greater of (i) \$150 million, and (ii) such amount as would not (a) prior to the date that the Company obtains an investment grade rating cause the leverage ratio under the Senior Secured Credit Facility, calculated on a pro forma basis including the incremental facility and assuming that it and the revolver are fully drawn, to exceed 2.50 to 1.00, and (b) on and after the date that the Company obtains an "investment grade" rating cause the leverage ratio under the Senior Secured Credit Facility, calculated on a pro forma basis including the incremental facility and assuming that it and the revolver are fully drawn, to exceed a ratio that is 0.50 less than the leverage ratio then applicable under the financial covenants of the Senior Secured Credit Facility, the proceeds of which can be used for working capital requirements and other general corporate purposes.

Senior Unsecured Notes On September 17, 2012, the Company issued \$600 million aggregate principal amount of 5.00% senior unsecured notes due in 2022 (the 5.00% Notes). The 5.00% Notes were sold at 100% of the principal amount and will mature on July 15, 2022. On December 18, 2012, the Company issued \$500 million aggregate principal amount of 4.625% senior unsecured notes due in 2021 (the 4.625% Notes). The 4.625% Notes were sold at 100% of the principal amount and will mature on February 15, 2021. On December 19, 2013, the Company issued \$400 million aggregate principal amount of 5.875% senior unsecured notes due in 2021 (the 5.875% Notes) and \$700 million aggregate principal amount of 6.375% senior unsecured notes due in 2023 (the 6.375% Notes). The 5.875% Notes were sold at 100% of the principal amount and will mature on December 15, 2021 and the 6.375% Notes were sold at 100% of the principal amount and will mature on December 15, 2023. The senior unsecured notes are guaranteed, fully and unconditionally, on an unsecured senior basis, by our 100% owned subsidiary, NCR International, Inc. Under the indentures for these notes, the Company has the option to redeem each series of notes, in whole or in part, at various times for specified prices, plus accrued and unpaid interest. Under the indentures for these notes, the Company has the option to redeem each series of notes, in whole or in part, at various times for specified prices, plus accrued and unpaid interest.

The Company has the option to redeem the 5.00% Notes, in whole or in part, at any time on or after July 15, 2017, at a redemption price of 102.500%, 101.667%, 100.833% and 100.000% during the 12-month periods commencing on July 15, 2017, 2018, 2019 and 2020 and thereafter, respectively, plus accrued and unpaid interest to the redemption date.

The Company has the option to redeem the 4.625% Notes, in whole or in part, at any time on or after February 15, 2017, at a redemption price of 102.313%, 101.156% and 100% during the 12-month periods commencing on February 15, 2017, 2018 and 2019 and thereafter, respectively, plus accrued and unpaid interest to the redemption date.

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Notes to Consolidated Financial Statements-(Continued)

The Company has the option to redeem the 5.875% Notes, in whole or in part, at any time on or after December 15, 2017, at a redemption price of 102.938%, 101.469% and 100% during the 12-month periods commencing on December 15, 2017, 2018 and 2019 and thereafter, respectively, plus accrued and unpaid interest to the redemption date.

The Company has the option to redeem the 6.375% Notes, in whole or in part, at any time on or after December 15, 2018, at a redemption price of 103.188%, 102.125%, 101.063% and 100% during the 12-month periods commencing on December 15, 2018, 2019, 2020 and 2021 and thereafter, respectively, plus accrued and unpaid interest to the redemption date. Prior to December 15, 2018, the Company may redeem the 6.375% Notes, in whole or in part, at a redemption price equal to 100% of the principal amount plus a make-whole premium and accrued and unpaid interest to the redemption date.

The terms of the indentures for these notes limit the ability of the Company and certain of its subsidiaries to, among other things, incur additional debt or issue redeemable preferred stock; pay dividends or make certain other restricted payments or investments; incur liens; sell assets; incur restrictions on the ability of the Company's subsidiaries to pay dividends to the Company; enter into affiliate transactions; engage in sale and leaseback transactions; and consolidate, merge, sell or otherwise dispose of all or substantially all of the Company's or such subsidiaries' assets. These covenants are subject to significant exceptions and qualifications. For example, if these notes are assigned an "investment grade" rating by Moody's or S&P and no default has occurred or is continuing, certain covenants will be terminated.

Trade Receivables Securitization Facility In November 2014, the Company established a revolving trade receivables securitization facility (the A/R Facility) with PNC Bank, National Association (PNC) as the administrative agent, and various lenders. In November 2016, the Company amended the A/R Facility to extend the maturity date to November 2018. In November 2018, the Company amended the A/R Facility to extend the maturity date to November 2020. The amendment also included other modifications including the scope of receivables subject to the facility and related eligibility requirements, procedures for selecting and adopting a replacement benchmark rate in the event of certain discontinuations of LIBOR, and the fees and interest payable to the lenders party thereto. The A/R Facility provides for up to \$200 million in funding based on the availability of eligible receivables and other customary factors and conditions, of which \$100 million was outstanding as of December 31, 2018.

Under the A/R Facility, NCR sells and/or contributes certain of its U.S. trade receivables to a wholly-owned, bankruptcy-remote subsidiary as they are originated, and advances by the lenders to that subsidiary are secured by those trade receivables. The assets of this financing subsidiary are restricted as collateral for the payment of its obligations under the A/R Facility, and its assets and credit are not available to satisfy the debts and obligations owed to the creditors of the Company. The Company includes the assets, liabilities and results of operations of this financing subsidiary in its consolidated financial statements. The financing subsidiary owned \$526 million and \$491 million of outstanding accounts receivable as of December 31, 2018 and 2017, respectively, and these amounts are included in accounts receivable, net in the Company's Consolidated Balance Sheets.

The financing subsidiary will pay annual commitment and other customary fees to the lenders, and advances by a lender under the A/R Facility will accrue interest (i) at a reserve-adjusted LIBOR rate or a base rate equal to the highest of (a) the applicable lender's prime rate or (b) the federal funds rate plus 0.50%, if the lender is funding as a committed lender under the terms of the A/R Facility, or (ii) based on commercial paper interest rates if the lender is funding as a commercial paper conduit lender. Advances may be prepaid at any time without premium or penalty.

The A/R Facility contains various customary affirmative and negative covenants and default and termination provisions which provide for the acceleration of the advances under the A/R Facility in circumstances including, but not limited to, failure to pay interest or principal when due, breach of representation, warranty or covenant, certain insolvency events or failure to maintain the security interest in the trade receivables, and defaults under other material indebtedness.

Debt Maturities Maturities of debt outstanding, in principal amounts, at December 31, 2018 are summarized below:

In millions	For the years ended December 31						Thereafter
	Total	2019	2020	2021	2022	2023	
Debt maturities	\$ 3,183	\$ 85	\$ 190	\$ 1,605	\$ 600	\$ 700	\$ 3

Fair Value of Debt The Company utilized Level 2 inputs, as defined in the fair value hierarchy, to measure the fair value of the long-term debt, which, as of December 31, 2018 and 2017 was \$3.11 billion and \$3.07 billion, respectively. Management's fair value estimates were based on quoted prices for recent trades of NCR's long-term debt, quoted prices for similar instruments, and inquiries with certain investment communities.

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Notes to Consolidated Financial Statements-(Continued)

7. INCOME TAXES

On December 22, 2017, the U.S. enacted comprehensive and complex tax legislation commonly referred to as the Tax Cuts and Jobs Act of 2017 (“U.S. Tax Reform”). The legislation resulted in a permanent reduction in the corporate tax rate to 21% and a one-time mandatory tax on certain undistributed earnings of foreign subsidiaries (“repatriation tax”).

U.S. Tax Reform also put in place several new tax laws that are generally effective prospectively from January 1, 2018, including but not limited to: a base erosion and anti-abuse tax; elimination of U.S. federal taxes on substantially all dividends from foreign subsidiaries; a lower U.S. tax rate on certain revenues from sources outside the U.S.; and, implementation of a new provision to tax certain global intangible low-taxed income (“GILTI”) of foreign subsidiaries.

U.S. GAAP generally requires that the overall impact of tax legislation is recorded in the quarter of enactment. However, given the fundamental complexity of U.S. Tax Reform, the SEC staff issued Staff Accounting Bulletin No. 118 (SAB 118) that allowed the Company to record provisional amounts for the impacts of the legislation at the time the law was enacted, with the requirement that the accounting be completed in a period not to exceed one year from the date of enactment of the legislation with updates of the provisional amount into future periods. As of December 31, 2017, the Company had not completed the accounting in its entirety for the tax effects of the legislation. The Company made a reasonable estimate of the impact of U.S. Tax Reform and recorded a provisional tax expense of \$130 million in the year ended December 31, 2017. This provisional tax expense included a \$94 million tax expense to remeasure the net U.S. deferred tax assets to the newly enacted 21% corporate income tax rate and a \$36 million tax expense related to the repatriation tax.

As of December 31, 2018, we have completed our assessment of the impact of U.S Tax Reform which resulted in an additional net income tax expense of \$37 million recorded during the year ended December 31, 2018. The expense primarily consists of \$43 million benefit related to deferred tax asset rate remeasurement and an \$80 million tax expense related to the write off of expected foreign tax credit offsets to unrecognized tax benefits and the establishment of a valuation allowance on deferred tax assets related to foreign tax credits that are not more likely than not to be realized as a result of the U.S. Tax Reform. Additionally, we have elected to treat any taxes due on the GILTI inclusion as a current period expense.

NCR did not provide for additional U.S. income tax or foreign withholding taxes, if any, on approximately \$2.7 billion of undistributed earnings of its foreign subsidiaries, given the intention continues to be that those earnings are reinvested indefinitely. The amount of unrecognized deferred tax liability associated with these indefinitely reinvested earnings is approximately \$176 million. The unrecognized deferred tax liability is made up of a combination of U.S. and state income taxes and foreign withholding taxes.

During the year ended December 31, 2018, the Company identified two out of period adjustments that net to \$2 million of income tax benefit. The first adjustment was due to an error in the calculation of deferred tax liabilities associated with software capitalization resulting in \$13 million of income tax benefit which should have been recorded during the year ended December 31, 2017 when deferred taxes were remeasured in connection with U.S. Tax Reform. The second adjustment was to write-off income tax assets related to expired foreign tax credits resulting in \$11 million of income tax expense which should have been recorded between 2010 through 2017. The Company determined the impact of these errors was not material to the annual or interim financial statements of previous periods and the effect of correcting these errors was not material to 2018 annual financial statements.

For the years ended December 31, income (loss) from continuing operations before income taxes consisted of the following:

In millions	2018	2017	2016
Income (loss) before income taxes			
United States	\$ (262)	\$ 149	\$ 35
Foreign	301	333	344
Total income (loss) from continuing operations before income taxes	<u>\$ 39</u>	<u>\$ 482</u>	<u>\$ 379</u>

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Notes to Consolidated Financial Statements-(Continued)

For the years ended December 31, income tax expense (benefit) consisted of the following:

In millions	2018	2017	2016
Income tax expense (benefit)			
Current			
Federal	\$ 18	\$ 14	\$ 18
State	—	2	4
Foreign	42	54	60
Deferred			
Federal	(2)	178	12
State	1	(3)	1
Foreign	14	(3)	(3)
Total income tax expense (benefit)	<u>\$ 73</u>	<u>\$ 242</u>	<u>\$ 92</u>

The following table presents the principal components of the difference between the effective tax rate and the U.S. federal statutory income tax rate for the years ended December 31:

In millions	2018	2017	2016
Income tax (benefit) expense at the U.S. federal tax rate of 21% for 2018 and 35% for 2017 and 2016, respectively	\$ 8	\$ 169	\$ 133
Foreign income tax differential	22	(38)	(26)
State and local income taxes (net of federal effect)	2	(1)	3
Other U.S. permanent book/tax differences	—	1	1
Meals and entertainment expense	2	2	1
Cash surrender value received as income	—	—	(1)
Executive compensation	4	1	1
Employee share-based payments	3	(3)	3
Change in branch tax status	(9)	—	—
Goodwill impairment	30	—	—
Research and development tax credits	(6)	(4)	(4)
U.S. manufacturing deduction	—	(9)	(7)
U.S. valuation allowance ⁽¹⁾	16	—	—
U.S. tax reform	37	130	—
Change in liability for unrecognized tax benefits ⁽¹⁾	(23)	(2)	(12)
Prior period adjustments	(11)	—	—
Other, net	(2)	(4)	—
Total income tax expense (benefit)	<u>\$ 73</u>	<u>\$ 242</u>	<u>\$ 92</u>

⁽¹⁾ Does not include the impact of items included in the U.S. Tax Reform category

NCR's tax provisions include a provision for income taxes in certain tax jurisdictions where its subsidiaries are profitable, but reflect only a portion of the tax benefits related to certain foreign subsidiaries' tax losses due to the uncertainty of the ultimate realization of future benefits from these losses. During 2018, the tax rate was impacted by \$37 million of tax expense relating to U.S. Tax Reform. During 2017, the tax rate was impacted by a provisional charge of \$130 million relating to U.S. Tax Reform. During 2016, the tax rate was impacted by a less favorable mix of earnings, primarily driven by actuarial pension losses in foreign jurisdictions with valuation allowance against deferred tax assets.

We regularly review our deferred tax assets for recoverability and establish a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized. The determination as to whether a deferred tax asset will be realized is made on a jurisdictional basis and is based on the evaluation of positive and negative evidence. This evidence includes historical taxable income/loss, projected future taxable income, the expected timing of the reversal of existing temporary differences and the implementation of tax planning strategies. Given current earnings and anticipated future earnings at certain subsidiaries,

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

the Company believes that there is a reasonable possibility sufficient positive evidence may become available that would allow the release of a valuation allowance within the next twelve months.

Deferred income tax assets and liabilities included in the Consolidated Balance Sheets as of December 31 were as follows:

In millions	2018	2017
Deferred income tax assets		
Employee pensions and other benefits	\$ 223	\$ 230
Other balance sheet reserves and allowances	141	185
Tax loss and credit carryforwards	682	525
Capitalized research and development	53	50
Property, plant and equipment	11	6
Other	38	27
Total deferred income tax assets	1,148	1,023
Valuation allowance	(485)	(415)
Net deferred income tax assets	663	608
Deferred income tax liabilities		
Intangibles	151	129
Capitalized software	78	27
Other	7	16
Total deferred income tax liabilities	236	172
Total net deferred income tax assets	\$ 427	\$ 436

NCR recorded valuation allowances related to certain deferred income tax assets due to the uncertainty of the ultimate realization of the future benefits from those assets. The valuation allowances cover deferred tax assets, primarily tax loss carryforwards and foreign tax credits, in tax jurisdictions where there is uncertainty as to the ultimate realization of those tax losses and credits. If we are unable to generate sufficient future taxable income of the proper source in the time period within which the temporary differences underlying our deferred tax assets become deductible, or before the expiration of our loss and credit carryforwards, additional valuation allowances could be required.

As of December 31, 2018, NCR had U.S. federal, U.S. state (tax effected), and foreign tax attribute carryforwards of approximately \$1.6 billion. The net operating loss carryforwards that are subject to expiration will expire in the years 2019 through 2037. This includes U.S. tax credit carryforwards of \$301 million. Approximately \$10 million of the credit carryforwards will be refunded by 2022 due to U.S. Tax Reform, and \$291 million of the credit carryforwards expire in the years 2019 through 2038. As a result of stock ownership changes our U.S. tax attributes could be subject to limitations under Section 382 of the U.S. Internal Revenue Code of 1986, as amended, if further material stock ownership changes occur.

The aggregate changes in the balance of our gross unrecognized tax benefits were as follows for the years ended December 31:

In millions	2018	2017	2016
Gross unrecognized tax benefits - January 1	\$ 196	\$ 183	\$ 209
Increases related to tax positions from prior years	9	3	3
Decreases related to tax positions from prior years	(50)	(1)	(34)
Increases related to tax provisions taken during the current year	9	23	23
Settlements with tax authorities	(45)	(4)	(6)
Lapses of statutes of limitation	(9)	(8)	(12)
Total gross unrecognized tax benefits - December 31	\$ 110	\$ 196	\$ 183

Of the total amount of gross unrecognized tax benefits as of December 31, 2018, \$84 million would affect NCR's effective tax rate if realized. The Company's liability arising from uncertain tax positions is recorded in income tax accruals and other current liabilities in the Consolidated Balance Sheets.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

We recognized interest and penalties associated with uncertain tax positions as part of the provision for income taxes in our Consolidated Statements of Operations of \$9 million of benefit, \$2 million of expense, and zero for the years ended December 31, 2018, 2017, and 2016, respectively. The gross amount of interest and penalties accrued as of December 31, 2018 and 2017 was \$33 million and \$45 million, respectively.

In the U.S., NCR files consolidated federal and state income tax returns where statutes of limitations generally range from three to five years. The Company resolved examinations for the tax years of 2011, 2012 and 2013 with the IRS in 2018, and U.S. federal tax years remain open from 2014 forward. Years beginning on or after 2001 are still open to examination by certain foreign taxing authorities, including India, Egypt, and other major taxing jurisdictions.

During 2019, the Company expects to resolve certain tax matters related to U.S. and foreign jurisdictions. As of December 31, 2018, we estimate that it is reasonably possible that unrecognized tax benefits may decrease by \$5 million to \$10 million in the next 12 months due to the resolution of these tax matters.

8. STOCK COMPENSATION PLANS

The Company recognizes all share-based payments as compensation expense in its financial statements based on their fair value.

As of December 31, 2018, the Company's stock-based compensation consisted of restricted stock units, employee stock purchase plan and stock options. The Company recorded stock-based compensation expense for the years ended December 31 as follows:

In millions	2018	2017	2016
Restricted stock units	\$ 65	\$ 73	\$ 61
Employee stock purchase plan	4	4	—
Stock options	4	—	—
Stock-based compensation expense	73	77	61
Tax benefit	(10)	(22)	(18)
Total stock-based compensation (net of tax)	<u>\$ 63</u>	<u>\$ 55</u>	<u>\$ 43</u>

Approximately 22 million shares remain authorized to be issued under the 2013 Stock Incentive Plan (SIP). Details of the Company's stock-based compensation plans are discussed below.

Restricted Stock Units

The SIP provides for the grant of several different forms of stock-based compensation, including restricted stock units. Restricted stock units can have service-based and/or performance-based vesting with performance goals being established by the Compensation and Human Resource Committee of the Company's Board of Directors. Any grant of restricted stock units is generally subject to a vesting period of 12 months to 48 months, to the extent permitted by the SIP. Performance-based grants conditionally vest upon achievement of future performance goals based on performance criteria such as the Company's achievement of specific return on capital and/or other financial metrics (as defined in the SIP) during the performance period. Performance-based grants must be earned, based on performance, before the actual number of shares to be awarded is known. The Compensation and Human Resource Committee considers the likelihood of meeting the performance criteria based upon estimates and other relevant data, and certifies performance based on its analysis of achievement against the performance criteria. A recipient of restricted stock units does not have the rights of a stockholder and is subject to restrictions on transferability and risk of forfeiture. Other terms and conditions applicable to any award of restricted stock units will be determined by the Compensation and Human Resource Committee and set forth in the agreement relating to that award.

The following table reports restricted stock unit activity during the year ended December 31, 2018:

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Notes to Consolidated Financial Statements-(Continued)

Shares in thousands	Number of Units	Weighted Average Grant-Date Fair Value per Unit
Unvested shares as of January 1	7,158	\$ 29.78
Shares granted	3,440	\$ 26.25
Shares vested	(2,980)	\$ 27.45
Shares forfeited	(1,652)	\$ 30.58
Unvested shares as of December 31	5,966	\$ 28.69

Stock-based compensation expense is recognized in the financial statements based upon fair value. The total fair value of units vested and distributed in the form of NCR common stock was \$90 million in 2018, \$87 million in 2017, and \$42 million in 2016. As of December 31, 2018, there was \$79 million of unrecognized compensation cost related to unvested restricted stock unit grants. The unrecognized compensation cost is expected to be recognized over a remaining weighted-average period of 1.1 years. The weighted average grant date fair value for restricted stock unit awards granted in 2017 and 2016 was \$46.95 and \$20.45, respectively.

The following table represents the composition of restricted stock unit grants in 2018:

Shares in thousands	Number of Units	Weighted Average Grant-Date Fair Value
Service-based units	2,168	\$ 31.12
Performance-based units	1,272	\$ 17.97
Total restricted stock units	3,440	\$ 26.25

At December 31, 2018, certain of the performance-based shares granted in 2018 were not probable of vesting.

Stock Options

The SIP also provides for the grant of stock options to purchase shares of NCR common stock. The Compensation and Human Resource Committee has discretion to determine the material terms and conditions of option awards under the SIP, provided that (i) the exercise price must be no less than the fair market value of NCR common stock (defined as the closing price) on the date of grant, (ii) the term must be no longer than ten years, and (iii) in no event shall the normal vesting schedule provide for vesting in less than one year. Other terms and conditions of an award of stock options will be determined by the Compensation and Human Resource Committee as set forth in the agreement relating to that award. The Compensation and Human Resource Committee has authority to administer the SIP, except that the Committee on Directors and Governance of the Company's Board of Directors will administer the SIP with respect to non-employee members of the Board of Directors. New shares of the Company's common stock are issued as a result of stock option exercises.

Stock compensation expense is recognized in the financial statements based upon grant date fair value and is computed using the Black-Scholes option-pricing model. During the year ended December 31, 2018, the Company granted stock options and the weighted average fair value of option grants was estimated based on the below weighted average assumptions, which was \$9.80. The stock options were granted with a seven year contractual term that will vest over four years. For the years ended December 31, 2017 and 2016, the Company did not grant a significant amount of stock options.

	For the year ended December 31, 2018
Dividend yield	—
Risk-free interest rate	2.50%
Expected volatility	34.88%
Expected holding period - years	3.8 years

Expected volatility is calculated as the historical volatility of the Company's stock over a period equal to the expected term of the options, as management believes this is the best representation of prospective trends. The Company uses historical data to estimate option exercise and employee terminations within the valuation model. The expected holding period represents the period of time

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

that options are expected to be outstanding. The risk-free interest rate for periods within the contractual life of the option is based on a blend of the three and five-year U.S. Treasury yield curve in effect at the time of grant.

The following table summarizes the Company's stock option activity for the year ended December 31, 2018:

Shares in thousands	Shares Under Option	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in millions)
Outstanding as of January 1	475	\$ 16.70		
Granted	2,869	\$ 30.59		
Exercised	(277)	\$ 17.75		
Forfeited or expired	(461)	\$ 32.57		
Outstanding as of December 31	2,606	\$ 29.08	6.01	\$ 1.56
Fully vested and expected to vest as of December 31	2,402	\$ 30.21	6.39	\$ —
Exercisable as of December 31	204	\$ 15.77	1.57	\$ 1.56

As of December 31, 2018, the total unrecognized compensation cost of \$16 million related to unvested stock option grants is expected to be recognized over a weighted average period of approximately 1.7 years.

The total intrinsic value of all options exercised was \$4 million in 2018, \$3 million in 2017, and \$6 million in 2016. Cash received from option exercises under all share-based payment arrangements was \$4 million in 2018, \$2 million in 2017, and \$8 million in 2016. The tax benefit realized from these exercises was \$1 million in 2018, \$1 million in 2017, and \$2 million in 2016.

Employee Stock Purchase Plan

The Company's amended Employee Stock Purchase Plan ("ESPP") provides employees a 15% discount on stock purchases using a three-month look-back feature where the discount is applied to the stock price that represents the lower of NCR's closing stock price on either the first day or the last day of each calendar quarter. Participants can contribute between 1% and 10% of their compensation. The amended ESPP was approved by NCR stockholders in 2016 and became effective January 1, 2017.

Employees purchased approximately 0.7 million shares in 2018, 0.5 million shares in 2017, and 0.3 million shares in 2016, for approximately \$17 million in 2018, \$15 million in 2017 and \$7 million in 2016. A total of 4 million shares were originally authorized to be issued under the ESPP before its amendment. Under the amended ESPP, 10 million shares were newly authorized to be issued, plus any shares remaining unissued under the prior ESPP after the last 2016 purchase date. Approximately 9.7 million authorized shares remain unissued under our amended ESPP as of December 31, 2018.

9. EMPLOYEE BENEFIT PLANS

Pension, Postretirement and Postemployment Plans NCR sponsors defined benefit pension plans. NCR's U.S. pension plan no longer offers additional benefits and is closed to new participants. Internationally, the defined benefit plans are based primarily upon compensation and years of service. Certain international plans also no longer offer additional benefits and are closed to new participants. NCR's funding policy is to contribute annually no less than the minimum required by applicable laws and regulations. Assets of NCR's defined benefit plans are primarily invested in corporate and government debt securities, common and commingled trusts, publicly traded common stocks, real estate investments, and cash or cash equivalents.

NCR recognizes the funded status of each applicable plan on the Consolidated Balance Sheets. Each overfunded plan is recognized as an asset and each underfunded plan is recognized as a liability. For pension plans, changes in the fair value of plan assets and net actuarial gains or losses are recognized upon remeasurement, which is at least annually in the fourth quarter of each year. For postretirement and postemployment plans, changes to the funded status are recognized as a component of other comprehensive loss in stockholders' equity.

NCR sponsors a U.S. postretirement benefit plan that no longer offers benefits to U.S. participants who had not reached a certain age and years of service with NCR. The plan provides medical care benefits to retirees and their eligible dependents. Non-U.S. employees are typically covered under government-sponsored programs, and NCR generally does not provide postretirement benefits other than pensions to non-U.S. retirees. NCR generally funds these benefits on a pay-as-you-go basis.

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Notes to Consolidated Financial Statements-(Continued)

NCR offers various postemployment benefits to involuntarily terminated and certain inactive employees after employment but before retirement. These benefits are paid in accordance with NCR's established postemployment benefit practices and policies. Postemployment benefits include mainly severance as well as continuation of healthcare benefits and life insurance coverage while on disability. NCR provides appropriate accruals for these postemployment benefits. These postemployment benefits are funded on a pay-as-you-go basis.

Pension Plans Reconciliation of the beginning and ending balances of the benefit obligations for NCR's pension plans are as follows:

In millions	U.S. Pension Benefits		International Pension Benefits		Total Pension Benefits	
	2018	2017	2018	2017	2018	2017
Change in benefit obligation						
Benefit obligation as of January 1	\$ 1,950	\$ 2,185	\$ 1,273	\$ 1,172	\$ 3,223	\$ 3,357
Net service cost	—	—	7	8	7	8
Interest cost	61	71	20	20	81	91
Amendment	—	—	4	—	4	—
Actuarial (gain) loss	(149)	121	(83)	43	(232)	164
Benefits paid	(99)	(427)	(86)	(75)	(185)	(502)
Plan participant contributions	—	—	1	1	1	1
Currency translation adjustments	—	—	(44)	104	(44)	104
Benefit obligation as of December 31	<u>\$ 1,763</u>	<u>\$ 1,950</u>	<u>\$ 1,092</u>	<u>\$ 1,273</u>	<u>\$ 2,855</u>	<u>\$ 3,223</u>
Accumulated benefit obligation as of December 31	<u>\$ 1,763</u>	<u>\$ 1,950</u>	<u>\$ 1,080</u>	<u>\$ 1,262</u>	<u>\$ 2,843</u>	<u>\$ 3,212</u>

A reconciliation of the beginning and ending balances of the fair value of the plan assets of NCR's pension plans are as follows:

In millions	U.S. Pension Benefits		International Pension Benefits		Total Pension Benefits	
	2018	2017	2018	2017	2018	2017
Change in plan assets						
Fair value of plan assets as of January 1	\$ 1,444	\$ 1,722	\$ 1,086	\$ 978	\$ 2,530	\$ 2,700
Actual return on plan assets	(76)	149	(34)	80	(110)	229
Company contributions	—	—	24	25	24	25
Benefits paid	(99)	(427)	(86)	(75)	(185)	(502)
Currency translation adjustments	—	—	(38)	77	(38)	77
Plan participant contributions	—	—	1	1	1	1
Fair value of plan assets as of December 31	<u>\$ 1,269</u>	<u>\$ 1,444</u>	<u>\$ 953</u>	<u>\$ 1,086</u>	<u>\$ 2,222</u>	<u>\$ 2,530</u>

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Notes to Consolidated Financial Statements-(Continued)

The following table presents the funded status and the reconciliation of the funded status to amounts recognized in the Consolidated Balance Sheets and in accumulated other comprehensive loss as of December 31:

In millions	U.S. Pension Benefits		International Pension Benefits		Total Pension Benefits	
	2018	2017	2018	2017	2018	2017
Funded Status	\$ (494)	\$ (506)	\$ (139)	\$ (187)	\$ (633)	\$ (693)
Amounts recognized in the Consolidated Balance Sheets						
Noncurrent assets	\$ —	\$ —	\$ 140	\$ 118	\$ 140	\$ 118
Current liabilities	—	—	(14)	(13)	(14)	(13)
Noncurrent liabilities	(494)	(506)	(265)	(292)	(759)	(798)
Net amounts recognized	\$ (494)	\$ (506)	\$ (139)	\$ (187)	\$ (633)	\$ (693)
Amounts recognized in accumulated other comprehensive loss						
Prior service cost	—	—	21	18	21	18
Total	\$ —	\$ —	\$ 21	\$ 18	\$ 21	\$ 18

For pension plans with accumulated benefit obligations in excess of plan assets, the projected benefit obligation, accumulated benefit obligation and fair value of assets were \$2,016 million, \$2,012 million, and \$1,271 million, respectively, as of December 31, 2018, and \$2,229 million, \$2,223 million and \$1,446 million, respectively, as of December 31, 2017.

The net periodic benefit (income) cost of the pension plans for the years ended December 31 was as follows:

In millions	U.S. Pension Benefits			International Pension Benefits			Total Pension Benefits		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Net service cost	\$ —	\$ —	\$ —	\$ 7	\$ 8	\$ 7	\$ 7	\$ 8	\$ 7
Interest cost	61	71	90	20	20	28	81	91	118
Expected return on plan assets	(43)	(57)	(72)	(32)	(35)	(36)	(75)	(92)	(108)
Amortization of prior service cost	—	—	—	1	1	1	1	1	1
Actuarial (gain) loss	(29)	28	16	(16)	—	69	(45)	28	85
Net periodic benefit (income) cost	\$ (11)	\$ 42	\$ 34	\$ (20)	\$ (6)	\$ 69	\$ (31)	\$ 36	\$ 103

Actuarial gains in 2018 were due to an increase in the discount rate as well as a favorable impact from a mortality update in the United Kingdom. Discount rates in 2017 remained consistent with 2016 and actuarial losses in 2017 were primarily due to a mortality update in the United States. Actuarial losses in 2016 were due to a decrease in the discount rate from the prior year, offset by a higher than expected return on global pension assets.

During 2017, the Company offered a voluntary lump sum payment option to certain former employees who were deferred vested participants of the Company's U.S. pension plan who had not yet started monthly payments of their pension benefit. The voluntary lump sum payment offer, which resulted in approximately \$130 million being paid out of plan assets, was completed during the fourth quarter of 2017. Additionally, during 2017, the Company entered into a single premium group annuity contract to secure approximately \$190 million of benefits for former employees or their related beneficiaries whose monthly pension benefit amount under the Company's U.S. pension plan was \$500 or less. These actions were completed during the fourth quarter of 2017 which resulted in an actuarial gain of \$25 million and is reflected as a component of the actuarial loss as a result of the annual remeasurement completed in the fourth quarter of 2017.

Effective January 1, 2017, we changed the method used to estimate the service and interest components of net periodic benefit cost for our significant pension plans where yield curves are available. Previously, we estimated such cost components utilizing a single weighted-average discount rate derived from the yield curve used to measure the pension benefit obligation. The new methodology utilizes a full yield curve approach by applying the specific spot rates along the yield curve used in the determination of the pension benefit obligation to their underlying projected cash flows and provides a more precise measurement of service and

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Notes to Consolidated Financial Statements-(Continued)

interest costs by improving the correlation between projected cash flows and their corresponding spot rates. This change does not affect the measurement of our total benefit obligation and was applied prospectively as a change in estimate, beginning January 1, 2017.

The weighted average rates and assumptions used to determine benefit obligations as of December 31 were as follows:

	U.S. Pension Benefits		International Pension Benefits		Total Pension Benefits	
	2018	2017	2018	2017	2018	2017
Discount rate	4.2%	3.6%	2.1%	1.9%	3.4%	2.9%
Rate of compensation increase	N/A	N/A	1.0%	0.9%	1.0%	0.9%

The weighted average rates and assumptions used to determine net periodic benefit (income) cost for the years ended December 31 were as follows:

	U.S. Pension Benefits			International Pension Benefits			Total Pension Benefits		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
Discount rate - Service Cost	N/A	N/A	N/A	1.4%	1.4%	2.6%	1.4%	1.4%	2.6%
Discount rate - Interest Cost	3.2%	3.4%	4.3%	1.6%	1.6%	2.6%	2.6%	2.8%	3.7%
Expected return on plan assets	3.1%	3.5%	4.3%	3.0%	3.5%	3.8%	3.1%	3.5%	4.1%
Rate of compensation increase	N/A	N/A	N/A	0.9%	0.9%	1.3%	0.9%	0.9%	1.3%

The weighted-average cash balance interest crediting rate for the Company's cash balance defined benefit plans was 1.4% for the years ended December 31, 2018 and 2017, respectively.

The discount rate used to determine U.S. benefit obligations as of December 31, 2018 was derived by matching the plans' expected future cash flows to the corresponding yields from the Aon Hewitt AA Bond Universe Curve. This yield curve has been constructed to represent the available yields on high-quality, fixed-income investments across a broad range of future maturities. International discount rates were determined by examining interest rate levels and trends within each country, particularly yields on high-quality, long-term corporate bonds, relative to our future expected cash flows. During 2014, the Society of Actuaries published updated mortality tables and an improvement scale for U.S. plans, which both reflect improved longevity. Based on evaluation of these new tables, we updated our mortality assumptions for our U.S. pension benefits as of December 31, 2016. In 2017, we made a further update to utilize the white collar version of the 2014 tables due to a study of plan specific experience.

NCR employs a building block approach as its primary approach in determining the long-term expected rate of return assumptions for plan assets. Historical market returns are studied and long-term relationships between equities and fixed income are preserved consistent with the widely accepted capital market principle that assets with higher volatilities generate higher returns over the long run. Current market factors, such as inflation and interest rates are evaluated before long-term capital market assumptions are determined. The expected long-term portfolio return is established for each plan via a building block approach with proper rebalancing consideration. The result is then adjusted to reflect additional expected return from active management net of plan expenses. Historical plan returns, the expectations of other capital market participants, and peer data may be used to review and assess the results for reasonableness and appropriateness.

Plan Assets The weighted average asset allocations as of December 31, 2018 and 2017 by asset category are as follows:

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Notes to Consolidated Financial Statements-(Continued)

	U.S. Pension Fund			International Pension Fund		
	Actual Allocation of Plan Assets as of December 31		Target Asset Allocation	Actual Allocation of Plan Assets as of December 31		Target Asset Allocation
	2018	2017		2018	2017	
Equity securities	—%	—%	0 - 0%	20%	22%	12 - 27%
Debt securities	98%	98%	95 - 100%	57%	58%	54 - 72%
Real estate	1%	1%	0 - 2%	14%	12%	6 - 14%
Other	1%	1%	0 - 3%	9%	8%	4 - 9%
Total	100%	100%		100%	100%	

The fair value of plan assets as of December 31, 2018 and 2017 by asset category is as follows:

In millions	Notes	U.S.					International				
		Fair Value as of December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Not Subject to Leveling	Fair Value as of December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Not Subject to Leveling
Assets											
<i>Equity securities:</i>											
Common stock	1	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 44	\$ 44	\$ —	\$ —	\$ —
<i>Fixed income securities:</i>											
Government securities	2	247	—	247	—	—	—	—	—	—	—
Corporate debt	3	761	—	761	—	—	100	—	100	—	—
<i>Other types of investments:</i>											
Money market funds	4	13	—	2	—	11	8	—	8	—	—
Common and commingled trusts - Equities	4	—	—	—	—	—	150	—	—	—	150
Common and commingled trusts - Bonds	4	174	—	—	—	174	405	—	—	—	405
Common and commingled trusts - Short Term Investments	4	27	—	—	—	27	40	—	—	—	40
Common and commingled trusts - Balanced	4	—	—	—	—	—	76	—	—	—	76
Partnership/joint venture interests - Real estate	5	4	—	—	—	4	—	—	—	—	—
Partnership/joint venture interests - Other	5	4	—	—	—	4	—	—	—	—	—
Mutual funds	4	39	39	—	—	—	—	—	—	—	—
Hedge Funds	5	—	—	—	—	—	—	—	—	—	—
Insurance products	4	—	—	—	—	—	1	—	1	—	—
Real estate and other	5	—	—	—	—	—	129	—	—	—	129
Total		\$ 1,269	\$ 39	\$ 1,010	\$ —	\$ 220	\$ 953	\$ 44	\$ 109	\$ 129	\$ 671

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Notes to Consolidated Financial Statements-(Continued)

In millions	Notes	U.S.					International				
		Fair Value as of December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Not Subject to Leveling	Fair Value as of December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Not Subject to Leveling
Assets											
<i>Equity securities:</i>											
Common stock	1	\$ 1	\$ —	\$ 1	\$ —	\$ —	\$ 56	\$ 56	\$ —	\$ —	\$ —
<i>Fixed income securities:</i>											
Government securities	2	223	—	223	—	—	49	—	49	—	—
Corporate debt	3	895	—	895	—	—	141	—	139	2	—
<i>Other types of investments:</i>											
Money market funds	4	24	—	—	—	24	15	—	10	—	5
Common and commingled trusts - Equities	4	—	—	—	—	—	182	—	—	—	182
Common and commingled trusts - Bonds	4	207	—	—	—	207	421	—	—	—	421
Common and commingled trusts - Short Term Investments	4	31	—	—	—	31	24	—	—	—	24
Common and commingled trusts - Balanced	4	—	—	—	—	—	68	—	—	—	68
Partnership/joint venture interests - Real estate	5	5	—	—	—	5	—	—	—	—	—
Partnership/joint venture interests - Other	5	5	—	—	—	5	—	—	—	—	—
Mutual funds	4	53	53	—	—	—	—	—	—	—	—
Hedge Funds	5	—	—	—	—	—	—	—	—	—	—
Insurance products	4	—	—	—	—	—	1	—	1	—	—
Real estate and other	5	—	—	—	—	—	129	—	—	129	—
Total		\$ 1,444	\$ 53	\$ 1,119	\$ —	\$ 272	\$ 1,086	\$ 56	\$ 199	\$ 131	\$ 700

Notes:

- Common stocks are valued based on quoted market prices at the closing price as reported on the active market on which the individual securities are traded.
- Government securities are valued based on yields currently available on comparable securities of issuers with similar credit ratings. When quoted prices are not available for identical or similar securities, the security is valued under a discounted cash flows approach that maximizes observable inputs, such as current yields on similar instruments but includes adjustments for certain risks that may not be observable, such as credit and liquidity risks.
- Corporate debt is valued primarily based on observable market quotations for similar bonds at the closing price reported on the active market on which the individual securities are traded. When such quoted prices are not available, the bonds are valued using a discounted cash flows approach using current yields on similar instruments of issuers with similar credit ratings.
- Common/collective trusts and registered investment companies (RICs) such as mutual funds are valued using a Net Asset Value (NAV) provided by the manager of each fund. The NAV is based on the underlying net assets owned by the fund, divided by the number of shares or units outstanding. The fair value of the underlying securities within the fund, which are generally traded on an active market, are valued at the closing price reported on the active market on which those individual securities are traded. For investments not traded on an active market, or for which a quoted price is not publicly available, a variety of unobservable valuation methodologies, including discounted cash flow, market multiple and cost valuation approaches, are employed by the fund manager or independent third party to value investments.

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Notes to Consolidated Financial Statements-(Continued)

5. Partnership/joint ventures and hedge funds are valued based on the fair value of the underlying securities within the fund, which include investments both traded on an active market and not traded on an active market. For those investments that are traded on an active market, the values are based on the closing price reported on the active market on which those individual securities are traded and in the case of hedge funds they are valued using a Net Asset Value (NAV) provided by the manager of each fund. For investments not traded on an active market, or for which a quoted price is not publicly available, a variety of unobservable valuation methodologies, including discounted cash flow, market multiples and cost valuation approaches, are employed by the fund manager to value investments.

The following table presents the reconciliation of the beginning and ending balances of those plan assets classified within Level 3 of the valuation hierarchy. When the determination is made to classify the plan assets within Level 3, the determination is based upon the significance of the unobservable inputs to the overall fair value measurement.

In millions	International Pension Plans	
Balance, December 31, 2016	\$	124
Realized and unrealized gains and losses, net		7
Purchases, sales and settlements, net		—
Transfers, net		—
Balance, December 31, 2017	\$	131
Realized and unrealized gains and losses, net		—
Purchases, sales and settlements, net		—
Transfers, net		(2)
Balance, December 31, 2018	\$	129

Investment Strategy NCR has historically employed a total return investment approach, whereby a mix of fixed-income, equities and real estate investments are used to maximize the long-term return of plan assets subject to a prudent level of risk. The risk tolerance is established for each plan through a careful consideration of plan liabilities, plan funded status and corporate financial condition. To reduce volatility in the value of assets held by the U.S. pension plan, we have rebalanced the asset allocation to a portfolio of 98% of fixed income assets as of December 31, 2018. Similar investment strategy changes are under consideration or being implemented in a number of NCR's international plans.

The investment portfolios contain primarily fixed-income investments, which are diversified across U.S. and non-U.S. issuers, type of fixed-income security (i.e., government bonds, corporate bonds, mortgage-backed securities) and credit quality. The investment portfolios also contain a blend of equity investments, which are diversified across U.S. and non-U.S. stocks, small and large capitalization stocks, and growth and value stocks, primarily of non-U.S. issuers. Where applicable, real estate investments are made through real estate securities, partnership interests or direct investment and are diversified by property type and location. Other assets, such as cash or private equity are used judiciously to improve portfolio diversification and enhance risk-adjusted portfolio returns. Derivatives may be used to adjust market exposures in an efficient and timely manner. Due to the timing of security purchases and sales, cash held by fund managers is classified in the same asset category as the related investment. Rebalancing algorithms are applied to keep the asset mix of the plans from deviating excessively from their targets. Investment risk is measured and monitored on an ongoing basis through regular performance reporting, investment manager reviews, actuarial liability measurements and periodic investment strategy reviews.

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Notes to Consolidated Financial Statements-(Continued)

Postretirement Plans Reconciliation of the beginning and ending balances of the benefit obligation for NCR's U.S. postretirement plan is as follows:

In millions	Postretirement Benefits	
	2018	2017
Change in benefit obligation		
Benefit obligation as of January 1	\$ 21	\$ 25
Interest cost	—	1
Actuarial gain	(3)	(3)
Plan participant contributions	1	—
Benefits paid	(1)	(2)
Benefit obligation as of December 31	<u>\$ 18</u>	<u>\$ 21</u>

The following table presents the funded status and the reconciliation of the funded status to amounts recognized in the Consolidated Balance Sheets and in accumulated other comprehensive loss as of December 31:

In millions	Postretirement Benefits	
	2018	2017
Benefit obligation	\$ (18)	\$ (21)
Amounts recognized in the Consolidated Balance Sheets		
Current liabilities	\$ (2)	\$ (2)
Noncurrent liabilities	(16)	(19)
Net amounts recognized	<u>\$ (18)</u>	<u>\$ (21)</u>
Amounts recognized in accumulated other comprehensive loss		
Net actuarial loss	\$ 7	\$ 11
Prior service benefit	(8)	(13)
Total	<u>\$ (1)</u>	<u>\$ (2)</u>

The net periodic benefit income of the postretirement plan for the years ended December 31 was:

In millions	Postretirement Benefits		
	2018	2017	2016
Interest cost	\$ —	\$ 1	\$ 1
Amortization of:			
Prior service benefit	(5)	(6)	(14)
Actuarial loss	1	2	2
Net periodic benefit income	<u>\$ (4)</u>	<u>\$ (3)</u>	<u>\$ (11)</u>

The assumptions utilized in accounting for postretirement benefit obligations as of December 31 and for postretirement benefit income for the years ended December 31 were:

	Postretirement Benefit Obligations			Postretirement Benefit Costs		
	2018	2017	2016	2018	2017	2016
Discount rate	3.7%	3.1%	3.2%	3.1%	3.2%	3.3%

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Assumed healthcare cost trend rates as of December 31 were:

	2018		2017	
	Pre-65 Coverage	Post-65 Coverage	Pre-65 Coverage	Post-65 Coverage
Healthcare cost trend rate assumed for next year	7.1%	6.1%	6.6%	5.9%
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	5.0%	5.0%	5.0%	5.0%
Year that the rate reaches the ultimate rate	2027	2027	2025	2025

In addition, a one percentage point change in assumed healthcare cost trend rates would have had an immaterial impact on the postretirement benefit income and obligation.

Postemployment Benefits Reconciliation of the beginning and ending balances of the benefit obligation for NCR's postemployment plan was:

In millions	Postemployment Benefits	
	2018	2017
Change in benefit obligation		
Benefit obligation as of January 1	\$ 142	\$ 127
Service cost	43	34
Interest cost	3	2
Benefits paid	(40)	(34)
Foreign currency exchange	(6)	9
Actuarial (gain) loss	(3)	4
Benefit obligation as of December 31	\$ 139	\$ 142

The following table presents the funded status and the reconciliation of the unfunded status to amounts recognized in the Consolidated Balance Sheets and in accumulated other comprehensive loss at December 31:

In millions	Postemployment Benefits	
	2018	2017
Benefit obligation	\$ (139)	\$ (142)
Amounts recognized in the Consolidated Balance Sheets		
Current liabilities	\$ (37)	\$ (28)
Noncurrent liabilities	(102)	(114)
Net amounts recognized	\$ (139)	\$ (142)
Amounts recognized in accumulated other comprehensive loss		
Net actuarial gain	\$ (28)	\$ (20)
Prior service benefit	(6)	(11)
Total	\$ (34)	\$ (31)

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Notes to Consolidated Financial Statements-(Continued)

The net periodic benefit cost of the postemployment plan for the years ended December 31 was:

In millions	Postemployment Benefits		
	2018	2017	2016
Service cost	\$ 43	\$ 34	\$ 16
Interest cost	3	2	3
Amortization of:			
Prior service benefit	(5)	(6)	(6)
Actuarial gain	(1)	(6)	(7)
Net benefit cost	\$ 40	\$ 24	\$ 6
Restructuring severance cost	—	—	4
Net periodic benefit cost	\$ 40	\$ 24	\$ 10

The weighted average assumptions utilized in accounting for postemployment benefit obligations as of December 31 and for postemployment benefit costs for the years ended December 31 were:

	Postemployment Benefit Obligations		Postemployment Benefit Costs		
	2018	2017	2018	2017	2016
Discount rate	2.4%	2.3%	2.3%	2.0%	2.2%
Salary increase rate	1.9%	1.9%	1.9%	1.8%	2.1%
Involuntary turnover rate	4.3%	4.8%	4.8%	4.8%	4.8%

Cash Flows Related to Employee Benefit Plans

Cash Contributions NCR does not plan to contribute to the U.S. qualified pension plan in 2019, and plans to contribute approximately \$28 million to the international pension plans in 2019. The Company also plans to make contributions of approximately \$2 million to the U.S. postretirement plan and approximately \$30 million to the postemployment plan in 2019.

Estimated Future Benefit Payments NCR expects to make the following benefit payments reflecting past and future service from its pension, postretirement and postemployment plans:

In millions	U.S. Pension Benefits		International Pension Benefits		Total Pension Benefits		Postretirement Benefits		Postemployment Benefits	
Year										
2019	\$	105	\$	50	\$	155	\$	2	\$	30
2020	\$	107	\$	50	\$	157	\$	2	\$	20
2021	\$	110	\$	49	\$	159	\$	2	\$	19
2022	\$	112	\$	50	\$	162	\$	1	\$	17
2023	\$	114	\$	48	\$	162	\$	1	\$	16
2024-2028	\$	581	\$	255	\$	836	\$	4	\$	66

Savings Plans U.S. employees and many international employees participate in defined contribution savings plans. These plans generally provide either a specified percent of pay or a matching contribution on participating employees' voluntary elections. NCR's matching contributions typically are subject to a maximum percentage or level of compensation. Employee contributions can be made pre-tax, after-tax or a combination thereof. The expense under the U.S. plan was approximately \$27 million in 2018, \$26 million in 2017, and \$24 million in 2016. The expense under international and subsidiary savings plans was \$24 million in 2018, \$24 million in 2017, and \$26 million in 2016.

Amounts to be Recognized The amounts in accumulated other comprehensive loss that are expected to be recognized as components of net periodic benefit cost (income) during 2019 are as follows:

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In millions	U.S. Pension Benefits	International Pension Benefits	Total Pension Benefits	Postretirement Benefits	Postemployment Benefits
Prior service cost (benefit)	\$ —	\$ 1	\$ 1	\$ (5)	\$ (2)
Actuarial loss (gain)	\$ —	\$ —	\$ —	\$ 1	\$ (2)

10. COMMITMENTS AND CONTINGENCIES

In the normal course of business, NCR is subject to various proceedings, lawsuits, claims and other matters, including, for example, those that relate to the environment and health and safety, labor and employment, employee benefits, import/export compliance, intellectual property, data privacy and security, product liability, commercial disputes and regulatory compliance, among others. Additionally, NCR is subject to diverse and complex laws and regulations, including those relating to corporate governance, public disclosure and reporting, environmental safety and the discharge of materials into the environment, product safety, import and export compliance, data privacy and security, antitrust and competition, government contracting, anti-corruption, and labor and human resources, which are rapidly changing and subject to many possible changes in the future. Compliance with these laws and regulations, including changes in accounting standards, taxation requirements, and federal securities laws among others, may create a substantial burden on, and substantially increase costs to NCR or could have an impact on NCR's future operating results. The Company has reflected all liabilities when a loss is considered probable and reasonably estimable in the Consolidated Financial Statements. We do not believe there is a reasonable possibility that losses exceeding amounts already recognized have been incurred, but there can be no assurances that the amounts required to satisfy alleged liabilities from such matters will not impact future operating results. Other than as stated below, the Company does not currently expect to incur material capital expenditures related to such matters. However, there can be no assurances that the actual amounts required to satisfy alleged liabilities from various lawsuits, claims, legal proceedings and other matters, including, but not limited to the Fox River and Kalamazoo River environmental matters and other matters discussed below, and to comply with applicable laws and regulations, will not exceed the amounts reflected in NCR's Consolidated Financial Statements or will not have a material adverse effect on its consolidated results of operations, capital expenditures, competitive position, financial condition or cash flows.

In June 2014, one of the Company's Brazilian subsidiaries, NCR Manaus, was notified of a Brazilian federal tax assessment of R168 million, or approximately \$43 million as of December 31, 2018, including penalties and interest regarding certain federal indirect taxes for 2010 through 2012. The assessment alleges improper importation of certain components into Brazil's free trade zone that would nullify related indirect tax incentives. We have not recorded an accrual for the assessment, as the Company believes it has a valid position regarding indirect taxes in Brazil and, as such, has filed an appeal in 2014. In December 2017, the Company prevailed in this appeal regarding substantially all of the disputed amounts. However, the Brazilian federal tax authority has further appealed this dispute to the next procedural level, so the dispute is ongoing. In further proceedings on this matter, an intermediate tribunal decided in NCR's favor in August 2018; a written opinion had not been issued as of December 31, 2018, but is expected soon. The Brazilian tax authorities will have the ability to appeal the decision. The Company estimated the aggregate risk related to this matter to be between zero and \$64 million as of December 31, 2018. Although the Company has not recorded an accrual, it is possible that the Company could be required to pay taxes, penalties and interest related to this matter, which could be material to the Company's Consolidated Financial Statements.

Environmental Matters NCR's facilities and operations are subject to a wide range of environmental protection laws, and NCR has investigatory and remedial activities underway at a number of facilities that it currently owns or operates, or formerly owned or operated, to comply, or to determine compliance, with such laws. Also, NCR has been identified, either by a government agency or by a private party seeking contribution to site clean-up costs, as a potentially responsible party (PRP) at a number of sites pursuant to various state and federal laws, including the Federal Water Pollution Control Act, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and comparable state statutes. Other than the Fox River matter and the Kalamazoo River matter discussed below, we currently do not anticipate material expenses and liabilities from these environmental matters.

Fox River NCR is one of eight entities that were formally notified by governmental and other entities, such as local Native American tribes, that they are PRPs for environmental claims (under CERCLA and other statutes) arising out of the presence of polychlorinated biphenyls (PCBs) in sediments in the lower Fox River and in the Bay of Green Bay in Wisconsin. The other Fox River PRPs that received notices include Appleton Papers Inc. (API; now known as Appvion, Inc.), P.H. Glatfelter Company ("Glatfelter"), Georgia-Pacific Consumer Products LP (GP, successor to Fort James Operating Company), and others. NCR was identified as a PRP because of alleged PCB discharges from two carbonless copy paper manufacturing facilities it previously owned, which were located along the Fox River. NCR sold its facilities in 1978 to API. The parties have also contended that NCR is responsible for PCB discharges

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Notes to Consolidated Financial Statements-(Continued)

from paper mills owned by other companies because NCR carbonless copy paper "broke" was allegedly purchased by those other mills as a raw material.

The United States Environmental Protection Agency (USEPA) and Wisconsin Department of Natural Resources (together, the Governments) developed clean-up plans for the upper and lower parts of the Fox River and for portions of the Bay of Green Bay. On November 13, 2007, the Governments issued a unilateral administrative order (the 2007 Order) under CERCLA to the eight original PRPs, requiring them to perform remedial work under the Governments' clean-up plan for the lower parts of the river (operable units 2 through 5). In April 2009, NCR and API formed a limited liability company (the LLC), which entered into an agreement with an environmental remediation contractor to perform the work at the Fox River site. In-water dredging and remediation under the clean-up plan commenced shortly thereafter.

NCR and API, along with B.A.T Industries p.l.c. (BAT), share among themselves a portion of the cost of the Fox River clean-up and natural resource damages (NRD) based upon a 1998 agreement (the Cost Sharing Agreement), a 2005 arbitration award (subsequently confirmed as a judgment), and a September 30, 2014 Funding Agreement (the Funding Agreement). The Cost Sharing Agreement and the arbitration resolved disputes that arose out of the Company's 1978 sale of its Fox River facilities to API. The Cost Sharing Agreement and arbitration award resulted in a 45% share for NCR of the first \$75 million of such costs (a threshold that was reached in 2008), and a 40% share for amounts in excess of \$75 million. The Funding Agreement arose out of a 2012 to 2014 arbitration dispute between NCR and API, and provides for regular, ongoing funding of NCR incurred Fox River remediation costs via contributions, made to a new limited liability corporation created by the Funding Agreement, by BAT, API and, for 2014, API's indemnitor, Windward Prospects. The Funding Agreement creates an obligation on BAT and API to fund 50% of NCR's Fox River remediation costs from October 1, 2014 forward (API's Fox River-related obligations under the Funding Agreement were fully satisfied in 2016); the Funding Agreement also provides NCR contractual avenues for payment of, via direct and third-party sources, (1) the difference between BAT's and API's 60% obligation under the Cost Sharing Agreement and arbitration award on the one hand and their ongoing (since September 2014) 50% payments under the Funding Agreement on the other, as well as (2) the difference between the amount NCR received under the Funding Agreement and the amount owed to it under the Cost Sharing Agreement and arbitration award for the period from April 2012 through September 2014. For the years ended December 31, 2018 and 2017, the receivable under the Funding Agreement was approximately \$45 million and \$38 million, respectively, and was included in other assets in the Consolidated Balance Sheet. The Company anticipates that it will collect sums related to the receivable in 2019 or later, likely after the remediation efforts related to the Fox River matter, described below, are complete. This receivable is not taken into account in calculating the Company's Fox River net reserve.

The Company's litigations relating to contribution and enforcement claims concerning the Fox River have largely been concluded. A proposed consent decree settlement (the CD settlement) with respect to the contribution action (a case originally filed by NCR and API) and the government enforcement action (a case originally filed by the federal and state governments against several PRPs, including the Company) was successfully negotiated by NCR and the federal and state governments and was approved on August 22, 2017 by the federal district court in Wisconsin that had been presiding over those cases. A final order of dismissal as to the Company in the contribution and government enforcement actions was subsequently entered; one party, Glatfelter, has appealed the approval of the CD settlement. On January 3, 2019, the United States lodged a proposed consent decree with the Wisconsin court, reflecting a settlement reached by the United States, Wisconsin and Glatfelter with respect to Glatfelter's Fox River liability under the government enforcement action; a component of that settlement is withdrawal of Glatfelter's appeal opposing the Company's CD settlement. Glatfelter requested a stay of that appeal, and the appellate court granted the stay and suspended appellate proceedings on January 15, 2019, pending action by the Wisconsin court on the proposed consent decree.

The CD settlement, if approved on appeal or if, as discussed above, the appeal is withdrawn, is expected to resolve the remaining Fox River-related contribution and enforcement claims against the Company. The key components of the approved CD settlement include (1) the Company's commitment to complete the remediation of the Fox River, which is now expected to be completed in 2019 or 2020; (2) the Company's conditional agreement to waive its contribution claims against the two remaining defendants in the case, GP and Glatfelter; (3) the Company's agreement not to appeal the trial court's decision on divisibility of harm; (4) the Governments' agreement to include in the settlement so-called "contribution protection" in the Company's favor as to GP's and Glatfelter's contribution claims against the Company, the effect of which will be to extinguish those claims; (5) the Governments' agreement not to pursue the Company for the Governments' past oversight costs; and (6) the Governments' agreement to exercise prosecutorial discretion in pursuing other parties for future oversight costs and long-term monitoring and maintenance, with the Company retaining so-called "backstop" liability in the event that the other parties fail to pay future oversight costs or to perform long-term monitoring and maintenance. Additionally, although certain state law claims by GP and Glatfelter against the Company may not be affected directly by the CD settlement, the CD settlement provides that the Company's contribution claims against those two parties will revive if those parties attempt to assert any claims against the Company relating to the Fox River, including any state law claims.

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In the quarter ending September 30, 2017, the remediation general contractor commenced an arbitration against the LLC, in a dispute over contract interpretation. That dispute is scheduled for a hearing in mid-2019. The amounts claimed by the contractor range from approximately \$35 million to approximately \$45 million; the Company disputes the claims and is contesting them vigorously. To the extent, if any, that the contractor's claims are successful, the Company's indemnitors and co-obligors, described below, would be expected to bear responsibility for the majority of any award, with the Company's share approximately one-fourth of such award.

With respect to the Company's prior dispute with API, which was generally superseded by the Funding Agreement, the Company received timely payments as they came due under the Funding Agreement. Although API filed for bankruptcy protection in October 2017, it had made all of the payments to the Company in connection with the Fox River that are required of it by the Funding Agreement.

NCR's eventual remediation liability, followed by long-term monitoring expected to be performed by others, will depend on a number of factors. In establishing the reserve, NCR attempts to estimate a range of reasonably possible outcomes for each of these factors, although each range is itself uncertain. NCR uses its best estimate within the range, if that is possible. Where there is a range of equally possible outcomes, and there is no amount within that range that is considered to be a better estimate than any other amount, NCR uses the low end of the range. The significant factors include: (1) the total remaining clean-up costs (in-river remediation is expected to be completed in 2019, depending on the outcome of certain requests made by the governments concerning additional dredging, the expected cost impact of which is expected to be neutral or non-material to the Company), including long-term monitoring following completion of the clean-up, and what parties are assigned to discharge the post-clean-up tasks (as noted, the Company no longer expects to bear long-term monitoring costs); (2) total NRD for the site and the share that NCR will bear (which is now resolved as to the Company); (3) the share of clean-up costs that NCR will bear (which is resolved under the CD settlement); (4) NCR's transaction and litigation costs to defend itself in this matter (with remaining litigation expected to be limited to the Glatfelter appeal, which as noted is now expected to be dismissed, and the claim brought by the general contractor, both referenced above); and (5) the share of NCR's payments that BAT will bear (which is governed by the Cost Sharing Agreement and the Funding Agreement, BAT has made all of the payments requested of it, and as discussed above; API is in bankruptcy and is not presumed likely to bear further shares of NCR's payments). With respect to NRD, in connection with a certain settlement entered into by other PRPs in 2015, the Government withdrew the NRD claims it had prosecuted on behalf of NRD trustees, including those NRD claims asserted against the Company.

Calculation of the Company's Fox River reserve is subject to several complexities, and it is possible there could be additional changes to some elements of the reserve over upcoming periods, although the Company is unable to predict or estimate such changes at this time. There can be no assurance that the clean-up and related expenditures and liabilities will not have a material effect on NCR's capital expenditures, earnings, financial condition, cash flows, or competitive position. As of December 31, 2018 and 2017, the gross reserve for the Fox River matter was approximately \$21 million and \$36 million, respectively. As of December 31, 2018 and 2017, the net reserve for the Fox River matter was approximately \$17 million and \$35 million, respectively. The change in the net reserve is primarily due to ongoing payments for clean-up activities. NCR contributes to the LLC to fund remediation activities and generally, by contract, has funded certain amounts of remediation expenses in advance. As of December 31, 2018 and 2017, approximately zero remained from this funding. NCR's reserve for the Fox River matter is reduced as the LLC makes payments to the remediation contractor and other vendors with respect to remediation activities.

Under a 1996 agreement, AT&T Corp. (AT&T) and Nokia (as the successor to Lucent Technologies and Alcatel-Lucent USA) are responsible severally (not jointly) for indemnifying NCR for certain portions of the amounts paid by NCR for the Fox River matter over a defined threshold and subject to certain offsets. (The agreement governs certain aspects of AT&T's divestiture of NCR and of what was then known as Lucent Technologies.) Those companies have made the payments requested of them by the Company on an ongoing basis.

Kalamazoo River In November 2010, USEPA issued a "general notice letter" to NCR with respect to the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Kalamazoo River site) in Michigan. Three other companies - International Paper, Mead Corporation, and Consumers Energy - also received general notice letters at or about the same time. USEPA asserts that the site is contaminated by various substances, primarily PCBs, as a result of discharges by various paper mills located along the river. USEPA does not claim that the Company made direct discharges into the Kalamazoo River, and NCR never had facilities at or near the Kalamazoo River site, but USEPA indicated that "NCR may be liable under Section 107 of CERCLA ... as an arranger, who by contract or agreement, arranged for the disposal, treatment and/or transportation of hazardous substances at the Site." USEPA stated that it "may issue special notice letters to [NCR] and other PRPs for future RI/FS [remedial investigation / feasibility studies] and RD/RA [remedial design / remedial action] negotiations."

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In connection with the Kalamazoo River site, in December 2010 the Company, along with two other defendants, was sued in federal court by three Georgia-Pacific (GP) affiliate corporations in a private-party contribution and cost recovery action for alleged pollution. The suit, pending in Michigan, asks that the Company and other defendants pay a "fair portion" of these companies' costs. Various removal and remedial actions remain to be decided upon and performed at the Kalamazoo River site, the costs for which generally have not yet been determined; in 2017 Records of Decisions were issued for two parts of the river, and in 2018 such a decision was issued for another part of the river, but such decisions for the majority of the work are expected to be made only over the next several years. The suit alleges that the Company is liable to the GP entities as an "arranger" under CERCLA. The initial phase of the case was tried in a Michigan federal court in February 2013; on September 26, 2013 the court issued a decision that held NCR was liable as an "arranger" as of at least March 1969. (PCB-containing carbonless copy paper was produced from approximately 1954 to April 1971, and the majority of contamination at the Kalamazoo River site had occurred prior to 1969). NCR preserved its right to appeal the September 2013 decision.

In the 2013 decision the Court did not determine NCR's share of the overall liability. Relative shares of liability for the four companies were tried to the court in a subsequent phase of the case in December 2015. In a ruling issued on March 29, 2018, the court addressed responsibility for the costs that GP had incurred in the past, totaling to approximately \$50 million (GP had sought approximately \$105 million, but \$55 million of those claims were removed by the court upon motions filed by the Company and other parties); NCR and GP were each assigned a 40% share of those costs, and the other two companies were assigned 15% and 5% as their allocations. The court entered a judgment in the case on June 19, 2018, in which it indicated that it would not allocate future costs, but would enter a declaratory judgment that the four companies together had responsibility for future costs, in amounts and shares to be determined. Cross-proceedings have been commenced to obtain recoveries from the other parties pursuant to the judgment; those proceedings are stayed pending the appeal referenced below.

NCR expects to have claims against BAT and API under the Funding Agreement discussed above for the Kalamazoo River remediation expenses. API filed for bankruptcy protection in October 2017, and thus payment of its potential share under the Funding Agreement for so-called "future sites," which would include the Kalamazoo River site, may be at risk, but as liability under the Cost Sharing Agreement and the Funding Agreement is joint and several, the bankruptcy is not anticipated to affect the Company's ability to seek that amount from BAT. The Company will also have indemnity or reimbursement claims against AT&T and Nokia under the arrangement discussed above in connection with the Fox River matter after expenses have met a contractual threshold set out in the 1996 agreement referenced above in the Fox River discussion.

In light of the 2018 decision, the Company increased its reserve for the Kalamazoo River matter to \$47 million as of December 31, 2018 as compared to \$1 million as of December 31, 2017; that figure is reported on a basis that is net of expected contributions from the Company's co-obligors and, if and when the applicable threshold is reached, its indemnitors. As many aspects of the costs of remediation will not be determined for several years (and thus the high end of a range of possible costs for many areas of the site cannot be quantified at this time), the Company has made what it considers to be reasonable estimates of the low end of a range for such costs where remedies are identified, and/or of the costs of investigations and studies for areas of the river where remedies have not yet been determined, and the reserve is informed by those estimates. The extent of NCR's potential liability remains subject to many uncertainties, particularly inasmuch as remedy decisions and cost estimates will not be generated until times in the future and as most of the work to be performed will not take place until the 2020s and 2030s. Under other assumptions or estimates for possible costs of remediation, which the Company does not at this point consider to be reasonably estimable or verifiable, it is possible that the reserve the Company has taken to discontinued operations reflected in this paragraph could more than double the reflected reserve.

In July 2018 the Company appealed to the United States Court of Appeals for the Sixth Circuit both the 2013 court decision, which it believes is in conflict with a decision from the Fox River trial court as to Operable Unit 1 of that site and an affirmance of that decision from the Court of Appeals for the Seventh Circuit, and the 2018 court decision, on various legal grounds. The Company filed a bond to stay any execution of the judgment pending the appeal, and its application for a stay was approved by the court.

Environmental-Related Insurance Recoveries In connection with the Fox River and other environmental sites, through December 31, 2018, NCR has received a combined gross total of approximately \$202 million in settlements reached with various of its insurance carriers. Portions of many of these settlements agreed in the 2010 through 2013 timeframe are payable to a law firm that litigated the claims on the Company's behalf. Some of the settlements cover not only the Fox River but also other environmental sites; some are limited to either the Fox River or the Kalamazoo River site. Some of the settlements are directed to defense costs and some are directed to indemnity; some settlements cover both defense costs and indemnity. The Company does not anticipate that further material insurance recoveries specific to Kalamazoo River remediation costs will be available to it, owing to considerations under applicable Michigan law. Claims with respect to Kalamazoo River defense costs have now been settled, with the amounts of those settlements included in the sum reported above.

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Notes to Consolidated Financial Statements-(Continued)

Environmental Remediation Estimates It is difficult to estimate the future financial impact of environmental laws, including potential liabilities. NCR records environmental provisions when it is probable that a liability has been incurred and the amount or range of the liability is reasonably estimable; in accordance with accounting guidance, where liabilities are not expected to be quantifiable or estimable for a period of years, the estimated costs of investigating those liabilities are recorded as a component of the reserve for that particular site. Provisions for estimated losses from environmental restoration and remediation are, depending on the site, based generally on internal and third-party environmental studies, estimates as to the number and participation level of other PRPs, the extent of contamination, estimated amounts for attorney and other fees, and the nature of required clean-up and restoration actions. Reserves are adjusted as further information develops or circumstances change. Management expects that the amounts reserved from time to time will be paid out over the period of investigation, negotiation, remediation and restoration for the applicable sites. The amounts provided for environmental matters in NCR's Consolidated Financial Statements are the estimated gross undiscounted amounts of such liabilities, without deductions for indemnity insurance, third-party indemnity claims or recoveries from other PRPs, except as qualified in the following sentences. In those cases where insurance carriers or third-party indemnitors have agreed to pay any amounts and management believes that collectability of such amounts is probable, the amounts are recorded in the Consolidated Financial Statements. For the Fox River and Kalamazoo sites, as described above, assets relating to the AT&T and Nokia indemnities and to the BAT obligations are recorded as payment is supported by contractual agreements, public filings and/or payment history.

Guarantees and Product Warranties In the ordinary course of business, NCR may issue performance guarantees on behalf of its subsidiaries to certain of its customers and other parties. Some of those guarantees may be backed by standby letters of credit, surety bonds, or similar instruments. In general, under the guarantees, NCR would be obligated to perform, or cause performance, over the term of the underlying contract in the event of an unexcused, uncured breach by its subsidiary, or some other specified triggering event, in each case as defined by the applicable guarantee. NCR believes the likelihood of having to perform under any such guarantee is remote. As of December 31, 2018 and 2017, NCR had no material obligations related to such guarantees, and therefore its Consolidated Financial Statements do not have any associated liability balance.

NCR provides its customers a standard manufacturer's warranty and records, at the time of the sale, a corresponding estimated liability for potential warranty costs. Estimated future obligations due to warranty claims are based upon historical factors, such as labor rates, average repair time, travel time, number of service calls per machine and cost of replacement parts. When a sale is consummated, the total customer revenue is recognized, provided that all revenue recognition criteria are otherwise satisfied, and the associated warranty liability is recorded using pre-established warranty percentages for the respective product classes.

From time to time, product design or quality corrections are accomplished through modification programs. When identified, associated costs of labor and parts for such programs are estimated and accrued as part of the warranty reserve.

The Company recorded the activity related to the warranty reserve for the years ended December 31 as follows:

In millions	2018	2017	2016
Warranty reserve liability			
Beginning balance as of January 1	\$ 26	\$ 27	\$ 24
Accruals for warranties issued	42	43	42
Settlements (in cash or in kind)	(42)	(44)	(39)
Ending balance as of December 31	<u>\$ 26</u>	<u>\$ 26</u>	<u>\$ 27</u>

In addition, NCR provides its customers with certain indemnification rights. In general, NCR agrees to indemnify the customer if a third party asserts patent or other infringement on the part of its customers for its use of the Company's products subject to certain conditions that are generally standard within the Company's industries. On limited occasions the Company will undertake additional indemnification obligations for business reasons. From time to time, NCR also enters into agreements in connection with its acquisition and divestiture activities that include indemnification obligations by the Company. The fair value of these indemnification obligations is not readily determinable due to the conditional nature of the Company's potential obligations and the specific facts and circumstances involved with each particular agreement. The Company has not recorded a liability in connection with these indemnifications, and no current indemnification instance is material to the Company's financial position. Historically, payments made by the Company under these types of agreements have not had a material effect on the Company's consolidated financial condition, results of operations or cash flows.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Purchase Commitments The Company has purchase commitments for materials, supplies, services, and property, plant and equipment as part of the normal course of business. This includes a long-term service agreement with Accenture under which many of NCR's key transaction processing activities and functions are performed.

Leases NCR conducts certain of its sales and manufacturing operations using leased facilities, and also operates certain equipment and vehicles under leases, the initial lease terms of which vary in length. Many of the leases contain renewal options and escalation clauses that are not material to the overall lease portfolio. Our lease obligations also include amounts owed for our world headquarters in Atlanta, Georgia. Future minimum lease payments under non-cancelable operating leases as of December 31, 2018, for the following fiscal years are:

In millions	2019	2020	2021	2022	2023
Minimum lease obligations	\$ 128	\$ 96	\$ 80	\$ 64	\$ 50

Total rental expense for operating leases was \$148 million in 2018, \$144 million in 2017, and \$132 million in 2016.

11. DERIVATIVES AND HEDGING INSTRUMENTS

NCR is exposed to risks associated with changes in foreign currency exchange rates and interest rates. NCR utilizes a variety of measures to monitor and manage these risks, including the use of derivative financial instruments. NCR has exposure to approximately 50 functional currencies. Since a substantial portion of our operations and revenue occur outside the U.S., and in currencies other than the U.S. Dollar, our results can be significantly impacted, both positively and negatively, by changes in foreign currency exchange rates.

Foreign Currency Exchange Risk The accounting guidance for derivatives and hedging requires companies to recognize all derivative instruments as either assets or liabilities at fair value in the Consolidated Balance Sheets. The Company designates foreign exchange contracts as cash flow hedges of forecasted transactions when they are determined to be highly effective at inception.

Our risk management strategy includes hedging, on behalf of certain subsidiaries, a portion of our forecasted, non-functional currency denominated cash flows for a period of up to 15 months. As a result, some of the impact of currency fluctuations on non-functional currency denominated transactions (and hence on subsidiary operating income, as stated in the functional currency), is mitigated in the near term. The amount we hedge and the duration of hedge contracts may vary significantly. In the longer term (greater than 15 months), the subsidiaries are still subject to the effect of translating the functional currency results to U.S. Dollars. To manage our exposures and mitigate the impact of currency fluctuations on the operations of our foreign subsidiaries, we hedge our main transactional exposures through the use of foreign exchange forward and option contracts. This is primarily done through the hedging of foreign currency denominated inter-company inventory purchases by NCR's marketing units and the foreign currency denominated inputs to our manufacturing units. The related foreign exchange contracts are designated as highly effective cash flow hedges. The gains or losses on these hedges are deferred in accumulated other comprehensive income (AOCI) and reclassified to income when the underlying hedged transaction is recorded in earnings. As of December 31, 2018, the balance in AOCI related to foreign exchange derivative transactions was a gain of \$2 million. The gains or losses from derivative contracts related to inventory purchases are recorded in cost of products when the inventory is sold to an unrelated third party.

We also utilize foreign exchange contracts to hedge our exposure of assets and liabilities denominated in non-functional currencies. We recognize the gains and losses on these types of hedges in earnings as exchange rates change. We do not enter into hedges for speculative purposes.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

The following tables provide information on the location and amounts of derivative fair values in the Consolidated Balance Sheets:

In millions	Fair Values of Derivative Instruments					
	December 31, 2018					
	Balance Sheet Location	Notional Amount	Fair Value	Balance Sheet Location	Notional Amount	Fair Value
Derivatives designated as hedging instruments						
Foreign exchange contracts	Other current assets	\$169	\$4	Other current liabilities	\$—	\$—
Total derivatives designated as hedging instruments			\$4	\$—		
Derivatives not designated as hedging instruments						
Foreign exchange contracts	Other current assets	\$219	\$1	Other current liabilities	\$157	\$1
Total derivatives not designated as hedging instruments			\$1	\$1		
Total derivatives			\$5	\$1		

In millions	Fair Values of Derivative Instruments					
	December 31, 2017					
	Balance Sheet Location	Notional Amount	Fair Value	Balance Sheet Location	Notional Amount	Fair Value
Derivatives designated as hedging instruments						
Foreign exchange contracts	Other current assets	\$104	\$—	Other current liabilities	\$142	\$1
Total derivatives designated as hedging instruments			\$—	\$1		
Derivatives not designated as hedging instruments						
Foreign exchange contracts	Other current assets	\$101	\$1	Other current liabilities	\$292	\$1
Total derivatives not designated as hedging instruments			\$1	\$1		
Total derivatives			\$1	\$2		

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

The effects of derivative instruments on the Consolidated Statement of Operations for the years ended December 31 were as follows:

In millions	Amount of Gain (Loss) Recognized in Other Comprehensive Income (OCI) on Derivative (Effective Portion)			Location of (Gain) Loss Reclassified from AOCI into the Consolidated Statement of Operations (Effective Portion)	Amount of (Gain) Loss Reclassified from AOCI into the Consolidated Statement of Operations (Effective Portion)		
	For the year ended December 31, 2018	For the year ended December 31, 2017	For the year ended December 31, 2016		For the year ended December 31, 2018	For the year ended December 31, 2017	For the year ended December 31, 2016
Derivatives in Cash Flow Hedging Relationships							
Interest rate swap	\$—	\$—	\$—	Interest expense	\$—	\$—	\$2
Foreign exchange contracts	\$11	\$(16)	\$19	Cost of products	\$(7)	\$(1)	\$(3)

In millions	Location of Gain (Loss) Recognized in the Consolidated Statement of Operations	Amount of Gain (Loss) Recognized in the Consolidated Statement of Operations		
		For the year ended December 31, 2018	For the year ended December 31, 2017	For the year ended December 31, 2016
Derivatives not Designated as Hedging Instruments				
Foreign exchange contracts	Other income (expense), net	\$(9)	\$(4)	\$(1)

Refer to Note 12, "Fair Value of Assets and Liabilities" for further information on derivative assets and liabilities recorded at fair value on a recurring basis.

Concentration of Credit Risk

NCR is potentially subject to concentrations of credit risk on accounts receivable and financial instruments such as hedging instruments and cash and cash equivalents. Credit risk includes the risk of nonperformance by counterparties. The maximum potential loss may exceed the amount recognized on the Consolidated Balance Sheets. Exposure to credit risk is managed through credit approvals, credit limits, selecting major international financial institutions as counterparties to hedging transactions and monitoring procedures. NCR's business often involves large transactions with customers, and if one or more of those customers were to default on its obligations under applicable contractual arrangements, the Company could be exposed to potentially significant losses. However, management believes that the reserves for potential losses are adequate. As of December 31, 2018 and 2017, NCR did not have any major concentration of credit risk related to financial instruments.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

12. FAIR VALUE OF ASSETS AND LIABILITIES

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Assets and liabilities recorded at fair value on a recurring basis as of December 31, 2018 and 2017 are set forth as follows:

In millions	December 31, 2018				December 31, 2017			
	Fair Value Measurements Using				Fair Value Measurements Using			
	December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	December 31, 2017	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:								
Deposits held in money market mutual funds ⁽¹⁾	\$8	\$8	\$—	\$—	\$90	\$90	\$—	\$—
Foreign exchange contracts ⁽²⁾	5	—	5	—	1	—	1	—
Total	\$13	\$8	\$5	\$—	\$91	\$90	\$1	\$—
Liabilities:								
Foreign exchange contracts ⁽³⁾	1	—	1	—	2	—	2	—
Total	\$1	\$—	\$1	\$—	\$2	\$—	\$2	\$—

⁽¹⁾ Included in Cash and cash equivalents in the Consolidated Balance Sheet.

⁽²⁾ Included in Other current assets in the Consolidated Balance Sheet.

⁽³⁾ Included in Other current liabilities in the Consolidated Balance Sheet.

Deposits Held in Money Market Mutual Funds A portion of the Company's excess cash is held in money market mutual funds which generate interest income based on prevailing market rates. Money market mutual fund holdings are measured at fair value using quoted market prices and are classified within Level 1 of the valuation hierarchy.

Foreign Exchange Contracts As a result of our global operating activities, we are exposed to risks from changes in foreign currency exchange rates, which may adversely affect our financial condition. To manage our exposures and mitigate the impact of currency fluctuations on our financial results, we hedge our primary transactional exposures through the use of foreign exchange forward and option contracts. The foreign exchange contracts are valued using the market approach based on observable market transactions of forward rates and are classified within Level 2 of the valuation hierarchy.

Assets Measured at Fair Value on a Non-recurring Basis

Certain assets have been measured at fair value on a nonrecurring basis using significant unobservable inputs (Level 3). NCR measures certain assets, including intangible assets and cost and equity method investments, at fair value on a non-recurring basis. These assets are recognized at fair value when initially valued and when deemed to be impaired. Additionally, NCR reviews the carrying values of investments when events and circumstances warrant and considers all available evidence in evaluating when declines in fair value are other-than-temporary declines. NCR carries equity investments in privately-held companies at cost or at fair value when NCR recognizes an other-than-temporary impairment charge. No material non-recurring fair value adjustments were recorded during the years ended December 31, 2018, 2017, and 2016.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

13. SEGMENT INFORMATION AND CONCENTRATIONS

As noted in Note 1, “Basis of Presentation and Significant Accounting Policies”, effective January 1, 2019, NCR changed the management of its business to an industry basis from the previous model of management on a solution basis, which resulted in a corresponding change to NCR's reportable segments. We have reclassified prior period segment disclosures to conform to the current period presentation. As a result of the change, the Company manages and reports the following segments:

- **Banking** - We offer solutions to enable customers in the financial services industry to reduce costs, generate new revenue streams and enhance customer loyalty. These solutions include a comprehensive line of ATM processing hardware and software; cash management and video banking software and customer-facing digital banking services; and related installation, maintenance, and managed and professional services.
- **Retail** - We offer solutions to customers in the retail industry designed to improve selling productivity and checkout processes as well as increase service levels. These solutions primarily include retail-oriented technologies, such as point of sale terminals and point of sale software; a retail software platform with a comprehensive suite of retail software applications; innovative self-service kiosks, such as self-checkout; as well as bar-code scanners. We also offer installation, maintenance, managed and professional services as well as payment processing solutions.
- **Hospitality** - We offer technology solutions to customers in the hospitality industry, serving businesses that range from a single store or restaurant to global chains and sports and entertainment venues. Our solutions include point of sale hardware and software solutions, installation, maintenance, managed and professional services as well as payment processing solutions.
- **Other** - This category includes telecommunications and technology solutions where we offer maintenance as well as managed and professional services for third-party hardware provided to select manufacturers who value and leverage our global service capability.

These segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the chief operating decision maker in assessing segment performance and in allocating the Company's resources. Management evaluates the performance of the segments based on revenue and segment operating income. Assets are not allocated to segments, and thus are not included in the assessment of segment performance, and consequently, we do not disclose total assets by reportable segment.

The accounting policies used to determine the results of the operating segments are the same as those utilized for the consolidated financial statements as a whole. Intersegment sales and transfers are not material.

To maintain operating focus on business performance, non-operational items are excluded from the segment operating results utilized by our chief operating decision maker in evaluating segment performance and are separately delineated to reconcile back to total reported income from operations.

The following table presents revenue and operating income by segment for the years ended December 31:

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	2018	2017	2016
Revenue by segment			
Banking	\$ 3,183	\$ 3,175	\$ 3,370
Retail	2,097	2,169	2,070
Hospitality	817	878	800
Other	308	294	303
Consolidated revenue	6,405	6,516	6,543
Operating income by segment			
Banking	412	421	441
Retail	142	231	191
Hospitality	85	140	151
Other	49	48	47
Subtotal - segment operating income	688	840	830
Other adjustments ⁽¹⁾	497	149	156
Income from operations	\$ 191	\$ 691	\$ 674

⁽¹⁾ The following table presents the other adjustments for NCR for the years ended December 31:

In millions	2018	2017	2016
Transformation and restructuring costs	\$ 223	\$ 29	\$ 26
Acquisition-related amortization of intangibles	85	115	123
Acquisition-related costs	6	5	7
Goodwill and long-lived asset impairment charges	183	—	—
Total other adjustments	\$ 497	\$ 149	\$ 156

The following table presents revenue from products and services for NCR for the years ended December 31:

In millions	2018	2017	2016
Product revenue	\$ 2,341	\$ 2,579	\$ 2,737
Professional services and installation services revenue	1,094	1,055	1,011
Recurring revenue, including maintenance and cloud revenue	2,970	2,882	2,795
Total revenue	\$ 6,405	\$ 6,516	\$ 6,543

Revenue is attributed to the geographic area/country to which the product is delivered or in which the service is provided. The following table presents revenue by geographic area for NCR for the years ended December 31:

In millions	2018	%	2017	%	2016	%
Revenue by Geographic Area						
United States	\$ 3,076	48%	\$ 3,224	50%	\$ 3,106	47%
Americas (excluding United States)	631	10%	585	9%	637	10%
Europe, Middle East and Africa (EMEA)	1,751	27%	1,786	27%	1,896	29%
Asia Pacific (APJ)	947	15%	921	14%	904	14%
Consolidated revenue	\$ 6,405	100%	\$ 6,516	100%	\$ 6,543	100%

The following table presents property, plant and equipment by geographic area as of December 31:

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	2018	2017
Property, plant and equipment, net		
United States	\$ 247	\$ 204
Americas (excluding United States)	13	19
Europe, Middle East and Africa (EMEA)	57	75
Asia Pacific (APJ)	42	43
Consolidated property, plant and equipment, net	\$ 359	\$ 341

Concentrations No single customer accounts for more than 10% of NCR's consolidated revenue. As of December 31, 2018, NCR is not aware of any significant concentration of business transacted with a particular customer that could, if suddenly eliminated, have a material adverse effect on NCR's operations. NCR also lacks a concentration of available sources of labor, services, licenses or other rights that could, if suddenly eliminated, have a material adverse effect on its operations.

A number of NCR's products, systems and solutions rely primarily on specific suppliers for microprocessors and other component products, manufactured assemblies, operating systems, commercial software and other central components. NCR also utilizes contract manufacturers in order to complete manufacturing activities. There can be no assurances that any sudden impact to the availability or cost of these technologies or services would not have a material adverse effect on NCR's operations.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

14. ACCUMULATED OTHER COMPREHENSIVE INCOME

Changes in Accumulated Other Comprehensive Income (AOCI) by Component

The changes in AOCI for the years ended December 31 are as follows:

In millions	Currency Translation Adjustments	Changes in Employee Benefit Plans	Changes in Fair Value of Effective Cash Flow Hedges	Total
Balance at December 31, 2015	\$ (172)	\$ 23	\$ (1)	\$ (150)
Other comprehensive (loss) income before reclassifications	(52)	(1)	16	(37)
Amounts reclassified from AOCI	—	(16)	(2)	(18)
Net current period other comprehensive (loss) income	(52)	(17)	14	(55)
Balance at December 31, 2016	\$ (224)	\$ 6	\$ 13	\$ (205)
Other comprehensive (loss) income before reclassifications	41	(13)	(13)	15
Amounts reclassified from AOCI	—	(8)	(1)	(9)
Net current period other comprehensive (loss) income	41	(21)	(14)	6
Balance at December 31, 2017	\$ (183)	\$ (15)	\$ (1)	\$ (199)
Impact of adoption of new accounting standard ⁽¹⁾	—	1	—	1
Other comprehensive (loss) income before reclassifications	(51)	6	11	(34)
Amounts reclassified from AOCI	—	(6)	(8)	(14)
Net current period other comprehensive (loss) income	(51)	—	3	(48)
Balance at December 31, 2018	\$ (234)	\$ (14)	\$ 2	\$ (246)

⁽¹⁾ Refer to Note 1, “Basis of Presentation and Significant Accounting Policies” for further discussion of the adoption of accounting standard updates.

Reclassifications Out of AOCI

The reclassifications out of AOCI for the years ended December 31 are as follows:

In millions	For the year ended December 31, 2018			
	Employee Benefit Plans		Effective Cash Flow Hedges	Total
	Actuarial Losses Recognized	Amortization of Prior Service Benefit		
Affected line in Consolidated Statement of Operations:				
Cost of products	\$ —	\$ —	\$ (7)	\$ (7)
Cost of services	—	(5)	—	(5)
Selling, general and administrative expenses	—	(3)	—	(3)
Research and development expenses	—	(1)	—	(1)
Total before tax	\$ —	\$ (9)	\$ (7)	\$ (16)
Tax expense				2
Total reclassifications, net of tax				\$ (14)

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

For the year ended December 31, 2017

In millions	Employee Benefit Plans			Effective Cash Flow Hedges	Total
	Actuarial Losses Recognized	Amortization of Prior Service Benefit			
Affected line in Consolidated Statement of Operations:					
Cost of products	\$ —	\$ —		\$ (1)	\$ (1)
Cost of services	(1)	(6)		—	(7)
Selling, general and administrative expenses	—	(4)		—	(4)
Research and development expenses	(1)	(1)		—	(2)
Total before tax	<u>\$ (2)</u>	<u>\$ (11)</u>		<u>\$ (1)</u>	<u>\$ (14)</u>
Tax expense					5
Total reclassifications, net of tax					<u>\$ (9)</u>

For the year ended December 31, 2016

In millions	Employee Benefit Plans			Effective Cash Flow Hedges	Total
	Actuarial Losses Recognized	Amortization of Prior Service Benefit			
Affected line in Consolidated Statement of Operations:					
Cost of products	\$ —	\$ —		\$ (3)	\$ (3)
Cost of services	(1)	(10)		—	(11)
Selling, general and administrative expenses	—	(6)		—	(6)
Research and development expenses	(1)	(3)		—	(4)
Interest expense	—	—		2	2
Total before tax	<u>\$ (2)</u>	<u>\$ (19)</u>		<u>\$ (1)</u>	<u>\$ (22)</u>
Tax expense					4
Total reclassifications, net of tax					<u>\$ (18)</u>

15. RESTRUCTURING PLAN

In the second quarter of 2018, we announced a hardware transformation initiative to streamline our manufacturing operations that will help us reduce our exposure to variable hardware demand as well as increase global utilization rates and optimize our supply chain network. As a part of this initiative, we plan to reduce the number of manufacturing plants and move the manufacturing operations at those plants to other existing NCR facilities and current third party suppliers.

As a result of the restructuring plan, the Company recorded a total charge of \$50 million in the year ended December 31, 2018. The Company expects that it may incur additional charges during 2019 related to this restructuring program. Such additional charges will be expensed as incurred. The restructuring program is scheduled to be completed by the end of 2019.

Severance and other employee related costs The Company recorded \$2 million of employee related costs in accordance with ASC 712, *Employers' Accounting for Postemployment Benefits*, when the severance liability was determined to be probable and reasonably estimable. The Company also recorded \$5 million of employee related costs in accordance with ASC 420, *Exit or Disposal Cost Obligations*. Of the severance and other employee related costs, \$5 million was included in cost of products and \$2 million was included in selling, general and administrative expenses in the Consolidated Statement of Operations. The Company made \$2 million of severance-related payments under ASC 712 in the year ended December 31, 2018. The Company made \$3 million in severance-related payments under ASC 420 in the year ended December 31, 2018.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Inventory related charges The Company recorded \$37 million in the year ended December 31, 2018 of inventory related charges for rationalizing its product portfolio and writing down inventory to be sold to third party suppliers to the lower cost or net realizable value. Inventory related charges are recorded within cost of products in the Consolidated Statement of Operations.

Other exit costs The Company recorded \$6 million in the year ended December 31, 2018 for costs primarily related to moving inventory and fixed assets from the plant locations that will be closed. Of these costs, \$3 million were included in cost of products and selling, general and administrative expenses, respectively, in the year ended December 31, 2018 in the Consolidated Statement of Operations.

The results by segment, as disclosed in Note 13, “Segment Information and Concentrations”, exclude the impact of these costs, which is consistent with the manner by which management assesses the performance and evaluates the results of each segment. The following table summarizes the costs recorded in accordance with ASC 420, *Exit or Disposal Cost Obligations*, and ASC 712, *Employers’ Accounting for Postemployment Benefits*, and the remaining liabilities as of December 31, 2018, which are included in the Consolidated Balance Sheet in other current liabilities.

In millions	2018
Employee Severance and Other Exit Costs	
Beginning balance as of January 1	\$—
Cost recognized during the period	13
Change in estimated payments	—
Utilization	(11)
Currency translation adjustments	—
Ending balance as of December 31	<u>\$2</u>

16. SUPPLEMENTAL FINANCIAL INFORMATION

The components of other income (expense), net are summarized as follows for the years ended December 31:

In millions	2018	2017	2016
Other income (expense), net			
Interest income	\$ 5	\$ 3	\$ 4
Foreign currency fluctuations and foreign exchange contracts	(26)	(26)	(40)
Employee benefit plans	45	(15)	(75)
Bank-related fees	(8)	(8)	(8)
Divestiture and liquidation losses	—	—	(6)
Total other income (expense), net	<u>\$ 16</u>	<u>\$ (46)</u>	<u>\$ (125)</u>

The components of accounts receivable are summarized as follows:

In millions	December 31, 2018	December 31, 2017
Accounts receivable		
Trade	\$ 1,364	\$ 1,270
Other	23	37
Accounts receivable, gross	1,387	1,307
Less: allowance for doubtful accounts	(31)	(37)
Total accounts receivable, net	<u>\$ 1,356</u>	<u>\$ 1,270</u>

The components of inventory are summarized as follows:

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	December 31, 2018	December 31, 2017
Inventories		
Work in process and raw materials	\$ 237	\$ 185
Finished goods	214	190
Service parts	355	405
Total inventories	\$ 806	\$ 780

The components of property, plant and equipment are summarized as follows:

In millions	December 31, 2018	December 31, 2017
Property, plant and equipment		
Land and improvements	\$ 6	\$ 7
Buildings and improvements	273	278
Machinery and other equipment	650	633
Property, plant and equipment, gross	929	918
Less: accumulated depreciation	(570)	(577)
Total property, plant and equipment, net	\$ 359	\$ 341

17. GUARANTOR FINANCIAL STATEMENTS

The Company's 5.00% Notes, 4.625% Notes, 5.875% Notes and 6.375% Notes are guaranteed by the Company's subsidiary, NCR International, Inc. (Guarantor Subsidiary), which is 100% owned by the Company and has guaranteed fully and unconditionally the obligations to pay principal and interest for these senior unsecured notes. The guarantees are subject to release under certain circumstances as described below:

- the designation of the Guarantor Subsidiary as an unrestricted subsidiary under the indenture governing the notes;
- the release of the Guarantor Subsidiary from its guarantee under the Senior Secured Credit Facility;
- the release or discharge of the indebtedness that required the guarantee of the notes by the Guarantor Subsidiary;
- the permitted sale or other disposition of the Guarantor Subsidiary to a third party; and
- the Company's exercise of its legal defeasance option of its covenant defeasance option under the indenture governing the notes.

Refer to Note 6, "Debt Obligations" for additional information.

In connection with the previously completed exchange offers for the 5.00% Notes, 4.625% Notes, 5.875% Notes and 6.375% Notes, the Company is required to comply with Rule 3-10 of SEC Regulation S-X (Rule 3-10), and has therefore included the accompanying Consolidating Financial Statements in accordance with Rule 3-10(f) of SEC Regulation S-X.

The following supplemental information sets forth, on a consolidating basis, the statements of operations and comprehensive income (loss), the balance sheets and the statements of cash flows for the parent issuer of these senior unsecured notes, for the Guarantor Subsidiary and for the Company and all of its consolidated subsidiaries.

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statements of Operations and Comprehensive Income (Loss)
For the year ended December 31, 2018

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Product revenue	\$ 1,091	\$ 36	\$ 1,440	\$ (226)	\$ 2,341
Service revenue	2,117	33	1,914	—	4,064
Total revenue	3,208	69	3,354	(226)	6,405
Cost of products	1,000	32	1,182	(226)	1,988
Cost of services	1,443	13	1,286	—	2,742
Selling, general and administrative expenses	577	2	426	—	1,005
Research and development expenses	102	—	150	—	252
Asset impairment charges	210	—	17	—	227
Total operating expenses	3,332	47	3,061	(226)	6,214
Income (loss) from operations	(124)	22	293	—	191
Interest expense	(161)	—	(15)	8	(168)
Other income (expense), net	7	6	11	(8)	16
Income (loss) from continuing operations before income taxes	(278)	28	289	—	39
Income tax expense (benefit)	(56)	72	57	—	73
Income (loss) from continuing operations before earnings in subsidiaries	(222)	(44)	232	—	(34)
Equity in earnings of consolidated subsidiaries	184	237	—	(421)	—
Income (loss) from continuing operations	(38)	193	232	(421)	(34)
Income (loss) from discontinued operations, net of tax	(50)	—	(2)	—	(52)
Net income (loss)	\$ (88)	\$ 193	\$ 230	\$ (421)	\$ (86)
Net income (loss) attributable to noncontrolling interests	—	—	2	—	2
Net income (loss) attributable to NCR	\$ (88)	\$ 193	\$ 228	\$ (421)	\$ (88)
Total comprehensive income (loss)	(136)	118	174	(292)	(136)
Less comprehensive income (loss) attributable to noncontrolling interests	—	—	—	—	—
Comprehensive income (loss) attributable to NCR common stockholders	\$ (136)	\$ 118	\$ 174	\$ (292)	\$ (136)

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statements of Operations and Comprehensive Income (Loss)
For the year ended December 31, 2017

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Product revenue	\$ 1,329	\$ 91	\$ 1,454	\$ (295)	\$ 2,579
Service revenue	2,051	29	1,857	—	3,937
Total revenue	3,380	120	3,311	(295)	6,516
Cost of products	1,042	37	1,237	(295)	2,021
Cost of services	1,360	10	1,270	—	2,640
Selling, general and administrative expenses	490	3	430	—	923
Research and development expenses	184	—	57	—	241
Restructuring-related charges	—	—	—	—	—
Total operating expenses	3,076	50	2,994	(295)	5,825
Income (loss) from operations	304	70	317	—	691
Interest expense	(159)	—	(9)	5	(163)
Other income (expense), net	(74)	1	32	(5)	(46)
Income (loss) from continuing operations before income taxes	71	71	340	—	482
Income tax expense (benefit)	113	107	22	—	242
Income (loss) from continuing operations before earnings in subsidiaries	(42)	(36)	318	—	240
Equity in earnings of consolidated subsidiaries	279	291	—	(570)	—
Income (loss) from continuing operations	237	255	318	(570)	240
Income (loss) from discontinued operations, net of tax	(5)	—	—	—	(5)
Net income (loss)	\$ 232	\$ 255	\$ 318	\$ (570)	\$ 235
Net income (loss) attributable to noncontrolling interests	—	—	3	—	3
Net income (loss) attributable to NCR	\$ 232	\$ 255	\$ 315	\$ (570)	\$ 232
Total comprehensive income (loss)	238	269	317	(585)	239
Less comprehensive income (loss) attributable to noncontrolling interests	—	—	1	—	1
Comprehensive income (loss) attributable to NCR common stockholders	\$ 238	\$ 269	\$ 316	\$ (585)	\$ 238

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statements of Operations and Comprehensive Income (Loss)
For the year ended December 31, 2016

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Product revenue	\$ 1,293	\$ 111	\$ 1,768	\$ (435)	\$ 2,737
Service revenue	1,962	36	1,808	—	3,806
Total revenue	3,255	147	3,576	(435)	6,543
Cost of products	1,028	50	1,456	(435)	2,099
Cost of services	1,359	12	1,255	—	2,626
Selling, general and administrative expenses	526	4	374	—	904
Research and development expenses	160	—	65	—	225
Restructuring-related charges	3	—	12	—	15
Total operating expenses	3,076	66	3,162	(435)	5,869
Income (loss) from operations	179	81	414	—	674
Interest expense	(165)	—	(10)	5	(170)
Other income (expense), net	(42)	(23)	(55)	(5)	(125)
Income (loss) from continuing operations before income taxes	(28)	58	349	—	379
Income tax expense (benefit)	(20)	21	91	—	92
Income (loss) from continuing operations before earnings in subsidiaries	(8)	37	258	—	287
Equity in earnings of consolidated subsidiaries	291	304	—	(595)	—
Income (loss) from continuing operations	283	341	258	(595)	287
Income (loss) from discontinued operations, net of tax	(13)	—	—	—	(13)
Net income (loss)	\$ 270	\$ 341	\$ 258	\$ (595)	\$ 274
Net income (loss) attributable to noncontrolling interests	—	—	4	—	4
Net income (loss) attributable to NCR	\$ 270	\$ 341	\$ 254	\$ (595)	\$ 270
Total comprehensive income (loss)	215	277	195	(473)	214
Less comprehensive income (loss) attributable to noncontrolling interests	—	—	(1)	—	(1)
Comprehensive income (loss) attributable to NCR common stockholders	\$ 215	\$ 277	\$ 196	\$ (473)	\$ 215

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Balance Sheet
December 31, 2018

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ 6	\$ 8	\$ 450	\$ —	\$ 464
Accounts receivable, net	37	10	1,309	—	1,356
Inventories	288	4	514	—	806
Due from affiliates	708	2,092	457	(3,257)	—
Other current assets	137	47	255	(42)	397
Total current assets	1,176	2,161	2,985	(3,299)	3,023
Property, plant and equipment, net	245	1	113	—	359
Goodwill	2,168	—	524	—	2,692
Intangibles, net	536	—	59	—	595
Prepaid pension cost	—	—	140	—	140
Deferred income taxes	317	—	149	(18)	448
Investments in subsidiaries	3,244	2,854	—	(6,098)	—
Due from affiliates	16	1	35	(52)	—
Other assets	453	4	47	—	504
Total assets	\$ 8,155	\$ 5,021	\$ 4,052	\$ (9,467)	\$ 7,761
Liabilities and stockholders' equity					
Current liabilities					
Short-term borrowings	\$ 85	\$ —	\$ 100	\$ —	\$ 185
Accounts payable	397	2	498	—	897
Payroll and benefits liabilities	141	—	97	—	238
Deferred service revenue and customer deposits	221	5	235	—	461
Due to affiliates	2,177	143	937	(3,257)	—
Other current liabilities	201	6	336	(42)	501
Total current liabilities	3,222	156	2,203	(3,299)	2,282
Long-term debt	2,978	—	2	—	2,980
Pension and indemnity plan liabilities	502	—	257	—	759
Postretirement and postemployment benefits liabilities	18	3	97	—	118
Income tax accruals	19	5	67	—	91
Due to affiliates	—	36	16	(52)	—
Other liabilities	162	24	91	(18)	259
Total liabilities	6,901	224	2,733	(3,369)	6,489
Redeemable noncontrolling interest	—	—	14	—	14
Series A convertible preferred stock	859	—	—	—	859
Stockholders' equity					
Total NCR stockholders' equity	395	4,797	1,301	(6,098)	395
Noncontrolling interests in subsidiaries	—	—	4	—	4
Total stockholders' equity	395	4,797	1,305	(6,098)	399
Total liabilities and stockholders' equity	\$ 8,155	\$ 5,021	\$ 4,052	\$ (9,467)	\$ 7,761

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Balance Sheet
December 31, 2017

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ 97	\$ 11	\$ 429	\$ —	\$ 537
Accounts receivable, net	62	12	1,196	—	1,270
Inventories	311	7	462	—	780
Due from affiliates	646	1,801	283	(2,730)	—
Other current assets	78	39	162	(36)	243
Total current assets	1,194	1,870	2,532	(2,766)	2,830
Property, plant and equipment, net	207	—	134	—	341
Goodwill	2,228	—	513	—	2,741
Intangibles, net	503	—	75	—	578
Prepaid pension cost	—	—	118	—	118
Deferred income taxes	334	—	157	(31)	460
Investments in subsidiaries	3,008	2,942	—	(5,950)	—
Due from affiliates	31	1	39	(71)	—
Other assets	472	63	51	—	586
Total assets	\$ 7,977	\$ 4,876	\$ 3,619	\$ (8,818)	\$ 7,654
Liabilities and stockholders' equity					
Current liabilities					
Short-term borrowings	\$ 52	\$ —	\$ —	\$ —	\$ 52
Accounts payable	382	—	380	—	762
Payroll and benefits liabilities	124	—	95	—	219
Deferred service revenue and customer deposits	216	6	236	—	458
Due to affiliates	1,884	130	716	(2,730)	—
Other current liabilities	204	5	225	(36)	398
Total current liabilities	2,862	141	1,652	(2,766)	1,889
Long-term debt	2,937	—	2	—	2,939
Pension and indemnity plan liabilities	515	—	283	—	798
Postretirement and postemployment benefits liabilities	20	3	110	—	133
Income tax accruals	20	5	123	—	148
Due to affiliates	—	39	32	(71)	—
Other liabilities	94	36	101	(31)	200
Total liabilities	6,448	224	2,303	(2,868)	6,107
Redeemable noncontrolling interest	—	—	15	—	15
Series A Convertible Preferred Stock	810	—	—	—	810
Stockholders' equity					
Total NCR stockholders' equity	719	4,652	1,298	(5,950)	719
Noncontrolling interests in subsidiaries	—	—	3	—	3
Total stockholders' equity	719	4,652	1,301	(5,950)	722
Total liabilities and stockholders' equity	\$ 7,977	\$ 4,876	\$ 3,619	\$ (8,818)	\$ 7,654

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statement of Cash Flows
For the year ended December 31, 2018

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	\$ 353	\$ (138)	\$ 375	\$ (18)	\$ 572
Investing activities					
Expenditures for property, plant and equipment	(109)	—	(34)	—	(143)
Additions to capitalized software	(144)	—	(26)	—	(170)
Investments in equity affiliates	(14)	—	—	14	—
Proceeds from (payments of) intercompany notes	228	135	—	(363)	—
Acquisitions	(206)	—	—	—	(206)
Proceeds from the sale of PPE	1	—	2	—	3
Other investing activities, net	(4)	—	—	—	(4)
Net cash provided by (used in) investing activities	(248)	135	(58)	(349)	(520)
Financing activities					
Tax withholding payments on behalf of employees	(36)	—	—	—	(36)
Repurchases of Company common stock	(210)	—	—	—	(210)
Short term borrowings, net	(1)	—	—	—	(1)
Borrowings on term facility	—	—	—	—	—
Payments of term credit facilities	(51)	—	—	—	(51)
Proceeds from employee stock plans	20	—	—	—	20
Payments on revolving credit facilities	(1,755)	—	(478)	—	(2,233)
Borrowings on revolving credit facilities	1,875	—	578	—	2,453
Equity contribution	—	—	14	(14)	—
Dividends distribution to consolidated subsidiaries	—	—	(18)	18	—
Borrowings (repayments) of intercompany notes	—	—	(363)	363	—
Net cash provided by (used in) financing activities	(158)	—	(267)	367	(58)
Cash flows from discontinued operations					
Net cash used in discontinued operations operating activities	(36)	—	—	—	(36)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1)	—	(24)	—	(25)
Increase (decrease) in cash, cash equivalents and restricted cash	(90)	(3)	26	—	(67)
Cash, cash equivalents and restricted cash at beginning of period	97	11	435	—	543
Cash, cash equivalents and restricted cash at end of period	\$ 7	\$ 8	\$ 461	\$ —	\$ 476

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	December 31, 2018				
Reconciliation of cash, cash equivalents and restricted cash as shown in the Consolidated Statements of Cash Flows	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash and cash equivalents	\$ 6	\$ 8	\$ 450	\$ —	\$ 464
Restricted cash included in Other assets	1	—	11	—	12
Total cash, cash equivalents and restricted cash	\$ 7	\$ 8	\$ 461	\$ —	\$ 476

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statement of Cash Flows
For the year ended December 31, 2017

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	\$ 459	\$ (180)	\$ 483	\$ (10)	\$ 752
Investing activities					
Expenditures for property, plant and equipment	(87)	—	(41)	—	(128)
Additions to capitalized software	(133)	—	(33)	—	(166)
Proceeds from (payments of) intercompany notes	230	180	2	(412)	—
Acquisitions	(8)	—	—	—	(8)
Proceeds from the sale of PPE	—	—	6	—	6
Proceeds from divestitures	3	—	—	—	3
Investments in equity affiliates	3	—	—	(3)	—
Other investing activities, net	(1)	—	4	—	3
Net cash provided by (used in) investing activities	<u>7</u>	<u>180</u>	<u>(62)</u>	<u>(415)</u>	<u>(290)</u>
Financing activities					
Short term borrowings, net	(5)	—	1	—	(4)
Payments on term credit facilities	(56)	—	(5)	—	(61)
Payments on revolving credit facilities	(1,700)	—	(240)	—	(1,940)
Borrowings on revolving credit facilities	1,700	—	240	—	1,940
Tax withholding payments on behalf of employees	(31)	—	—	—	(31)
Proceeds from employee stock plans	15	—	—	—	15
Other financing activities	(1)	—	(2)	—	(3)
Dividend distribution to consolidated subsidiaries	—	—	(10)	10	—
Repurchases of Company common stock	(350)	—	—	—	(350)
Equity contribution	—	—	(3)	3	—
Borrowings (repayments) of intercompany notes	—	(2)	(410)	412	—
Net cash provided by (used in) financing activities	<u>(428)</u>	<u>(2)</u>	<u>(429)</u>	<u>425</u>	<u>(434)</u>
Cash flows from discontinued operations					
Net cash used in discontinued operations operating activities	(8)	—	—	—	(8)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	—	1	15	—	16
Increase (decrease) in cash, cash equivalents and restricted cash	30	(1)	7	—	36
Cash, cash equivalents and restricted cash at beginning of period	67	12	428	—	507
Cash, cash equivalents and restricted cash at end of period	<u>\$ 97</u>	<u>\$ 11</u>	<u>\$ 435</u>	<u>\$ —</u>	<u>\$ 543</u>

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	December 31, 2017				
Reconciliation of cash, cash equivalents and restricted cash as shown in the Consolidated Statements of Cash Flows	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash and cash equivalents	\$ 97	\$ 11	\$ 429	\$ —	\$ 537
Restricted cash included in Other assets	—	—	6	—	6
Total cash, cash equivalents and restricted cash	\$ 97	\$ 11	\$ 435	\$ —	\$ 543

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

Consolidating Statement of Cash Flows
For the year ended December 31, 2016

(in millions)	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	336	(160)	723	(3)	896
Investing activities					
Expenditures for property, plant and equipment	(33)	—	(40)	—	(73)
Additions to capitalized software	(114)	—	(40)	—	(154)
Proceeds from (payments of) intercompany notes	365	115	—	(480)	—
Proceeds from divestitures	22	—	25	—	47
Investments in equity affiliates	(9)	50	—	(41)	—
Other investing activities, net	(9)	—	—	—	(9)
Net cash provided by (used in) investing activities	222	165	(55)	(521)	(189)
Financing activities					
Short term borrowings, net	(4)	—	(4)	—	(8)
Payments on revolving credit facilities	(89)	—	(8)	—	(97)
Payments on revolving credit facilities	(1,151)	—	(280)	—	(1,431)
Borrowings on revolving credit facilities	1,051	—	280	—	1,331
Tax withholding payments on behalf of employees	(16)	—	—	—	(16)
Proceeds from employee stock plans	15	—	—	—	15
Debt issuance costs	(9)	—	—	—	(9)
Dividend distribution to consolidated subsidiaries	—	—	(53)	53	—
Other financing activities	—	—	(2)	—	(2)
Equity contribution	—	—	9	(9)	—
Borrowings (repayments) of intercompany notes	(16)	—	(464)	480	—
Tender offer share repurchase	(250)	—	—	—	(250)
Net cash provided by (used in) financing activities	(469)	—	(522)	524	(467)
Cash flows from discontinued operations					
Net cash used in discontinued operations operating activities	(39)	—	—	—	(39)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	—	(13)	(16)	—	(29)
Increase (decrease) in cash, cash equivalents and restricted cash	50	(8)	130	—	172
Cash, cash equivalents and restricted cash at beginning of period	17	20	298	—	335
Cash, cash equivalents and restricted cash at end of period	\$ 67	\$ 12	\$ 428	\$ —	\$ 507

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

In millions	December 31, 2016				
Reconciliation of cash, cash equivalents and restricted cash as shown in the Consolidated Statements of Cash Flows	Parent Issuer	Guarantor Subsidiary	Non-Guarantor Subsidiaries	Eliminations	Consolidated
Cash and cash equivalents	\$ 67	\$ 12	\$ 419	\$ —	\$ 498
Restricted cash included in Other assets	—	—	9	—	9
Total cash, cash equivalents and restricted cash	\$ 67	\$ 12	\$ 428	\$ —	\$ 507

NCR Corporation
Notes to Consolidated Financial Statements-(Continued)

18. QUARTERLY INFORMATION (UNAUDITED)

In millions, except per share amounts	First	Second	Third	Fourth
2018				
Total revenue	\$ 1,517	\$ 1,537	\$ 1,550	\$ 1,801
Gross margin	420	403	410	442
Income from operations	109	(106)	125	63
Income from continuing operations (attributable to NCR)	55	(143)	85	(33)
Income (loss) from discontinued operations, net of tax	(35)	(2)	(1)	(14)
Net (loss) income attributable to NCR common stockholders	8	(157)	72	(60)
Income (loss) per share attributable to NCR common stockholders:				
Income (loss) per common share from continuing operations				
Basic	\$ 0.36	\$ (1.31)	\$ 0.62	\$ (0.39)
Diluted	\$ 0.35	\$ (1.31)	\$ 0.57	\$ (0.39)
Net (loss) income per common share:				
Basic	\$ 0.07	\$ (1.33)	\$ 0.61	\$ (0.51)
Diluted	\$ 0.06	\$ (1.33)	\$ 0.56	\$ (0.51)
2017				
Total revenue	\$ 1,478	\$ 1,593	\$ 1,663	\$ 1,782
Gross margin	412	461	472	510
Income from operations	115	175	199	202
Income from continuing operations (attributable to NCR)	57	97	118	(35)
(Loss) from discontinued operations, net of tax	—	5	—	(10)
Net income attributable to NCR common stockholders	(17)	90	106	(56)
Income per share attributable to NCR common stockholders:				
Income per common share from continuing operations				
Basic	\$ (0.14)	\$ 0.70	\$ 0.87	\$ (0.38)
Diluted	\$ (0.14)	\$ 0.64	\$ 0.77	\$ (0.38)
Net income per common share:				
Basic	\$ (0.14)	\$ 0.74	\$ 0.87	\$ (0.46)
Diluted	\$ (0.14)	\$ 0.67	\$ 0.77	\$ (0.46)

Operating income for the quarter ended December 31, 2018 was impacted by actuarial gains related to the remeasurement of our pension plan assets and liabilities. The actuarial gains included in pension expense recognized in the quarter ended December 31, 2018 increased net income attributable to NCR by \$44 million, basic earnings per share from continuing operations by \$0.37, and diluted earnings per share from continuing operations by \$0.37.

Operating income for the quarter ended December 31, 2017 was impacted by actuarial losses related to the remeasurement of our pension plan assets and liabilities. The actuarial losses included in pension expense recognized in the quarter ended December 31, 2017 decreased net income attributable to NCR by \$25 million, basic earnings per share from continuing operations by \$0.21, and diluted earnings per share from continuing operations by \$0.21.

Net income per share in each quarter is computed using the weighted-average number of shares outstanding during that quarter while net income per share for the full year is computed using the weighted-average number of shares outstanding during the year. Thus, the sum of the four quarters' net income per share will not necessarily equal the full-year net income per share.