INTERNATIONAL BUSINESS MACHINES CORP
Form 10-Q
April 30, 2019
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# UNITED STATES

# SECURITIES AND EXCHANGE COMMISSION

**WASHINGTON, DC 20549**

# FORM 10 - Q

**QUARTERLY REPORT PURSUANT TO SECTION 13 or 15(d)**

**OF THE SECURITIES EXCHANGE ACT OF 1934**

**FOR THE QUARTER ENDED MARCH 31, 2019**

**1-2360**

(Commission file number)

# INTERNATIONAL BUSINESS MACHINES CORPORATION

(Exact name of registrant as specified in its charter)

| | |
|---|---|
| **New York**<br>(State of incorporation) | **13-0871985**<br>(IRS employer identification number) |
| **Armonk, New York**<br>(Address of principal executive offices) | **10504**<br>(Zip Code) |

**914-499-1900**

(Registrant s telephone number)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section l3 or l5(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No o

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes x No o

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

| | |
|---|---|
| Large accelerated filer x | Accelerated filer o |
| Non-accelerated filer o | Smaller reporting company o |
| | Emerging growth company o |

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

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

The registrant had 886,642,873 shares of common stock outstanding at March 31, 2019.

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**Part I - Financial Information**

## Item 1. Consolidated Financial Statements:

**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF EARNINGS**

**(UNAUDITED)**

| (Dollars in millions except per share amounts) | Three Months Ended March 31, 2019 | 2018 |
|---|---|---|
| **Revenue:** | | |
| Services | $ 12,423 | $ 12,961 |
| Sales | 5,354 | 5,700 |
| Financing | 404 | 410 |
| **Total revenue** | 18,182 | 19,072 |
| **Cost:** | | |
| Services | 8,359 | 8,835 |
| Sales | 1,516 | 1,722 |
| Financing | 264 | 269 |
| **Total cost** | 10,139 | 10,825 |
| **Gross profit** | 8,043 | 8,247 |
| **Expense and other (income):** | | |
| Selling, general and administrative | 4,691 | 5,445 |
| Research, development and engineering | 1,433 | 1,405 |
| Intellectual property and custom development income | (101) | (317) |
| Other (income) and expense | (73) | 413 |
| Interest expense | 210 | 165 |
| **Total expense and other (income)** | 6,160 | 7,111 |
| **Income from continuing operations before income taxes** | 1,883 | 1,136 |
| Provision for/(benefit from) income taxes | 289 | (540) |
| **Income from continuing operations** | $ 1,593 | $ 1,675 |
| Income/(loss) from discontinued operations, net of tax | (2) | 4 |
| **Net income** | $ 1,591 | $ 1,679 |
| | | |
| **Earnings/(loss) per share of common stock:** | | |
| **Assuming dilution:** | | |
| Continuing operations | $ 1.78 | $ 1.81 |
| Discontinued operations | 0.00 | 0.00 |
| **Total** | $ 1.78 | $ 1.81 |
| **Basic:** | | |
| Continuing operations | $ 1.79 | $ 1.82 |
| Discontinued operations | 0.00 | 0.00 |
| **Total** | $ 1.79 | $ 1.82 |
| | | |
| **Weighted-average number of common shares outstanding: (millions)** | | |

| | | |
|---|---|---|
| Assuming dilution | 893.9 | 925.4 |
| Basic | 889.6 | 920.7 |

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME**

**(UNAUDITED)**

| (Dollars in millions) | Three Months Ended March 31, 2019 | 2018 |
|---|---|---|
| **Net income** | $ 1,591 | $ 1,679 |
| **Other comprehensive income/(loss), before tax:** | | |
| **Foreign currency translation adjustments** | 171 | (167) |
| **Net changes related to available-for-sale securities:** | | |
| Unrealized gains/(losses) arising during the period | (1) | (2) |
| Reclassification of (gains)/losses to net income | | 0 |
| **Total net changes related to available-for-sale securities** | (1) | (3) |
| **Unrealized gains/(losses) on cash flow hedges:** | | |
| Unrealized gains/(losses) arising during the period | (352) | 61 |
| Reclassification of (gains)/losses to net income | 98 | (54) |
| **Total unrealized gains/(losses) on cash flow hedges** | (254) | 7 |
| **Retirement-related benefit plans:** | | |
| Prior service costs/(credits) | | (1) |
| Net (losses)/gains arising during the period | (4) | 2 |
| Curtailments and settlements | 1 | 0 |
| Amortization of prior service (credits)/costs | (3) | (19) |
| Amortization of net (gains)/losses | 464 | 753 |
| **Total retirement-related benefit plans** | 458 | 735 |
| **Other comprehensive income/(loss), before tax** | 375 | 573 |
| **Income tax (expense)/benefit related to items of other comprehensive income** | (67) | (143) |
| **Other comprehensive income/(loss), net of tax** | 308 | 430 |
| **Total comprehensive income/(loss)** | $ 1,899 | $ 2,109 |

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF FINANCIAL POSITION**

**(UNAUDITED)**

**ASSETS**

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| **Assets:** | | |
| Current assets: | | |
| Cash and cash equivalents | $ 17,134 | $ 11,379 |
| Restricted cash | 137 | 225 |
| Marketable securities | 872 | 618 |
| Notes and accounts receivable trade (net of allowances of $316 in 2019 and $309 in 2018) | 6,987 | 7,432 |
| Short-term financing receivables (net of allowances of $248 in 2019 and $244 in 2018) | 20,287 | 22,388 |
| Other accounts receivable (net of allowances of $33 in 2019 and $38 in 2018) | 671 | 743 |
| Inventories, at lower of average cost or net realizable value: | | |
| Finished goods | 369 | 266 |
| Work in process and raw materials | 1,402 | 1,415 |
| Total inventories | 1,771 | 1,682 |
| Deferred costs | 2,368 | 2,300 |
| Prepaid expenses and other current assets | 2,478 | 2,378 |
| Total current assets | 52,705 | 49,146 |
| Property, plant and equipment | 32,692 | 32,460 |
| Less: Accumulated depreciation | 22,017 | 21,668 |
| Property, plant and equipment net | 10,675 | 10,792 |
| Operating right-of-use assets net* | 4,634 | |
| Long-term financing receivables (net of allowances of $38 in 2019 and $48 in 2018) | 8,361 | 9,148 |
| Prepaid pension assets | 4,966 | 4,666 |
| Deferred costs | 2,663 | 2,676 |
| Deferred taxes | 5,284 | 5,216 |
| Goodwill | 36,281 | 36,265 |
| Intangible assets net | 2,956 | 3,087 |
| Investments and sundry assets | 2,403 | 2,386 |
| **Total assets** | $ 130,926 | $ 123,382 |

* Reflects the adoption of the FASB guidance on leases. Refer to note 2, Accounting Changes and note 5, Leases.

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)**

**(UNAUDITED)**

**LIABILITIES AND EQUITY**

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| **Liabilities:** | | |
| Current liabilities: | | |
| Taxes | $ 2,484 | $ 3,046 |
| Short-term debt | 10,250 | 10,207 |
| Accounts payable | 5,711 | 6,558 |
| Compensation and benefits | 3,027 | 3,310 |
| Deferred income | 12,134 | 11,165 |
| Operating lease liabilities* | 1,313 | |
| Other accrued expenses and liabilities | 3,952 | 3,941 |
| Total current liabilities | 38,871 | 38,227 |
| Long-term debt | 39,727 | 35,605 |
| Retirement and nonpension postretirement benefit obligations | 16,467 | 17,002 |
| Deferred income | 3,481 | 3,445 |
| Operating lease liabilities* | 3,590 | |
| Other liabilities | 12,184 | 12,174 |
| **Total liabilities** | 114,320 | 106,452 |
| **Equity:** | | |
| IBM stockholders equity: | | |
| Common stock, par value $0.20 per share, and additional paid-in capital | 55,287 | 55,151 |
| Shares authorized: 4,687,500,000 | | |
| Shares issued: 2019 - 2,234,819,047 | | |
| 2018 - 2,233,427,058 | | |
| Retained earnings | 159,396 | 159,206 |
| Treasury stock - at cost | (169,021) | (168,071) |
| Shares: 2019 - 1,348,176,174 | | |
| 2018 - 1,340,947,648 | | |
| Accumulated other comprehensive income/(loss) | (29,182) | (29,490) |
| Total IBM stockholders equity | 16,481 | 16,796 |
| Noncontrolling interests | 126 | 134 |
| **Total equity** | 16,607 | 16,929 |
| **Total liabilities and equity** | $ 130,926 | $ 123,382 |

* Reflects the adoption of the FASB guidance on leases. Refer to note 2, Accounting Changes and note 5, Leases.

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF CASH FLOWS**

**(UNAUDITED)**

| (Dollars in millions) | Three Months Ended March 31, 2019 | 2018 |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Net income | $ 1,591 | $ 1,679 |
| Adjustments to reconcile net income to cash provided by operating activities | | |
| Depreciation | 1,143 | 774 |
| Amortization of intangibles | 303 | 340 |
| Stock-based compensation | 113 | 116 |
| Net (gain)/loss on asset sales and other | (176) | 34 |
| Changes in operating assets and liabilities, net of acquisitions/divestitures | 1,785 | 1,658 |
| **Net cash provided by operating activities** | 4,759 | 4,602 |
| | | |
| **Cash flows from investing activities:** | | |
| Payments for property, plant and equipment | (539) | (870) |
| Proceeds from disposition of property, plant and equipment | 81 | 103 |
| Investment in software | (156) | (126) |
| Acquisition of businesses, net of cash acquired | (1) | (71) |
| Divestitures of businesses, net of cash transferred | 33 | |
| Non-operating finance receivables net | 193 | (89) |
| Purchases of marketable securities and other investments | (1,138) | (1,521) |
| Proceeds from disposition of marketable securities and other investments | 674 | 810 |
| **Net cash used in investing activities** | (853) | (1,764) |
| | | |
| **Cash flows from financing activities:** | | |
| Proceeds from new debt | 5,979 | 2,170 |
| Payments to settle debt | (1,768) | (3,295) |
| Short-term borrowings/(repayments) less than 90 days net | 21 | 412 |
| Common stock repurchases | (920) | (777) |
| Common stock repurchases for tax withholdings | (61) | (53) |
| Financing other | 9 | 16 |
| Cash dividends paid | (1,397) | (1,382) |
| **Net cash provided by/(used in) financing activities** | 1,863 | (2,909) |
| | | |
| Effect of exchange rate changes on cash, cash equivalents and restricted cash | (102) | 100 |
| Net change in cash, cash equivalents and restricted cash | 5,668 | 28 |
| | | |
| Cash, cash equivalents and restricted cash at January 1 | 11,604 | 12,234 |
| **Cash, cash equivalents and restricted cash at March 31** | $ 17,272 | $ 12,262 |

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**

**AND SUBSIDIARY COMPANIES**

**CONSOLIDATED STATEMENT OF CHANGES IN EQUITY**

**(UNAUDITED)**

| (Dollars in millions) | Common Stock and Additional Paid-in Capital | Retained Earnings | Treasury Stock | Accumulated Other Comprehensive Income/(Loss) | Total IBM Stockholders Equity | Non-Controlling Interests | Total Equity |
|---|---|---|---|---|---|---|---|
| **Equity - January 1, 2019** | $ 55,151 | $ 159,206 | $ (168,071) | $ (29,490) | $ 16,796 | $ 134 | $ 16,929 |
| Net income plus other comprehensive income/(loss): | | | | | | | |
| Net income | | 1,591 | | | 1,591 | | 1,591 |
| Other comprehensive income/(loss) | | | | 308 | 308 | | 308 |
| Total comprehensive income/(loss) | | | | | $ 1,899 | | $ 1,899 |
| Cash dividends paid common stock ($1.57 per share) | | (1,397) | | | (1,397) | | (1,397) |
| Common stock issued under employee plans (1,391,989 shares) | 137 | | | | 137 | | 137 |
| Purchases (454,710 shares) and sales (82,862 shares) of treasury stock under employee plans net | | 2 | (50) | | (48) | | (48) |
| Other treasury shares purchased, not retired (6,856,678 shares) | | | (900) | | (900) | | (900) |
| Changes in other equity | | (5) | | | (5) | | (5) |
| Changes in noncontrolling interests | | | | | | (8) | (8) |
| **Equity - March 31, 2019** | $ 55,287 | $ 159,396 | $ (169,021) | $ (29,182) | $ 16,481 | $ 126 | $ 16,607 |

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**INTERNATIONAL BUSINESS MACHINES CORPORATION**
**AND SUBSIDIARY COMPANIES**
**CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)**
**(UNAUDITED)**

| (Dollars in millions) | Common Stock and Additional Paid-in Capital | Retained Earnings | Treasury Stock | Accumulated Other Comprehensive Income/(Loss) | Total IBM Stockholders Equity | Non-Controlling Interests | Total Equity |
|---|---|---|---|---|---|---|---|
| **Equity - January 1, 2018** | $ 54,566 | $ 153,126 | $ (163,507) | $ (26,592) | $ 17,594 | $ 131 | $ 17,725 |
| Cumulative effect of change in accounting principle: | | | | | | | |
| Revenue | | 524 | | | 524 | | 524 |
| Stranded tax effects/other * | | 2,422 | | (2,422) | | | |
| Net income plus other comprehensive income/(loss): | | | | | | | |
| Net income | | 1,679 | | | 1,679 | | 1,679 |
| Other comprehensive income/(loss) | | | | 430 | 430 | | 430 |
| Total comprehensive income/(loss) | | | | | $ 2,109 | | $ 2,109 |
| Cash dividends paid common stock ($1.50 per share) | | (1,382) | | | (1,382) | | (1,382) |
| Common stock issued under employee plans (1,037,255 shares) | 146 | | | | 146 | | 146 |
| Purchases (325,635 shares) and sales (45,878 shares) of treasury stock under employee plans net | | 1 | (47) | | (45) | | (45) |
| Other treasury shares purchased, not retired (4,968,417 shares) | | | (780) | | (780) | | (780) |
| Changes in noncontrolling interests | | | | | | (7) | (7) |
| **Equity - March 31, 2018** | $ 54,712 | $ 156,371 | $ (164,334) | $ (28,583) | $ 18,166 | $ 124 | $ 18,290 |

* Reflects the adoption of the FASB guidance on stranded tax effects, hedging and financial instruments. Refer to note 2, Accounting Changes.

(Amounts may not add due to rounding.)

(The accompanying notes are an integral part of the financial statements.)

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**Notes to Consolidated Financial Statements:**

**1. Basis of Presentation:** The accompanying Consolidated Financial Statements and footnotes of the International Business Machines Corporation (IBM or the company) have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The financial statements and footnotes are unaudited. In the opinion of the company s management, these statements include all adjustments, which are only of a normal recurring nature, necessary to present a fair statement of the company s results of operations, financial position and cash flows.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amount of assets, liabilities, revenue, costs, expenses and other comprehensive income/(loss) that are reported in the Consolidated Financial Statements and accompanying disclosures. These estimates are based on management s best knowledge of current events, historical experience, actions that the company may undertake in the future and on various other assumptions that are believed to be reasonable under the circumstances. As a result, actual results may be different from these estimates.

In the first quarter of 2019, the company made a number of changes to its organizational structure and management system. These changes impacted the company s reportable segments, but did not impact the company s Consolidated Financial Statements. Refer to note 8, Segments, for additional information on the changes in reportable segments. The periods presented in this Form 10-Q are reported on a comparable basis. The company provided recast historical segment information reflecting these changes in a Form 8-K dated April 4, 2019.

For the three months ended March 31, 2019, the company recorded a provision for income taxes of $289 million and its effective tax rate was 15.4 percent. The rate was primarily driven by the geographical mix of income and foreign and domestic audit activity, partially offset by a discrete tax charge of $129 million related to the January 2019 additional tax reform guidance issued by the U.S. Treasury. In the first quarter of 2018, the company reported a benefit from income taxes of $540 million and its effective tax rate was (47.5) percent. This benefit was primarily driven by audit resolutions partially offset by a discrete provisional charge related to U.S. tax reform guidance.

Noncontrolling interest amounts of $7.0 million and $7.8 million, net of tax, for the three months ended March 31, 2019 and 2018, respectively, are included as a reduction within other (income) and expense in the Consolidated Statement of Earnings.

Interim results are not necessarily indicative of financial results for a full year. The information included in this Form 10-Q should be read in conjunction with the company s 2018 Annual Report.

Within the financial statements and tables presented, certain columns and rows may not add due to the use of rounded numbers for disclosure purposes. Percentages presented are calculated from the underlying whole-dollar amounts. Certain prior year amounts have been reclassified to conform to the current year presentation. This is annotated where applicable.

**2. Accounting Changes:**

**New Standards to be Implemented**

In August 2018, the Financial Accounting Standards Board (FASB) issued guidance which changed the disclosure requirements for fair value measurements and defined benefit plans. The guidance is effective for each of the topics on January 1, 2020 and December 31, 2020, respectively, with early adoption of certain provisions permitted. The company early adopted the provision in the fair value guidance that removed the Level 1/Level 2 transfer disclosures. The company is evaluating the adoption date for the remaining changes. As the guidance is a change to disclosures only, the company does not expect the guidance to have a material impact in the consolidated financial results.

In January 2017, the FASB issued guidance that simplifies the goodwill impairment test by removing Step 2. The guidance also changes the requirements for reporting units with zero or negative carrying amounts and requires additional disclosures for these reporting units. The guidance is effective January 1, 2020 and early adoption is permitted. The company expects to adopt the guidance on a prospective basis on the effective date. The company is evaluating the impact of the guidance.

In June 2016, with amendments in 2018, the FASB issued guidance for credit impairment based on an expected loss model rather than an incurred loss model. The guidance requires the consideration of all available relevant information when estimating expected credit losses, including past events, current conditions and forecasts and their implications for expected

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**Notes to Consolidated Financial Statements (continued)**

credit losses. A cross-functional team was established that is evaluating the financial instruments portfolio and the system, process and policy change requirements and continues to make substantial progress. The new guidance expands the scope of financial instruments subject to impairment, including off-balance sheet commitments and residual value. The guidance is effective January 1, 2020 with one-year early adoption permitted. The company will adopt the guidance as of the effective date and is continuing to evaluate the impact.

**Standards Implemented**

The FASB issued guidance in February 2016, with amendments in 2018 and 2019, which changed the accounting for leases. The guidance requires lessees to recognize right-of-use assets and lease liabilities for most leases in the Consolidated Statement of Financial Position. The guidance also made some changes to lessor accounting, including elimination of the use of third-party residual value guarantee insurance in the lease classification test, and overall aligns with the new revenue recognition guidance. The guidance requires qualitative and quantitative disclosures to assess the amount, timing and uncertainty of cash flows arising from leases. The company adopted the guidance effective January 1, 2019, using the transition option whereby prior comparative periods were not retrospectively presented in the Consolidated Financial Statements. The company elected the package of practical expedients not to reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs and the lessee practical expedient to combine lease and nonlease components for all asset classes. The company made a policy election to not recognize right-of-use assets and lease liabilities for short-term leases for all asset classes. The guidance had a material impact on the Consolidated Statement of Financial Position as of the effective date. As a lessee, at adoption, the company recognized operating and financing right-of-use (ROU) assets of $4.8 billion and $0.2 billion, respectively, and operating and financing lease liabilities of $5.1 billion and $0.2 billion, respectively. The transition adjustment recognized in retained earnings at January 1, 2019 was not material. From a lessor perspective, the changes in lease termination guidance and removal of third-party residual value guarantee insurance in the lease classification test did not have a material impact in the consolidated financial results. Refer to note 5, Leases, for additional information, including further discussion on the impact of adoption.

In August 2018, the FASB issued guidance on a customer s accounting for implementation costs incurred in cloud-computing arrangements that are hosted by a vendor. Certain types of implementation costs should be capitalized and amortized over the term of the hosting arrangement. The guidance is effective January 1, 2020 and early adoption is permitted. The company adopted the guidance on January 1, 2019 on a prospective basis. The guidance did not have a material impact in the consolidated financial results.

In February 2018, the FASB issued guidance that allows entities to elect an option to reclassify the stranded tax effects related to the application of U.S. tax reform from accumulated other comprehensive income/(loss) (AOCI) to retained earnings. The guidance was effective January 1, 2019 with early adoption permitted, and can be applied either in the period of adoption or retrospectively to all applicable periods. The company adopted the guidance effective January 1, 2018, and elected not to reclassify prior periods. In accordance with its accounting policy, the company releases income tax effects from AOCI once the reason the tax effects were established cease to exist (e.g., when available-for-sale debt securities are sold or if a pension plan is liquidated). This guidance allows for the reclassification of stranded tax effects as a result of the change in tax rates from U.S. tax reform to be recorded upon adoption of the guidance rather than at the actual cessation date. At adoption on January 1, 2018, $2.4 billion was reclassified from AOCI to retained earnings, primarily comprised of amounts relating to retirement-related benefit plans.

In August 2017, the FASB issued guidance to simplify the application of hedge accounting in certain areas, better portray the economic results of an entity s risk management activities in its financial statements and make targeted improvements to presentation and disclosure requirements. The guidance was effective January 1, 2019 with early adoption permitted. The company adopted the guidance as of January 1, 2018, and it did

not have a material impact in the consolidated financial results.

In March 2017, the FASB issued guidance that impacts the presentation of net periodic pension and postretirement benefit costs (net benefit cost). Under the guidance, the service cost component of net benefit cost continues to be presented within cost, SG&A expense and RD&E expense in the Consolidated Statement of Earnings, unless eligible for capitalization. The other components of net benefit cost are presented separately from service cost within other (income) and expense in the Consolidated Statement of Earnings. The guidance was effective January 1, 2018 with early adoption permitted. The company adopted the guidance as of the effective date. The guidance is primarily a change in financial statement presentation and did not have a material impact in the consolidated financial results. This presentation change was applied retrospectively upon adoption.

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**Notes to Consolidated Financial Statements (continued)**

In January 2016, the FASB issued guidance which addresses aspects of recognition, measurement, presentation and disclosure of financial instruments. The guidance was effective January 1, 2018 and early adoption was not permitted except for limited provisions. The company adopted the guidance on the effective date. The guidance required certain equity investments to be measured at fair value with changes recognized in net income. The amendment also simplified the impairment test of equity investments that lack readily determinable fair value. The guidance did not have a material impact in the consolidated financial results.

The FASB issued guidance on the recognition of revenue from contracts with customers in May 2014 with amendments in 2015 and 2016. Revenue recognition depicts 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 guidance also requires specific disclosures relating to revenue recognition. The company adopted the guidance effective January 1, 2018 using the modified retrospective transition method. At adoption, $557 million was reclassified from notes and accounts receivable trade and deferred income current to prepaid expenses and other current assets to establish the opening balance for net contract assets. In-scope sales commission costs previously recorded in the Consolidated Statement of Earnings were capitalized in deferred costs in accordance with the transition guidance, in the amount of $737 million. Deferred income of $29 million was recorded for certain software licenses that will be recognized over time versus at point in time under previous guidance. Additionally, net deferred taxes were reduced by $184 million in the Consolidated Statement of Financial Position, resulting in a cumulative-effect net increase to retained earnings of $524 million. In the fourth quarter of 2018, the company recognized an additional impact to net deferred taxes and retained earnings of $56 million, resulting in a total net increase to retained earnings of $580 million. The decrease to net deferred taxes was the result of the company s election to include Global Intangible Low-Taxed Income (GILTI) in measuring deferred taxes. The revenue guidance did not have a material impact in the company s consolidated financial results. Refer to note 3, Revenue Recognition, for additional information.

In March 2016, the FASB issued guidance which changed the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification in the Consolidated Statement of Cash Flows. The guidance was effective and adopted by the company on January 1, 2017, and it did not have a material impact in the Consolidated Statement of Financial Position. The ongoing impact of the guidance could result in increased volatility in the provision for income taxes and earnings per share in the Consolidated Statement of Earnings, depending on the company s share price at exercise or vesting of share-based awards compared to grant date, however these impacts are not expected to be material. These impacts are recorded on a prospective basis. The company continues to estimate forfeitures in conjunction with measuring stock-based compensation cost. The guidance also requires cash payments on behalf of employees for shares directly withheld for taxes to be presented as financing outflows in the Consolidated Statement of Cash Flows. The FASB also issued guidance in May 2017 and June 2018, which relates to the accounting for modifications of share-based payment awards and accounting for share-based payments issued to non-employees, respectively. The company adopted the guidance for modifications in the second quarter of 2017, and guidance for non-employees payments in the second quarter of 2018. The guidance had no impact in the consolidated financial results.

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**Notes to Consolidated Financial Statements (continued)**

**3. Revenue Recognition:**

**Disaggregation of Revenue**

The following tables provide details of revenue by major products/service offerings and by geography.

**Revenue by Major Products/Service Offerings**

| (Dollars in millions) For the three months ended March 31, 2019: | Cloud & Cognitive Software | Global Business Services | Global Technology Services | Systems | Global Financing | Other | Total Revenue |
|---|---|---|---|---|---|---|---|
| Cognitive Applications | $ 1,308 | $ | $ | $ | $ | $ | $ 1,308 |
| Cloud & Data Platforms | 1,917 | | | | | | 1,917 |
| Transaction Processing Platforms | 1,812 | | | | | | 1,812 |
| Consulting | | 1,964 | | | | | 1,964 |
| Application Management | | 1,908 | | | | | 1,908 |
| Global Process Services | | 247 | | | | | 247 |
| Infrastructure & Cloud Services | | | 5,209 | | | | 5,209 |
| Technology Support Services | | | 1,665 | | | | 1,665 |
| Systems Hardware | | | | 914 | | | 914 |
| Operating Systems Software | | | | 414 | | | 414 |
| Global Financing* | | | | | 406 | | 406 |
| Other Revenue | | | | | | 417 | 417 |
| Total | $ 5,037 | $ 4,119 | $ 6,875 | $ 1,328 | $ 406 | $ 417 | $ 18,182 |

* Contains lease and loan/working capital financing arrangements which are not subject to the guidance on revenue from contracts with customers.

**Revenue by Geography**

**(Dollars in millions)**

| For the three months ended March 31, 2019: | | Total Revenue |
|---|---|---|
| Americas | $ | 8,493 |
| Europe/Middle East/Africa | | 5,727 |
| Asia Pacific | | 3,961 |
| Total | $ | 18,182 |

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**Notes to Consolidated Financial Statements (continued)**

**Revenue by Major Products/Service Offerings**

| (Dollars in millions) For the three months ended March 31, 2018: | Cloud & Cognitive Software* | Global Business Services* | Global Technology Services* | Systems | Global Financing | Other* | Total Revenue |
|---|---|---|---|---|---|---|---|
| Cognitive Applications | $ 1,286 | $ | $ | $ | $ | $ | $ 1,286 |
| Cloud & Data Platforms | 1,950 | | | | | | 1,950 |
| Transaction Processing Platforms | 1,880 | | | | | | 1,880 |
| Consulting | | 1,867 | | | | | 1,867 |
| Application Management | | 2,002 | | | | | 2,002 |
| Global Process Services | | 246 | | | | | 246 |
| Infrastructure & Cloud Services | | | 5,639 | | | | 5,639 |
| Technology Support Services | | | 1,782 | | | | 1,782 |
| Systems Hardware | | | | 1,093 | | | 1,093 |
| Operating Systems Software | | | | 407 | | | 407 |
| Global Financing** | | | | | 405 | | 405 |
| Other Revenue | | | | | | 515 | 515 |
| Total | $ 5,116 | $ 4,115 | $ 7,421 | $ 1,500 | $ 405 | $ 515 | $ 19,072 |

* Recast to conform to 2019 presentation.

** Contains lease and loan/working capital financing arrangements which are not subject to the guidance on revenue from contracts with customers.

**Revenue by Geography**

| (Dollars in millions) For the three months ended March 31, 2018: | Total Revenue |
|---|---|
| Americas | $ 8,707 |
| Europe/Middle East/Africa | 6,176 |
| Asia Pacific | 4,188 |
| Total | $ 19,072 |

**Remaining Performance Obligations**

The remaining performance obligation (RPO) disclosure provides the aggregate amount of the transaction price yet to be recognized as of the end of the reporting period and an explanation as to when the company expects to recognize these amounts in revenue. It is intended to be a statement of overall work under contract that has not yet been performed and does not include contracts in which the customer is not committed, such as certain as-a-Service, governmental, term software license and services offerings. The customer is not considered committed when they are able to terminate for convenience without payment of a substantive penalty. The disclosure includes estimates of variable consideration, except when the variable consideration is a sales-based or usage-based royalty promised in exchange for a license of intellectual property. Additionally, as a practical expedient, the company does not include contracts that have an original duration of one year or less. Remaining performance obligation estimates are subject to change and are affected by several factors, including terminations, changes in the scope of contracts, periodic revalidations, adjustment for revenue that has not materialized and adjustments for currency.

At March 31, 2019, the aggregate amount of the transaction price allocated to RPO related to customer contracts that are unsatisfied or partially unsatisfied was $118 billion. Given the profile of contract terms, approximately 60 percent of this amount is expected to be recognized as revenue over the next two years, approximately 35 percent between three and five years and the balance (mostly Infrastructure & Cloud Services) thereafter.

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**Notes to Consolidated Financial Statements (continued)**

At December 31, 2018, the aggregate amount of the transaction price allocated to RPO related to customer contracts that were unsatisfied or partially unsatisfied was $124 billion. Given the profile of contract terms, approximately 60 percent of this amount was expected to be recognized as revenue over the next two years, approximately 35 percent between three and five years and the balance (mostly Infrastructure & Cloud Services) thereafter.

**Revenue Recognized for Performance Obligations Satisfied (or Partially Satisfied) in Prior Periods**

For the three months ending March 31, 2019, the impact to revenue from performance obligations satisfied (or partially satisfied) in previous periods was immaterial. For the three months ending March 31, 2018, revenue was reduced by $22 million for performance obligations satisfied (or partially satisfied) in previous periods, mainly due to changes in estimates on percentage-of-completion based contracts. Refer to note A, Significant Accounting Policies, in the company s 2018 Annual Report for additional information on percentage-of-completion contracts and estimates of costs to complete.

**Reconciliation of Contract Balances**

The following table provides information about notes and accounts receivables trade, contract assets and deferred income balances:

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Notes and accounts receivable trade (net of allowances of $316 and $309 at March 31, 2019 and December 31, 2018, respectively) | $ 6,987 | $ 7,432 |
| Contract assets (1) | 528 | 470 |
| Deferred income (current) | 12,134 | 11,165 |
| Deferred income (noncurrent) | 3,481 | 3,445 |

(1) Included within prepaid expenses and other current assets in the Consolidated Statement of Financial Position.

The amount of revenue recognized during the three months ended March 31, 2019 that was included within the deferred income balance at December 31, 2018 was $3.5 billion and primarily related to services and software. The amount of revenue recognized during the three months ended March 31, 2018 that was included within the deferred income balance at January 1, 2018 was $3.5 billion and was also primarily related to services and software.

**4. Financial Instruments:**

**Fair Value Measurements**

Accounting guidance defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Under this guidance, the company is required to classify certain assets and liabilities based on the following fair value hierarchy:

- Level 1 Quoted prices (unadjusted) in active markets for identical assets or liabilities that can be accessed at the measurement date;

- Level 2 Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and

- Level 3 Unobservable inputs for the asset or liability.

The guidance requires the use of observable market data if such data is available without undue cost and effort.

When available, the company uses unadjusted quoted market prices in active markets to measure the fair value and classifies such items as Level 1. If quoted market prices are not available, fair value is based upon internally developed models that use current market-based or independently sourced market parameters such as interest rates and currency rates. Items valued using internally generated models are classified according to the lowest level input or value driver that is significant to the valuation.

The determination of fair value considers various factors including interest rate yield curves and time value underlying the financial instruments. For derivatives and debt securities, the company uses a discounted cash flow analysis using discount rates commensurate with the duration of the instrument.

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**Notes to Consolidated Financial Statements (continued)**

In determining the fair value of financial instruments, the company considers certain market valuation adjustments to the base valuations calculated using the methodologies described below for several parameters that market participants would consider in determining fair value:

- Counterparty credit risk adjustments are applied to financial instruments, taking into account the actual credit risk of a counterparty as observed in the credit default swap market to determine the true fair value of such an instrument.

- Credit risk adjustments are applied to reflect the company s own credit risk when valuing all liabilities measured at fair value. The methodology is consistent with that applied in developing counterparty credit risk adjustments, but incorporates the company s own credit risk as observed in the credit default swap market.

As an example, the fair value of derivatives is derived utilizing a discounted cash flow model that uses observable market inputs such as known notional value amounts, yield curves, spot and forward exchange rates as well as discount rates. These inputs relate to liquid, heavily traded currencies with active markets which are available for the full term of the derivative.

Certain assets that are measured at fair value on a recurring basis can be subject to nonrecurring fair value measurements. These assets include available-for-sale debt securities that are deemed to be other-than-temporarily impaired. In the event of an other-than-temporary impairment of a debt security, fair value is measured using a model described above.

Certain non-financial assets such as property, plant and equipment, operating right-of-use assets, land, goodwill and intangible assets are also subject to nonrecurring fair value measurements if they are deemed to be impaired. The impairment models used for non-financial assets depend on the type of asset. There were no material impairments of non-financial assets for the three months ended March 31, 2019 and 2018, respectively.

Accounting guidance permits the measurement of eligible financial assets, financial liabilities and firm commitments at fair value, on an instrument-by-instrument basis, that are otherwise not permitted to be accounted for at fair value under other accounting standards. This election is irrevocable. The company has not applied the fair value option to any eligible assets or liabilities.

Effective January 1, 2018, the company adopted the new FASB guidance on recognition, measurement, presentation and disclosure of financial instruments using the cumulative catch-up transition method. Since adoption, the company measures equity investments at fair value with changes recognized in net income. Refer to note 2, Accounting Changes, for further information.

The following tables present the company s financial assets and financial liabilities that are measured at fair value on a recurring basis at March 31, 2019 and December 31, 2018.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions)<br>At March 31, 2019 | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| **Assets:** | | | | |
| Cash equivalents (1) | | | | |
| Time deposits and certificates of deposit | $ | $ 12,686 | $ | $ 12,686(6) |
| Money market funds | 25 | | | 25 |
| U.S. government securities | | 1,498 | | 1,498(6) |
| Total | $ 25 | $ 14,184 | $ | $ 14,209 |
| Equity investments (2) | 0 | | | 0 |
| Debt securities - current (3) | | 872 | | 872(6) |
| Derivative assets (4) | 4 | 690 | | 694(7) |
| **Total assets** | $ 29 | $ 15,747 | $ | $ 15,776 |
| **Liabilities:** | | | | |
| Derivative liabilities (5) | $ | $ 705 | $ | $ 705(7) |

(1) Included within cash and cash equivalents in the Consolidated Statement of Financial Position.

(2) Included within investments and sundry assets in the Consolidated Statement of Financial Position.

(3) Included within marketable securities in the Consolidated Statement of Financial Position.

(4) The gross balances of derivative assets contained within prepaid expenses and other current assets, and investments and sundry assets in the Consolidated Statement of Financial Position at March 31, 2019 were $346 million and $348 million, respectively.

(5) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Statement of Financial Position at March 31, 2019 were $316 million and $389 million, respectively.

(6) Available-for-sale debt securities with carrying values that approximate fair value.

(7) If derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Statement of Financial Position, the total derivative asset and liability positions each would have been reduced by $353 million.

| (Dollars in millions)<br>At December 31, 2018 | Level 1 | Level 2 | Level 3 | Total |
|---|---|---|---|---|
| **Assets:** | | | | |
| Cash equivalents (1) | | | | |
| Time deposits and certificates of deposit | $ | $ 7,679 | $ | $ 7,679(6) |
| Money market funds | 25 | | | 25 |
| Total | $ 25 | $ 7,679 | $ | $ 7,704 |
| Equity investments (2) | 0 | | | 0 |
| Debt securities - current (3) | | 618 | | 618(6) |
| Derivative assets (4) | 1 | 731 | | 731(7) |
| **Total assets** | $ 26 | $ 9,028 | $ | $ 9,053 |
| **Liabilities:** | | | | |
| Derivative liabilities (5) | $ 40 | $ 343 | $ | $ 383(7) |

(1) Included within cash and cash equivalents in the Consolidated Statement of Financial Position.

(2) Included within investments and sundry assets in the Consolidated Statement of Financial Position.

(3) Included within marketable securities in the Consolidated Statement of Financial Position.

(4) The gross balances of derivative assets contained within prepaid expenses and other current assets, and investments and sundry assets in the Consolidated Statement of Financial Position at December 31, 2018 were $385 million and $347 million, respectively.

(5) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Statement of Financial Position at December 31, 2018 were $177 million and $206 million, respectively.

(6) Available-for-sale debt securities with carrying values that approximate fair value.

(7) If derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Statement of Financial Position, the total derivative asset and liability positions each would have been reduced by $267 million.

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**Notes to Consolidated Financial Statements (continued)**

**Financial Assets and Liabilities Not Measured at Fair Value**

Short-Term Receivables and Payables

Notes and other accounts receivable and other investments are financial assets with carrying values that approximate fair value. Accounts payable, other accrued expenses and short-term debt (excluding the current portion of long-term debt and including short-term finance lease liabilities) are financial liabilities with carrying values that approximate fair value. If measured at fair value in the financial statements, these financial instruments would be classified as Level 3 in the fair value hierarchy, except for short-term debt which would be classified as Level 2.

Loans and Long-Term Receivables

Fair values are based on discounted future cash flows using current interest rates offered for similar loans to clients with similar credit ratings for the same remaining maturities. At March 31, 2019 and December 31, 2018, the difference between the carrying amount and estimated fair value for loans and long-term receivables was immaterial. If measured at fair value in the financial statements, these financial instruments would be classified as Level 3 in the fair value hierarchy.

Long-Term Debt

Fair value of publicly-traded long-term debt is based on quoted market prices for the identical liability when traded as an asset in an active market. For other long-term debt (including long-term finance lease liabilities) for which a quoted market price is not available, an expected present value technique that uses rates currently available to the company for debt with similar terms and remaining maturities is used to estimate fair value. The carrying amount of long-term debt was $39,727 million and $35,605 million, and the estimated fair value was $41,675 million and $36,599 million at March 31, 2019 and December 31, 2018, respectively. If measured at fair value in the financial statements, long-term debt (including the current portion) would be classified as Level 2 in the fair value hierarchy.

**Available-for-Sale Securities**

Gross realized gains/losses from the sale of available-for-sale securities during the three month periods ended March 31, 2019 and 2018 were immaterial. After-tax net unrealized holding gains/losses on available-for-sale securities that have been included in other comprehensive income/loss for the three month periods ended March 31, 2019 and 2018 were immaterial.

The contractual maturities of substantially all available-for-sale debt securities are less than one year at March 31, 2019.

**Derivative Financial Instruments**

The company operates in multiple functional currencies and is a significant lender and borrower in the global markets. In the normal course of business, the company is exposed to the impact of interest rate changes and foreign currency fluctuations, and to a lesser extent equity and commodity price changes and client credit risk. The company limits these risks by following established risk management policies and procedures, including the use of derivatives, and, where cost effective, financing with debt in the currencies in which assets are denominated. For interest rate exposures, derivatives are used to better align rate movements between the interest rates associated with the company s lease and other financial assets and the interest rates associated with its financing debt. Derivatives are also used to manage the related cost of debt. For foreign currency exposures, derivatives are used to better manage the cash flow volatility arising from foreign exchange rate fluctuations.

As a result of the use of derivative instruments, the company is exposed to the risk that counterparties to derivative contracts will fail to meet their contractual obligations. To mitigate the counterparty credit risk, the company has a policy of only entering into contracts with carefully selected major financial institutions based upon their overall credit profile. The company s established policies and procedures for mitigating credit risk on principal transactions include reviewing and establishing limits for credit exposure and continually assessing the creditworthiness of counterparties. The right of set-off that exists under certain of these arrangements enables the legal entities of the company subject to the arrangement to net amounts due to and from the counterparty reducing the maximum loss from credit risk in the event of counterparty default.

The company is also a party to collateral security arrangements with most of its major derivative counterparties. These arrangements require the company to hold or post collateral (cash or U.S. Treasury securities) when the derivative fair values exceed contractually established thresholds. Posting thresholds can be fixed or can vary based on credit default swap pricing or credit ratings received from the major credit agencies. The aggregate fair value of all derivative instruments under these

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**Notes to Consolidated Financial Statements (continued)**

collateralized arrangements that were in a liability position at March 31, 2019 and December 31, 2018 was $359 million and $74 million, respectively, for which $14 million of collateral was posted and reduced the position at March 31, 2019 and no collateral was posted at December 31, 2018. Full collateralization of these agreements would be required in the event that the company s credit rating falls below investment grade or if its credit default swap spread exceeds 250 basis points, as applicable, pursuant to the terms of the collateral security arrangements. The aggregate fair value of derivative instruments in asset positions at March 31, 2019 and December 31, 2018 was $694 million and $731 million, respectively. This amount represents the maximum exposure to loss at the reporting date if the counterparties failed to perform as contracted. This exposure was reduced by $353 million and $267 million at March 31, 2019 and December 31, 2018, respectively, of liabilities included in master netting arrangements with those counterparties. Additionally, at March 31, 2019 and December 31, 2018, this exposure was reduced by $20 million and $70 million of cash collateral, respectively. There were no non-cash collateral balances in U.S. Treasury securities at March 31, 2019 and December 31, 2018. At March 31, 2019 and December 31, 2018, the net exposure related to derivative assets recorded in the Consolidated Statement of Financial Position was $321 million and $395 million, respectively. At March 31, 2019 and December 31, 2018, the net position related to derivative liabilities recorded in the Consolidated Statement of Financial Position was $338 million and $116 million, respectively.

In the Consolidated Statement of Financial Position, the company does not offset derivative assets against liabilities in master netting arrangements nor does it offset receivables or payables recognized upon payment or receipt of cash collateral against the fair values of the related derivative instruments. The amount recognized in other receivables for the right to reclaim cash collateral was $14 million at March 31, 2019. No amount was recognized in other receivables at December 31, 2018 for the right to reclaim cash collateral. The amount recognized in accounts payable for the obligation to return cash collateral was $20 million and $70 million at March 31, 2019 and December 31, 2018, respectively. The company restricts the use of cash collateral received to rehypothecation, and therefore reports it in restricted cash in the Consolidated Statement of Financial Position. The company rehypothecated $14 million of cash collateral received at March 31, 2019 and no amount was rehypothecated at December 31, 2018.

The company may employ derivative instruments to hedge the volatility in stockholders equity resulting from changes in currency exchange rates of significant foreign subsidiaries of the company with respect to the U.S. dollar. These instruments, designated as net investment hedges, expose the company to liquidity risk as the derivatives have an immediate cash flow impact upon maturity which is not offset by a cash flow from the translation of the underlying hedged equity. The company monitors this cash loss potential on an ongoing basis and may discontinue some of these hedging relationships by de-designating or terminating the derivative instrument in order to manage the liquidity risk. Although not designated as accounting hedges, the company may utilize derivatives to offset the changes in the fair value of the de-designated instruments from the date of de-designation until maturity.

In its hedging programs, the company may use forward contracts, futures contracts, interest-rate swaps, cross-currency swaps, equity swaps, and options depending upon the underlying exposure. The company is not a party to leveraged derivative instruments.

A brief description of the major hedging programs, categorized by underlying risk, follows.

**Interest Rate Risk**

**Fixed and Variable Rate Borrowings**

The company issues debt in the global capital markets to fund its operations and financing business. Access to cost-effective financing can result in interest rate mismatches with the underlying assets. To manage these mismatches and to reduce overall interest cost, the company may use interest-rate swaps to convert specific fixed-rate debt issuances into variable-rate debt (i.e., fair value hedges) and to convert specific variable-rate debt issuances into fixed-rate debt (i.e., cash flow hedges). At March 31, 2019 and December 31, 2018, the total notional amount of the company s interest-rate swaps was $6.8 billion and $7.6 billion, respectively. The weighted-average remaining maturity of these instruments at March 31, 2019 and December 31, 2018 was approximately 3.6 years and 3.5 years, respectively. These interest-rate contracts were accounted for as fair value hedges. The company did not have any cash flow hedges relating to this program outstanding at March 31, 2019 and December 31, 2018.

**Forecasted Debt Issuance**

The company is exposed to interest rate volatility on future debt issuances. To manage this risk, the company may use instruments such as forward starting interest-rate swaps to lock in the rate on the interest payments related to the forecasted debt issuances. At March 31, 2019 and December 31, 2018, the total notional amount of forward starting interest-rate swaps

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**Notes to Consolidated Financial Statements (continued)**

outstanding was $5.5 billion at both periods. These swaps are linked to future interest payments on anticipated U.S. dollar debt issuances forecasted to occur throughout 2019 and 2020. The maximum length of time over which the company has hedged its exposure to the variability in future cash flows is 30 years. These swaps are accounted for as cash flow hedges.

In connection with cash flow hedges of forecasted interest payments related to the company s borrowings, the company recorded net losses of $206 million and net losses of $35 million (before taxes) at March 31, 2019 and December 31, 2018, respectively, in AOCI. The company estimates that $11 million (before taxes) of the deferred net losses on derivatives in AOCI at March 31, 2019 will be reclassified to net income within the next 12 months, providing an offsetting economic impact against the underlying anticipated transactions.

**Foreign Exchange Risk**

**Long-Term Investments in Foreign Subsidiaries (Net Investment)**

A large portion of the company s foreign currency denominated debt portfolio is designated as a hedge of net investment in foreign subsidiaries to reduce the volatility in stockholders equity caused by changes in foreign currency exchange rates in the functional currency of major foreign subsidiaries with respect to the U.S. dollar. The company also uses cross-currency swaps and foreign exchange forward contracts for this risk management purpose. At March 31, 2019 and December 31, 2018, the total notional amount of derivative instruments designated as net investment hedges was $6.0 billion and $6.4 billion, respectively. At March 31, 2019 and December 31, 2018, the weighted-average remaining maturity of these instruments was approximately 0.2 years at both periods.

**Anticipated Royalties and Cost Transactions**

The company s operations generate significant nonfunctional currency, third-party vendor payments and intercompany payments for royalties and goods and services among the company s non-U.S. subsidiaries and with the company. In anticipation of these foreign currency cash flows and in view of the volatility of the currency markets, the company selectively employs foreign exchange forward contracts to manage its currency risk. These forward contracts are accounted for as cash flow hedges. The maximum length of time over which the company has hedged its exposure to the variability in future cash flows is four years. At March 31, 2019 and December 31, 2018, the total notional amount of forward contracts designated as cash flow hedges of forecasted royalty and cost transactions was $10.0 billion and $9.8 billion, respectively. At March 31, 2019 and December 31, 2018, the weighted-average remaining maturity of these instruments was approximately 0.8 years at both periods.

At March 31, 2019 and December 31, 2018, in connection with cash flow hedges of anticipated royalties and cost transactions, the company recorded net gains of $356 million and net gains of $342 million (before taxes), respectively, in AOCI. The company estimates that $256 million (before taxes) of deferred net gains on derivatives in AOCI at March 31, 2019 will be reclassified to net income within the next 12 months, providing an offsetting economic impact against the underlying anticipated transactions.

**Foreign Currency Denominated Borrowings**

The company is exposed to exchange rate volatility on foreign currency denominated debt. To manage this risk, the company employs cross-currency swaps to convert fixed-rate foreign currency denominated debt to fixed-rate debt denominated in the functional currency of the borrowing entity. These swaps are accounted for as cash flow hedges. The maximum length of time over which the company has hedged its exposure to the variability in future cash flows is approximately 12 years. At March 31, 2019 and December 31, 2018, the total notional amount of cross-currency swaps designated as cash flow hedges of foreign currency denominated debt was $12.2 billion and $6.5 billion, respectively.

At March 31, 2019 and December 31, 2018, in connection with cash flow hedges of foreign currency denominated borrowings, the company recorded net losses of $21 million and net gains of $75 million (before taxes), respectively, in AOCI. The company estimates that $346 million (before taxes) of deferred net gains on derivatives in AOCI at March 31, 2019 will be reclassified to net income within the next 12 months, providing an offsetting economic impact against the underlying exposure.

**Subsidiary Cash and Foreign Currency Asset/Liability Management**

The company uses its Global Treasury Centers to manage the cash of its subsidiaries. These centers principally use currency swaps to convert cash flows in a cost-effective manner. In addition, the company uses foreign exchange forward

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**Notes to Consolidated Financial Statements (continued)**

contracts to economically hedge, on a net basis, the foreign currency exposure of a portion of the company s nonfunctional currency assets and liabilities. The terms of these forward and swap contracts are generally less than one year. The changes in the fair values of these contracts and of the underlying hedged exposures are generally offsetting and are recorded in other (income) and expense in the Consolidated Statement of Earnings. At March 31, 2019 and December 31, 2018, the total notional amount of derivative instruments in economic hedges of foreign currency exposure was $5.0 billion and $5.2 billion, respectively.

**Equity Risk Management**

The company is exposed to market price changes in certain broad market indices and in the company s own stock primarily related to certain obligations to employees. Changes in the overall value of these employee compensation obligations are recorded in SG&A expense in the Consolidated Statement of Earnings. Although not designated as accounting hedges, the company utilizes derivatives, including equity swaps and futures, to economically hedge the exposures related to its employee compensation obligations. The derivatives are linked to the total return on certain broad market indices or the total return on the company s common stock, and are recorded at fair value with gains or losses also reported in SG&A expense in the Consolidated Statement of Earnings. At March 31, 2019 and December 31, 2018, the total notional amount of derivative instruments in economic hedges of these compensation obligations was $1.2 billion at both periods.

**Other Risks**

The company may hold warrants to purchase shares of common stock in connection with various investments that are deemed derivatives because they contain net share or net cash settlement provisions. The company records the changes in the fair value of these warrants in other (income) and expense in the Consolidated Statement of Earnings. The company did not have any warrants qualifying as derivatives outstanding at March 31, 2019 and December 31, 2018.

The company is exposed to a potential loss if a client fails to pay amounts due under contractual terms. The company may utilize credit default swaps to economically hedge its credit exposures. The swaps are recorded at fair value with gains and losses reported in other (income) and expense in the Consolidated Statement of Earnings. The company did not have any derivative instruments relating to this program outstanding at March 31, 2019 and December 31, 2018.

The company is exposed to market volatility on certain investment securities. The company may utilize options or forwards to economically hedge its market exposure. The derivatives are recorded at fair value with gains and losses reported in other (income) and expense in the Consolidated Statement of Earnings. At March 31, 2019 and December 31, 2018, the company did not have any derivative instruments relating to this program outstanding.

The following tables provide a quantitative summary of the derivative and non-derivative instrument-related risk management activity at March 31, 2019 and December 31, 2018, as well as for the three months ended March 31, 2019 and 2018, respectively.

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**Notes to Consolidated Financial Statements (continued)**

**Fair Values of Derivative Instruments in the Consolidated Statement of Financial Position**

| | Fair Value of Derivative Assets | | | Fair Value of Derivative Liabilities | | |
|---|---|---|---|---|---|---|
| **(Dollars in millions)** | **Balance Sheet Classification** | **3/31/2019** | **12/31/2018** | **Balance Sheet Classification** | **3/31/2019** | **12/31/2018** |
| **Designated as hedging instruments:** | | | | | | |
| Interest rate contracts | Prepaid expenses and other current assets | $ 12 | $ 9 | Other accrued expenses and liabilities | $ 211 | $ 4 |
| | Investments and sundry assets | 245 | 212 | Other liabilities | 24 | 76 |
| Foreign exchange contracts | Prepaid expenses and other current assets | 301 | 348 | Other accrued expenses and liabilities | 99 | 110 |
| | Investments and sundry assets | 104 | 135 | Other liabilities | 365 | 129 |
| | **Fair value of derivative assets** | $ 662 | $ 704 | **Fair value of derivative liabilities** | $ 699 | $ 320 |
| **Not designated as hedging instruments:** | | | | | | |
| Foreign exchange contracts | Prepaid expenses and other current assets | $ 22 | $ 26 | Other accrued expenses and liabilities | $ 5 | $ 13 |
| Equity contracts | Prepaid expenses and other current assets | 10 | 2 | Other accrued expenses and liabilities | 0 | 51 |
| | **Fair value of derivative assets** | $ 32 | $ 28 | **Fair value of derivative liabilities** | $ 6 | $ 63 |
| Total derivatives | | $ 694 | $ 731 | | $ 705 | $ 383 |
| **Total debt designated as hedging instruments(1):** | | | | | | |
| Short-term debt | | N/A | N/A | | $ | $ |
| Long-term debt | | N/A | N/A | | 6,175 | 6,261 |
| | | N/A | N/A | | $ 6,175 | $ 6,261 |
| Total | | $ 694 | $ 731 | | $ 6,880 | $ 6,644 |

(1) Debt designated as hedging instruments are reported at carrying value.

N/A - not applicable

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**Notes to Consolidated Financial Statements (continued)**

At March 31, 2019 and December 31, 2018, the following amounts were recorded in the Consolidated Statement of Financial Position related to cumulative basis adjustments for fair value hedges:

| (Dollars in millions) | March 31, 2019 | December 31, 2018 |
|---|---|---|
| Short-term debt: | | |
| Carrying amount of the hedged item | $ (1,129) | $ (1,878) |
| Cumulative hedging adjustments included in the carrying amount - assets/(liabilities) | (4)(1) | (4)(1) |
| Long-term debt: | | |
| Carrying amount of the hedged item | $ (6,073) | $ (6,004) |
| Cumulative hedging adjustments included in the carrying amount - assets/(liabilities) | (402)(2) | (333)(2) |

(1) Includes ($4) million and ($6) million of hedging adjustments on discontinued hedging relationships at March 31, 2019 and December 31, 2018, respectively.

(2) Includes ($209) million and ($213) million of hedging adjustments on discontinued hedging relationships at March 31, 2019 and December 31, 2018, respectively.

**The Effect of Derivative Instruments in the Consolidated Statement of Earnings**

The total amounts of income and expense line items presented in the Consolidated Statement of Earnings in which the effects of fair value hedges, cash flow hedges, net investment hedges and derivatives not designated as hedging instruments are recorded and the total effect of hedge activity on these income and expense line items are as follows:

| (Dollars in millions) | Total | | Gains/(Losses) of Total Hedge Activity | |
|---|---|---|---|---|
| For the three months ended March 31: | 2019 | 2018 | 2019 | 2018 |
| Cost of services | $ 8,359 | $ 8,835 | $ 10 | $ 19 |
| Cost of sales | 1,516 | 1,722 | 18 | (17) |
| Cost of financing | 264 | 269 | (18) | 4* |
| SG&A expense | 4,691 | 5,445 | 141 | (33) |
| Other (income) and expense | (73) | 413 | (69) | 49 |
| Interest expense | 210 | 165 | (20) | 4* |

* Reclassified to conform to 2019 presentation.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions) For the three months ended March 31: | Consolidated Statement of Earnings Line Item | Gain (Loss) Recognized in Earnings Recognized on Derivatives 2019 | 2018 | Gain (Loss) Recognized in Earnings Attributable to Risk Being Hedged(2) 2019 | 2018 |
|---|---|---|---|---|---|
| **Derivative instruments in fair value hedges(1):** | | | | | |
| Interest rate contracts | Cost of financing | $ 36 | $ (80) | $ (33) | $ 96 |
| | Interest expense | 39 | (72) | (36) | 87 |
| **Derivative instruments not designated as hedging instruments:** | | | | | |
| Foreign exchange contracts | Other (income) and expense | 18 | (55) | N/A | N/A |
| Equity contracts | SG&A expense | 119 | (14) | N/A | N/A |
| Total | | $ 212 | $ (222) | $ (69) | $ 182 |

| (Dollars in millions) For the three months ended March 31: | Gain (Loss) Recognized in Earnings and Other Comprehensive Income: Recognized in OCI 2019 | 2018 | Consolidated Statement of Earnings Line Item | Reclassified from AOCI 2019 | 2018 | Amounts Excluded from Effectiveness Testing(3) 2019 | 2018 |
|---|---|---|---|---|---|---|---|
| **Derivative instruments in cash flow hedges:** | | | | | | | |
| Interest rate contracts | $ (171) | $ | Cost of financing | $ | $ | $ | $ |
| | | | Interest expense | | | | |
| Foreign exchange contracts | (181) | 61 | Cost of services | 10 | 19 | | |
| | | | Cost of sales | 18 | (17) | | |
| | | | Cost of financing | (29) | (18)* | | |
| | | | SG&A expense | 22 | (18) | | |
| | | | Other (income) and expense | (87) | 104 | | |
| | | | Interest expense | (33) | (16)* | | |
| **Instruments in net investment hedges(4):** | | | | | | | |
| Foreign exchange contracts | | | Cost of financing | | | 8 | 6* |
| | 19 | (204) | Interest expense | | | 9 | 6* |
| Total | $ (333) | $ (143) | | $ (98) | $ 54 | $ 17 | $ 12 |

* Reclassified to conform to 2019 presentation.

(1) The amount includes changes in clean fair values of the derivative instruments in fair value hedging relationships and the periodic accrual for coupon payments required under these derivative contracts.

(2) The amount includes basis adjustments to the carrying value of the hedged item recorded during the period and amortization of basis adjustments recorded on de-designated hedging relationships during the period.

(3) The company s policy is to recognize all fair value changes in amounts excluded from effectiveness testing in net income each period.

(4) Instruments in net investment hedges include derivative and non-derivative instruments.

N/A - not applicable

For the three months ending March 31, 2019 and 2018, there were no material gains or losses excluded from the assessment of hedge effectiveness (for fair value or cash flow hedges), or associated with an underlying exposure that did not or was not expected to occur (for cash flow hedges); nor are there any anticipated in the normal course of business.

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**Notes to Consolidated Financial Statements (continued)**

**5. Leases:** The company conducts business as both a lessee and a lessor. In its ordinary course of business, the company enters into leases as a lessee for property, plant and equipment. The company is also the lessor of certain equipment, mainly through its Global Financing segment.

When procuring goods or services, or upon entering into a contract with its clients, the company determines whether an arrangement contains a lease at its inception. As part of that evaluation, the company considers whether there is an implicitly or explicitly identified asset in the arrangement and whether the company, as the lessee, or the client, if the company is the lessor, has the right to control that asset.

The company determines whether there is a right to control the use of the asset by assessing its rights, as the lessee, or the client s rights, if the company is the lessor, to obtain substantially all of the economic benefits from the use of the identified asset and the rights to direct the use of the identified asset. If there is either an explicit or embedded lease within a contract, the company determines the classification of the lease (e.g., finance, operating, sales-type lease) at the lease commencement date.

**Accounting for leases as a lessee**

Effective January 1, 2019, when the company is the lessee, all leases with a term of more than 12 months are recognized as right-of-use (ROU) assets and associated lease liabilities in the Consolidated Statement of Financial Position. The lease liabilities are measured at the lease commencement date and determined using the present value of the minimum lease payments not yet paid and the company s incremental borrowing rate, which approximates the rate at which the company would borrow, on a secured basis, in the country where the lease was executed. The interest rate implicit in the lease is generally not determinable in transactions where the company is the lessee. The ROU asset equals the lease liability adjusted for any initial direct costs (IDCs), prepaid rent, and lease incentives. Fixed and in-substance fixed payments are included in the recognition of ROU assets and lease liabilities, however, variable lease payments, other than those based on a rate or index, are recognized in the Consolidated Statement of Earnings in the period in which the obligation for those payments is incurred. The company s variable lease payments generally relate to payments tied to various indexes, non-lease components and payments above a contractual minimum fixed payment.

ROU assets represent the company s right to control the underlying assets under lease, and the lease liability is the obligation to make the lease payments related to the underlying assets under lease. Operating leases are included in operating right-of-use assets net, current operating lease liabilities and operating lease liabilities in the Consolidated Statement of Financial Position. Finance leases are included in property, plant and equipment, short-term debt and long-term debt in the Consolidated Statement of Financial Position. At March 31, 2019, the total amount of ROU assets and lease liabilities for finance leases recognized in the Consolidated Statement of Financial Position in property, plant and equipment, short-term debt and long-term debt was $149 million, $13 million, and $144 million, respectively.

Finance lease ROU assets are generally amortized on a straight-line basis over the lease term with the interest expense on the lease liability recorded using the interest method. The amortization and interest expense are recorded separately in the Consolidated Statement of Earnings. For operating leases, the amortization of the ROU asset and the interest expense on the lease liability are not separately recorded; rather, the lease cost is recognized on a straight-line basis over the lease term as a single-line item in the Consolidated Statement of Earnings, unless the ROU asset is impaired. The company has elected to not recognize leases with a lease term of less than 12 months in the Consolidated Statement

of Financial Position, including those acquired in a business combination, and lease costs for those short-term leases are recognized on a straight-line basis over the lease term in the Consolidated Statement of Earnings.

For all asset classes, the company has elected the lessee practical expedient to combine lease and non-lease components (e.g., maintenance services) and account for the combined unit as a single lease component. A significant portion of the company s lease portfolio is real estate, which are mainly accounted for as operating leases, and are primarily used for corporate offices and data centers. The average term of the real estate leases is approximately five years. Certain real estate leases have renewal and/or termination options, which are assessed to determine if those options would affect the duration of the lease term. The company also has equipment leases, such as IT equipment and vehicles, which have lease terms that range from two to five years. For certain equipment leases, the company applies a portfolio approach to account for the operating lease ROU assets and lease liabilities.

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**Notes to Consolidated Financial Statements (continued)**

The following table presents the various components of lease costs:

| (Dollars in millions)<br>For the three months ended March 31: | 2019 |
|---|---|
| Finance lease cost: | |
| Amortization of ROU assets | $ 4 |
| Interest on lease liabilities | 1 |
| Operating lease cost | 386 |
| Short-term lease cost | 9 |
| Variable lease cost | 128 |
| Sublease income | (2) |
| Total lease cost | $ 526 |

The following table presents supplemental information relating to the cash flows arising from lease transactions. Cash payments made from variable lease costs and short-term leases are not included in the measurement of operating and finance lease liabilities, and, as such, are excluded from the amounts below:

| (Dollars in millions except for lease term and discount rate values)<br>For the three months ended March 31: | 2019 |
|---|---|
| (Gains) and losses on sale and leaseback transactions, net | $ (36) |
| Cash paid for amounts included in the measurement of lease liabilities: | |
| Operating cash outflows from finance leases | $ 1 |
| Financing cash outflows from finance leases | $ 3 |
| Operating cash outflows from operating leases | $ 380 |
| ROU assets obtained in exchange for new finance lease liabilities | $ 153* |
| ROU assets obtained in exchange for new operating lease liabilities | $ 4,958* |
| Weighted-average remaining lease term finance leases | 10.7yrs. |
| Weighted-average remaining lease term operating leases | 5.1yrs. |
| Weighted-average discount rate finance leases | 3.64% |
| Weighted-average discount rate operating leases | 3.34% |

* Includes opening balance additions as a result of the adoption of the new lease guidance effective January 1, 2019. The post adoption addition of leases was $156 million for operating leases and immaterial for finance leases.

The following maturity analysis presents expected undiscounted cash out flows for operating and finance leases on an annual basis for the next five years, with the exception of 2019, which presents the expected undiscounted cash out flows for operating and finance leases for the remaining nine months of the year.

| (Dollars in millions) | 2019 | 2020 | 2021 | 2022 | 2023 | Beyond 2023 | Imputed Interest * | Total |
|---|---|---|---|---|---|---|---|---|
| Finance leases | $ 13 | $ 18 | $ 18 | $ 18 | $ 16 | $ 105 | $ (33) | $ 156 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Operating leases | $ 1,192 | $ 1,258 | $ 937 | $ 655 | $ 435 | $ 829 | $ (403) | $ 4,903 |

* Imputed interest represents the difference between undiscounted cash flows and discounted cash flows.

Prior to the adoption of the new lease guidance on January 1, 2019, ROU assets and lease liabilities for operating leases were not recognized in the Consolidated Statement of Financial Position. The company has elected the practical expedient to not provide comparable presentation in the Consolidated Statement of Financial Position for periods prior to adoption. Rental expense, including amounts charged to inventories and fixed assets, and excluding amounts previously reserved, was $1,944 million for the year ended December 31, 2018. Rental expense in agreements with rent holidays and scheduled rent increases was previously recognized on a straight-line basis over the lease term. Contingent rentals were included in the determination of rental expense as accruable.

The following table, which was included in the company s 2018 Annual Report, depicts gross minimum rental commitments under noncancelable leases, amounts related to vacant space associated with workforce transformation, sublease income commitments and capital lease commitments at December 31, 2018.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions) | 2019 | 2020 | 2021 | 2022 | 2023 | Beyond 2023 |
|---|---|---|---|---|---|---|
| **Operating lease commitments** | | | | | | |
| Gross minimum rental commitments (including vacant space below) | $ 1,581 | $ 1,233 | $ 914 | $ 640 | $ 445 | $ 815 |
| Vacant space | $ 29 | $ 23 | $ 14 | $ 9 | $ 5 | $ 8 |
| Sublease income commitments | $ 11 | $ 7 | $ 5 | $ 4 | $ 4 | $ 2 |
| **Capital lease commitments** | $ 3 | $ 3 | $ 3 | $ 3 | $ 2 | $ 28 |

The difference between the company s total lease commitments as reported at December 31, 2018 compared to the January 1, 2019 ROU asset balance in the Consolidated Statement of Financial Position is primarily due to the required use of a discount factor (imputed interest) under the new lease guidance and certain amounts that are not included in the ROU asset under the new lease guidance (e.g., tenant incentives and vacant space).

**Accounting for leases as a lessor**

The company typically enters into leases as an alternative means of realizing value from equipment that it would otherwise sell. Assets under lease include new and used IBM equipment and certain OEM products. Equipment generally consists of IBM Z, Power Systems and Storage Systems.

Lease payments due to IBM are typically fixed and paid in equal installments over the lease term. The majority of the company s leases do not contain variable payments that are dependent on an index or a rate. Variable lease payments that do not depend on an index or a rate (e.g., property taxes), that are paid directly by the company and are reimbursed by the client, are recorded as revenue, along with the related cost, in the period in which collection of these payments is probable. Payments that are made directly by the client to a third party, including certain property taxes and insurance, are not considered part of variable payments and therefore are not recorded by the company. The company has made a policy election to exclude from consideration in contracts all collections from sales and other similar taxes.

The company s payment terms for leases are typically unconditional. Therefore, while the client could terminate the lease prior to the end of the lease term, the client would be required to pay the remaining lease payments in full. At the end of the lease term, the company allows the client to either return the equipment, purchase the equipment or renew the lease based on mutually agreed upon terms. With respect to a client purchase of leased assets, the lease agreement would include an option to purchase the equipment at either a stated price or at the then-current fair market value of the equipment at the end of the lease.

When lease arrangements include multiple performance obligations, the company allocates the consideration in the contract between the lease components and the non-lease components on a relative standalone selling price basis.

The following table presents amounts included in the Consolidated Statement of Earnings related to lessor activity:

| (Dollars in millions)<br>For the three months ended March 31: | | 2019 |
|---|---|---|
| Lease income sales-type and direct financing leases | | |
| Sales-type lease selling price | $ | 149 |
| Less: Carrying value of underlying assets, excluding unguaranteed residual value | | 55 |
| Gross profit | | 94 |
| Interest income on lease receivables | | 79 |
| Total sales-type and direct financing lease income | $ | 172 |
| Lease income operating leases | | 90 |
| Variable lease income | | 18 |
| Total lease income | $ | 280 |

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**Notes to Consolidated Financial Statements (continued)**

Sales-Type and Direct Financing Leases

If a lease is classified as a sales-type or direct financing lease, the carrying amount of the asset is derecognized from inventory and a net investment in the lease is recorded. For a sales-type lease, the net investment in the lease is measured at commencement date as the sum of the lease receivable, the estimated guaranteed and unguaranteed residual value of the equipment less unearned income and allowance for credit losses. At March 31, 2019, the unguaranteed residual value of sales-type and direct financing leases was $566 million. For further information on the company s net investment in leases, including guaranteed and unguaranteed residual values, refer to note 6, Financing Receivables. Any selling profit or loss arising from a sales-type lease is recorded at lease commencement. Selling profit or loss is presented on a gross basis when the company enters into a lease to realize value from a product that it would otherwise sell in its ordinary course of business, whereas in transactions where the company enters into a lease for the purpose of generating revenue by providing financing, the selling profit or loss is presented on a net basis. Under a sales-type lease, initial direct costs are expensed at lease commencement. The company recognizes finance income over the term of a sales-type lease on the net investment in the lease and any variable lease payments, which are not included in the net investment in the lease.

For a direct financing lease, the investment in the lease is measured similarly to a sales-type lease, however, the net investment in the lease is reduced by any selling profit. In a direct financing lease, the selling profit and initial direct costs are deferred at commencement and recognized over the lease term. The company rarely enters into direct financing leases.

The estimated residual value represents the estimated fair value of the equipment under lease at the end of the lease. Estimating residual value is a risk unique to financing activities, and management of this risk is dependent upon the ability to accurately project future equipment values at lease inception. The company has insight into product plans and cycles for the IBM products under lease. The company estimates the future fair value of leased equipment by using historical models, analyzing the current market for new and used equipment and obtaining forward-looking product information such as marketing plans and technology innovations.

The company optimizes the recovery of residual values by extending lease arrangements with existing clients. The company has historically managed residual value risk both through insight into its own product cycles and monitoring of OEM IT product announcements. The company periodically reassesses the realizable value of its lease residual values. Anticipated decreases in specific future residual values that are considered to be other-than-temporary are recognized immediately upon identification and are recorded as an adjustment to the residual value estimate. For sales-type and direct financing leases, this reduction lowers the recorded net investment and is recognized as a loss charged to finance income in the period in which the estimate is changed, as well as an adjustment to unearned income to reduce future-period financing activities. For the three months ended March 31, 2019, impairment of residual values was immaterial.

The following table provides a maturity analysis of the lease payments due to IBM on sales-type and direct financing leases over the next five years and thereafter, with the exception of 2019, which presents the expected undiscounted cash flows for the remaining nine months of the year, as well as a reconciliation of the undiscounted cash flows to the financing receivables recognized in the Consolidated Statement of Financial Position at March 31, 2019:

| **(Dollars in millions)** | **Total** |
|---|---|

| | | |
|---|---|---|
| 2019 | $ | 2,167 |
| 2020 | | 2,173 |
| 2021 | | 1,353 |
| 2022 | | 616 |
| 2023 | | 145 |
| Thereafter | | 9 |
| Total undiscounted cash flows | $ | 6,462 |
| Present value of lease payments (recognized as financing receivables) | | 5,965 * |
| Difference between undiscounted cash flows and discounted cash flows | $ | 497 |

* The present value of the lease payments will not equal the financing receivables balances in the Statement of Financial Position, due to certain items including IDC s, allowance for credit losses and residual values, which are included in the financing receivables balance, but are not included in the future lease payments.

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**Notes to Consolidated Financial Statements (continued)**

Operating Leases

Equipment provided to clients under an operating lease is carried at cost within property, plant and equipment in the Consolidated Statement of Financial Position and depreciated over the lease term using the straight-line method, generally ranging from one to six years. The depreciable basis is the original cost of the equipment less the estimated residual value of the equipment at the end of the lease term. At March 31, 2019, the unguaranteed residual value of operating leases was $103 million.

At commencement of an operating lease, initial direct costs are deferred. As lease payments are made, the company records sales revenue over the lease term. Initial direct costs are expensed over the lease term on the same basis as lease income is recorded.

The following table provides a maturity analysis of the undiscounted lease payments due to IBM on operating leases over the next five years and thereafter, at March 31, 2019, with the exception of 2019, which presents the expected undiscounted cash flows for the remaining nine months of the year:

| **(Dollars in millions)** | **Total** |
|---|---|
| 2019 | $ 183 |
| 2020 | 136 |
| 2021 | 43 |
| 2022 | 2 |
| 2023 | 0 |
| Thereafter | 0 |
| Total undiscounted cash flows | $ 364 |

Assets under operating leases are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The impairment test is based on undiscounted cash flows, and, if impaired, the asset is written down to fair value based on either discounted cash flows or appraised values. There were no material impairment losses incurred during the period for assets under operating leases. These assets are included in Property, plant and equipment net in the Consolidated Statement of Financial Position.

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**Notes to Consolidated Financial Statements (continued)**

**6. Financing Receivables:** Financing receivables primarily consist of investment in sales-type and direct financing leases, commercial financing receivables and client loan and installment payment receivables (loans). Investment in sales-type and direct financing leases relates principally to the company s systems products and are for terms ranging generally from two to six years. Commercial financing receivables relate primarily to inventory and accounts receivable financing for dealers and remarketers of IBM and OEM products. Payment terms for inventory and accounts receivable financing generally range from 30 to 90 days. Client loan and installment payment receivables (loans) are provided primarily to clients to finance the purchase of hardware, software and services. Payment terms on these financing arrangements are generally for terms up to seven years. Client loans and installment payment financing contracts are priced independently at competitive market rates.

A summary of the components of the company s financing receivables is presented as follows:

| (Dollars in millions) At March 31, 2019: | Investment in Sales-Type and Direct Financing Leases | Commercial Financing Receivables | Client Loan and Installment Payment Receivables/ (Loans) | Total |
|---|---|---|---|---|
| Financing receivables, gross | $ 6,477 | $ 10,385 | $ 12,582 | $ 29,444 |
| Unearned income | (497) | (34) | (617) | (1,148) |
| Recorded investment | $ 5,980 | $ 10,351 | $ 11,965 | $ 28,296 |
| Allowance for credit losses | (95) | (18) | (174) | (287) |
| Unguaranteed residual value | 566 | | | 566 |
| Guaranteed residual value | 72 | | | 72 |
| Total financing receivables, net | $ 6,523 | $ 10,333 | $ 11,791 | $ 28,648 |
| Current portion | $ 2,712 | $ 10,333 | $ 7,241 | $ 20,287 |
| Noncurrent portion | $ 3,811 | $ | $ 4,550 | $ 8,361 |

| (Dollars in millions) At December 31, 2018: | Investment in Sales-Type and Direct Financing Leases | Commercial Financing Receivables | Client Loan and Installment Payment Receivables/ (Loans) | Total |
|---|---|---|---|---|
| Financing receivables, gross | $ 6,846 | $ 11,889 | $ 13,614 | $ 32,348 |
| Unearned income | (526) | (37) | (632) | (1,195) |
| Recorded investment | $ 6,320 | $ 11,852 | $ 12,981 | $ 31,153 |
| Allowance for credit losses | (99) | (13) | (179) | (292) |
| Unguaranteed residual value | 589 | | | 589 |
| Guaranteed residual value | 85 | | | 85 |
| Total financing receivables, net | $ 6,895 | $ 11,838 | $ 12,802 | $ 31,536 |
| Current portion | $ 2,834 | $ 11,838 | $ 7,716 | $ 22,388 |
| Noncurrent portion | $ 4,061 | $ | $ 5,086 | $ 9,148 |

The company utilizes certain of its financing receivables as collateral for nonrecourse borrowings. Financing receivables pledged as collateral for borrowings were $868 million and $710 million at March 31, 2019 and December 31, 2018, respectively.

The company did not have any financing receivables held for sale as of March 31, 2019 and December 31, 2018.

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**Notes to Consolidated Financial Statements (continued)**

**Financing Receivables by Portfolio Segment**

The following tables present the recorded investment by portfolio segment and by class, excluding commercial financing receivables and other miscellaneous financing receivables at March 31, 2019 and December 31, 2018. Commercial financing receivables are excluded from the presentation of financing receivables by portfolio segment, as they are short term in nature and the current estimated risk of loss and resulting impact to the company s financing results are not material. The company determines its allowance for credit losses based on two portfolio segments: lease receivables and loan receivables, and further segments the portfolio into three classes: Americas, Europe/Middle East/Africa (EMEA) and Asia Pacific.

| (Dollars in millions)<br>At March 31, 2019: | Americas | EMEA | Asia Pacific | Total |
|---|---|---|---|---|
| Recorded investment | | | | |
| Lease receivables | $ 3,617 | $ 1,230 | $ 1,133 | $ 5,980 |
| Loan receivables | 6,203 | 3,374 | 2,388 | 11,965 |
| Ending balance | $ 9,820 | $ 4,603 | $ 3,522 | $ 17,945 |
| Recorded investment collectively evaluated for impairment | $ 9,672 | $ 4,555 | $ 3,471 | $ 17,699 |
| Recorded investment individually evaluated for impairment | $ 148 | $ 48 | $ 50 | $ 247 |
| | | | | |
| Allowance for credit losses | | | | |
| Beginning balance at January 1, 2019 | | | | |
| Lease receivables | $ 53 | $ 22 | $ 24 | $ 99 |
| Loan receivables | 105 | 43 | 32 | 179 |
| Total | $ 158 | $ 65 | $ 56 | $ 279 |
| Write-offs | $ (4) | $ (1) | $ (2) | $ (8) |
| Recoveries | 0 | 0 | 0 | 0 |
| Provision | 3 | (5) | 0 | (1) |
| Other * | (1) | 0 | 1 | (1) |
| Ending balance at March 31, 2019 | $ 155 | $ 59 | $ 55 | $ 269 |
| Lease receivables | $ 49 | $ 22 | $ 24 | $ 95 |
| Loan receivables | $ 106 | $ 37 | $ 31 | $ 174 |
| | | | | |
| Related allowance, collectively evaluated for impairment | $ 33 | $ 14 | $ 5 | $ 52 |
| Related allowance, individually evaluated for impairment | $ 122 | $ 45 | $ 50 | $ 217 |

* Primarily represents translation adjustments.

Write-offs of lease receivables and loan receivables were $3 million and $5 million, respectively, for the three months ended March 31, 2019. Provisions for credit losses recorded for lease receivables and loan receivables were immaterial, for the three months ended March 31, 2019.

The average recorded investment of impaired leases and loans for Americas, EMEA and Asia Pacific was $147 million, $50 million and $51 million, respectively, for the three months ended March 31, 2019 and $130 million, $55 million and $81 million, respectively, for the three months ended March 31, 2018. Both interest income recognized and interest income recognized on a cash basis on impaired leases and loans were immaterial for the three months ended March 31, 2019 and 2018.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions)<br>At December 31, 2018: | Americas | EMEA | Asia Pacific | Total |
|---|---|---|---|---|
| Recorded investment | | | | |
| Lease receivables | $ 3,827 | $ 1,341 | $ 1,152 | $ 6,320 |
| Loan receivables | 6,817 | 3,675 | 2,489 | 12,981 |
| Ending balance | $ 10,644 | $ 5,016 | $ 3,641 | $ 19,301 |
| Recorded investment collectively evaluated for impairment | $ 10,498 | $ 4,964 | $ 3,590 | $ 19,052 |
| Recorded investment individually evaluated for impairment | $ 146 | $ 52 | $ 51 | $ 249 |
| | | | | |
| Allowance for credit losses | | | | |
| Beginning balance at January 1, 2018 | | | | |
| Lease receivables | $ 63 | $ 9 | $ 31 | $ 103 |
| Loan receivables | 108 | 52 | 51 | 211 |
| Total | $ 172 | $ 61 | $ 82 | $ 314 |
| Write-offs | $ (10) | $ (2) | $ (23) | $ (35) |
| Recoveries | 0 | 0 | 2 | 2 |
| Provision | 7 | 9 | 0 | 16 |
| Other* | (11) | (3) | (4) | (19) |
| Ending balance at December 31, 2018 | $ 158 | $ 65 | $ 56 | $ 279 |
| Lease receivables | $ 53 | $ 22 | $ 24 | $ 99 |
| Loan receivables | $ 105 | $ 43 | $ 32 | $ 179 |
| | | | | |
| Related allowance, collectively evaluated for impairment | $ 39 | $ 16 | $ 5 | $ 59 |
| Related allowance, individually evaluated for impairment | $ 119 | $ 49 | $ 51 | $ 219 |

* Primarily represents translation adjustments.

Write-offs of lease receivables and loan receivables were $15 million and $20 million, respectively, for the year ended December 31, 2018. Provisions for credit losses recorded for lease receivables and loan receivables were $14 million and $2 million, respectively, for the year ended December 31, 2018.

When determining the allowances, financing receivables are evaluated either on an individual or a collective basis. For individually evaluated receivables, the company determines the expected cash flow for the receivable and calculates an estimate of the potential loss and the probability of loss. For those accounts in which the loss is probable, the company records a specific reserve. The company considers any receivable with an individually evaluated reserve as an impaired receivable.

In addition, the company records an unallocated reserve that is determined by applying a reserve rate to its different portfolios, excluding accounts that have been specifically reserved. This reserve rate is based upon credit rating, probability of default, term, characteristics (lease/loan) and loss history.

**Past Due Financing Receivables**

The company considers a client s financing receivable balance past due when any installment is aged over 90 days. The following table summarizes information about the recorded investment in lease and loan financing receivables, including recorded investments aged over 90 days and still accruing, billed invoices aged over 90 days and still accruing, and recorded investment not accruing.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions)<br>At March 31, 2019: | Total Recorded Investment | Recorded Investment > 90 Days (1) | Recorded Investment > 90 Days and Accruing (1) | Billed Invoices > 90 Days and Accruing | Recorded Investment Not Accruing (2) |
|---|---|---|---|---|---|
| Americas | $ 3,617 | $ 294 | $ 240 | $ 13 | $ 54 |
| EMEA | 1,230 | 40 | 22 | 3 | 17 |
| Asia Pacific | 1,133 | 37 | 13 | 2 | 23 |
| Total lease receivables | $ 5,980 | $ 370 | $ 276 | $ 18 | $ 94 |
| | | | | | |
| Americas | $ 6,203 | $ 232 | $ 131 | $ 23 | $ 101 |
| EMEA | 3,374 | 83 | 14 | 4 | 68 |
| Asia Pacific | 2,388 | 32 | 4 | 2 | 28 |
| Total loan receivables | $ 11,965 | $ 347 | $ 150 | $ 29 | $ 197 |
| | | | | | |
| Total | $ 17,945 | $ 717 | $ 426 | $ 47 | $ 291 |

(1) At a contract level, which includes total billed and unbilled amounts for financing receivables aged greater than 90 days.

(2) Of the recorded investment not accruing, $247 million is individually evaluated for impairment with a related allowance of $217 million.

| (Dollars in millions)<br>At December 31, 2018: | Total Recorded Investment | Recorded Investment > 90 Days (1) | Recorded Investment > 90 Days and Accruing (1) | Billed Invoices > 90 Days and Accruing | Recorded Investment Not Accruing (2) |
|---|---|---|---|---|---|
| Americas | $ 3,827 | $ 310 | $ 256 | $ 19 | $ 57 |
| EMEA | 1,341 | 25 | 9 | 1 | 16 |
| Asia Pacific | 1,152 | 49 | 27 | 3 | 24 |
| Total lease receivables | $ 6,320 | $ 385 | $ 292 | $ 24 | $ 97 |
| | | | | | |
| Americas | $ 6,817 | $ 259 | $ 166 | $ 24 | $ 99 |
| EMEA | 3,675 | 98 | 25 | 3 | 73 |
| Asia Pacific | 2,489 | 40 | 11 | 1 | 31 |
| Total loan receivables | $ 12,981 | $ 397 | $ 202 | $ 29 | $ 203 |
| | | | | | |
| Total | $ 19,301 | $ 782 | $ 494 | $ 52 | $ 300 |

(1) At a contract level, which includes total billed and unbilled amounts for financing receivables aged greater than 90 days.

(2) Of the recorded investment not accruing, $249 million is individually evaluated for impairment with a related allowance of $219 million.

**Credit Quality Indicators**

The company s credit quality indicators, which are based on rating agency data, publicly available information and information provided by customers, are reviewed periodically based on the relative level of risk. The resulting indicators are a numerical rating system that maps to

Moody s Investors Service credit ratings as shown below. The company uses information provided by Moody s, where available, as one of many inputs in its determination of customer credit ratings.

The following tables present the recorded investment net of allowance for credit losses for each class of receivables, by credit quality indicator, at March 31, 2019 and December 31, 2018. Receivables with a credit quality indicator ranging from Aaa to Baa3 are considered investment grade. All others are considered non-investment grade. The credit quality indicators do not reflect mitigation actions that the company takes to transfer credit risk to third parties.

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**Notes to Consolidated Financial Statements (continued)**

| (Dollars in millions) | Lease Receivables | | | Loan Receivables | | |
|---|---|---|---|---|---|---|
| **At March 31, 2019:** | **Americas** | **EMEA** | **Asia Pacific** | **Americas** | **EMEA** | **Asia Pacific** |
| Credit ratings: | | | | | | |
| Aaa Aa3 | $ 454 | $ 15 | $ 67 | $ 916 | $ 127 | $ 159 |
| A1 A3 | 804 | 136 | 540 | 892 | 238 | 792 |
| Baa1 Baa3 | 932 | 386 | 199 | 1,602 | 1,233 | 653 |
| Ba1 Ba2 | 679 | 437 | 135 | 1,459 | 944 | 535 |
| Ba3 B1 | 454 | 147 | 99 | 604 | 481 | 126 |
| B2 B3 | 198 | 69 | 54 | 521 | 284 | 75 |
| Caa D | 47 | 18 | 15 | 104 | 31 | 19 |
| **Total** | $ 3,568 | $ 1,208 | $ 1,109 | $ 6,097 | $ 3,337 | $ 2,358 |

| (Dollars in millions) | Lease Receivables | | | Loan Receivables | | |
|---|---|---|---|---|---|---|
| **At December 31, 2018:** | **Americas** | **EMEA** | **Asia Pacific** | **Americas** | **EMEA** | **Asia Pacific** |
| Credit ratings: | | | | | | |
| Aaa Aa3 | $ 593 | $ 45 | $ 85 | $ 1,055 | $ 125 | $ 185 |
| A1 A3 | 678 | 158 | 413 | 1,206 | 436 | 901 |
| Baa1 Baa3 | 892 | 417 | 297 | 1,587 | 1,148 | 648 |
| Ba1 Ba2 | 852 | 426 | 191 | 1,516 | 1,175 | 417 |
| Ba3 B1 | 433 | 171 | 84 | 770 | 472 | 184 |
| B2 B3 | 299 | 90 | 50 | 531 | 249 | 109 |
| Caa D | 26 | 10 | 7 | 47 | 28 | 15 |
| **Total** | $ 3,774 | $ 1,319 | $ 1,128 | $ 6,712 | $ 3,633 | $ 2,457 |

**Troubled Debt Restructurings**

The company did not have any significant troubled debt restructurings during the three months ended March 31, 2019 or for the year ended December 31, 2018.

**7. Stock-Based Compensation:** Stock-based compensation cost is measured at grant date, based on the fair value of the award, and is recognized over the employee requisite service period. The following table presents total stock-based compensation cost included in income from continuing operations.

| (Dollars in millions) | | |
|---|---|---|
| **For the three months ended March 31:** | **2019** | **2018** |
| Cost | $ 20 | $ 20 |
| Selling, general and administrative | 74 | 81 |
| Research, development and engineering | 19 | 16 |
| Pre-tax stock-based compensation cost | $ 113 | $ 116 |
| Income tax benefits | (25) | (35) |
| Total net stock-based compensation cost | $ 88 | $ 81 |

Pre-tax stock-based compensation cost for the three months ended March 31, 2019 decreased $3 million compared to the corresponding period in the prior year. This was due to decreases related to performance share units, the conversion of stock-based compensation previously issued by acquired entities and stock options, partially offset by an increase in restricted stock units. All changes were immaterial.

As of March 31, 2019, the total unrecognized compensation cost of $671 million related to non-vested awards was expected to be recognized over a weighted-average period of approximately 2.5 years.

There was no significant capitalized stock-based compensation cost at March 31, 2019 and 2018.

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**Notes to Consolidated Financial Statements (continued)**

**8. Segments:** In the first quarter of 2019, the company made a number of changes to its organizational structure and management system that brought cloud and cognitive software under one organization to more effectively address evolving client needs and to prepare for the pending acquisition of Red Hat, Inc. (Red Hat). With these changes, the company has revised its reportable segments, but did not impact its Consolidated Financial Statements. In addition, the company is presenting the results of its announced divestitures in an Other segment, as the realignment of these businesses allows for a better representation of management s view of the company, as well as the ongoing operational performance of the reportable segments. The company s segments are as follows:

| 2018 Segments | Changes (+/-) | 2019 Segments |
|---|---|---|
| Cognitive Solutions | + Integration Software<br>+ Security Services<br>- Divested Select Software*<br>+ Red Hat (post closing) | Cloud & Cognitive Software |
| Global Business Services | - Divested Mortgage Servicing** | Global Business Services |
| Technology Services & Cloud Platforms | - Security Services<br>- Integration Software | Global Technology Services |
| Systems | | Systems |
| Global Financing | | Global Financing |
| Other | + Divested Mortgage Servicing**<br>+ Divested Select Software* | Other |

* IBM announced sales of select software assets expected to close mid-2019. Refer to note 11, Acquisitions/Divestitures, for additional information.

**IBM completed the sale of the mortgage servicing business on February 28, 2019.

The tables below reflect the continuing operations results of the company s segments consistent with the management and measurement system utilized within the company. Performance measurement is based on operating pre-tax income from continuing operations. The 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 (the chief executive officer) in determining how to allocate resources and evaluate performance. The tables reflect the segment recast for the prior-year period.

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**Notes to Consolidated Financial Statements (continued)**

**SEGMENT INFORMATION**

| (Dollars in millions) | Cloud & Cognitive Software | Global Business Services | Global Technology Services | Systems | Global Financing | Total Segments |
|---|---|---|---|---|---|---|
| **For the three months ended March 31, 2019:** | | | | | | |
| External revenue | $ 5,037 | $ 4,119 | $ 6,875 | $ 1,328 | $ 406 | $ 17,765 |
| Internal revenue | 841 | 74 | 290 | 163 | 300 | 1,668 |
| Total revenue | $ 5,879 | $ 4,193 | $ 7,164 | $ 1,491 | $ 706 | $ 19,433 |
| Pre-tax income/(loss) from continuing operations | $ 1,767 | $ 315 | $ 275 | $ (202) | $ 288 | $ 2,444 |
| Revenue year-to-year change | (2.8)% | (0.3)% | (5.3)% | (9.8)% | (15.4)% | (4.3)% |
| Pre-tax income year-to-year change | 5.2% | 152.1% | 315.1% | (0.4)% | (23.4)% | 19.5% |
| Pre-tax income/(loss) margin | 30.1% | 7.5% | 3.8% | (13.5)% | 40.8% | 12.6% |
| | | | | | | |
| **For the three months ended March 31, 2018:** | | | | | | |
| External revenue | $ 5,116* | $ 4,115* | $ 7,421* | $ 1,500 | $ 405 | $ 18,557* |
| Internal revenue | 931* | 89 | 141 | 153 | 429 | 1,743* |
| Total revenue | $ 6,047* | $ 4,204* | $ 7,562* | $ 1,653 | $ 834 | $ 20,299* |
| Pre-tax income/(loss) from continuing operations | $ 1,680* | $ 125* | $ 66* | $ (203) | $ 377 | $ 2,045* |
| | | | | | | |
| Pre-tax income/(loss) margin | 27.8%* | 3.0%* | 0.9%* | (12.3)% | 45.1% | 10.1%* |

* Recast to conform to 2019 presentation.

**Reconciliations to IBM as Reported:**

| (Dollars in millions) For the three months ended March 31: | 2019 | 2018 |
|---|---|---|
| Revenue: | | |
| Total reportable segments | $ 19,433 | $ 20,299* |
| Other divested businesses | 343 | 446* |
| Other revenue | 74 | 69 |
| Eliminations of internal transactions | (1,668) | (1,743)* |
| Total consolidated revenue | $ 18,182 | $ 19,072 |
| Pre-tax income from continuing operations: | | |
| Total reportable segments | $ 2,444 | $ 2,045* |
| Amortization of acquired intangible assets | (173) | (203) |
| Acquisition-related (charges)/income | (39) | 0 |
| Non-operating retirement-related (costs)/income | (138) | (402) |
| Eliminations of internal transactions | (89) | (190)* |
| Other divested businesses | (55) | 14* |

| | | | | |
|---|---|---|---|---|
| Unallocated corporate amounts | | (67) | | (130) |
| Total pre-tax income from continuing operations | $ | 1,883 | $ | 1,136 |

* Recast to conform to 2019 presentation.

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**Notes to Consolidated Financial Statements (continued)**

**9. Equity Activity:**

**Reclassifications and Taxes Related to Items of Other Comprehensive Income**

| (Dollars in millions)<br>For the three months ended March 31, 2019: | Before Tax Amount | Tax (Expense)/ Benefit | Net of Tax Amount |
|---|---|---|---|
| **Other comprehensive income/(loss):** | | | |
| **Foreign currency translation adjustments** | $ 171 | $ 0 | $ 172 |
| **Net changes related to available-for-sale securities:** | | | |
| Unrealized gains/(losses) arising during the period | $ (1) | $ 0 | $ (1) |
| Reclassification of (gains)/losses to other (income) and expense | | | |
| **Total net changes related to available-for-sale securities** | $ (1) | $ 0 | $ (1) |
| **Unrealized gains/(losses) on cash flow hedges:** | | | |
| Unrealized gains/(losses) arising during the period | $ (352) | $ 84 | $ (268) |
| Reclassification of (gains)/losses to: | | | |
| Cost of services | (10) | 3 | (7) |
| Cost of sales | (18) | 5 | (13) |
| Cost of financing | 29 | (7) | 22 |
| SG&A expense | (22) | 6 | (16) |
| Other (income) and expense | 87 | (22) | 65 |
| Interest expense | 33 | (8) | 24 |
| **Total unrealized gains/(losses) on cash flow hedges** | $ (254) | $ 61 | $ (193) |
| **Retirement-related benefit plans(1):** | | | |
| Net (losses)/gains arising during the period | $ (4) | $ 1 | $ (2) |
| Curtailments and settlements | 1 | 0 | 1 |
| Amortization of prior service (credits)/costs | (3) | 1 | (2) |
| Amortization of net (gains)/losses | 464 | (130) | 334 |
| **Total retirement-related benefit plans** | $ 458 | $ (128) | $ 330 |
| **Other comprehensive income/(loss)** | $ 375 | $ (67) | $ 308 |

(1) These AOCI components are included in the computation of net periodic pension cost. Refer to note 10, Retirement-Related Benefits, for additional information.

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**Notes to Consolidated Financial Statements (continued)**

**Reclassifications and Taxes Related to Items of Other Comprehensive Income**

| (Dollars in millions)<br>For the three months ended March 31, 2018: | Before Tax Amount | Tax (Expense)/ Benefit | Net of Tax Amount |
|---|---|---|---|
| **Other comprehensive income/(loss):** | | | |
| **Foreign currency translation adjustments** | $ (167) | $ 51 | $ (115) |
| **Net changes related to available-for-sale securities:** | | | |
| Unrealized gains/(losses) arising during the period | $ (2) | $ 1 | $ (2) |
| Reclassification of (gains)/losses to other (income) and expense | 0 | 0 | 0 |
| **Total net changes related to available-for-sale securities** | $ (3) | $ 1 | $ (2) |
| **Unrealized gains/(losses) on cash flow hedges:** | | | |
| Unrealized gains/(losses) arising during the period | $ 61 | $ (9) | $ 51 |
| Reclassification of (gains)/losses to: | | | |
| Cost of services | (19) | 5 | (14) |
| Cost of sales | 17 | (5) | 12 |
| Cost of financing* | 18 | (4) | 13 |
| SG&A expense | 18 | (5) | 13 |
| Other (income) and expense | (104) | 26 | (78) |
| Interest expense* | 16 | (4) | 12 |
| **Total unrealized gains/(losses) on cash flow hedges** | $ 7 | $ 3 | $ 10 |
| **Retirement-related benefit plans(1):** | | | |
| Prior service costs/(credits) | $ (1) | $ 0 | $ (1) |
| Net (losses)/gains arising during the period | 2 | (1) | 1 |
| Curtailments and settlements | 0 | 0 | 0 |
| Amortization of prior service (credits)/costs | (19) | 5 | (14) |
| Amortization of net (gains)/losses | 753 | (203) | 550 |
| **Total retirement-related benefit plans** | $ 735 | $ (199) | $ 537 |
| **Other comprehensive income/(loss)** | $ 573 | $ (143) | $ 430 |

* Reclassified to conform to current period presentation.

(1) These AOCI components are included in the computation of net periodic pension cost. Refer to note 10, Retirement-Related Benefits, for additional information.

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**Notes to Consolidated Financial Statements (continued)**

**Accumulated Other Comprehensive Income/(Loss) (net of tax)**

| (Dollars in millions) | Net Unrealized Gains/(Losses) on Cash Flow Hedges | Foreign Currency Translation Adjustments* | Net Change Retirement-Related Benefit Plans | Net Unrealized Gains/(Losses) on Available-For-Sale Securities | Accumulated Other Comprehensive Income/(Loss) |
|---|---|---|---|---|---|
| January 1, 2019 | $ 284 | $ (3,690) | $ (26,083) | $ 0 | $ (29,490) |
| Other comprehensive income before reclassifications | (268) | 172 | (2) | (1) | (99) |
| Amount reclassified from accumulated other comprehensive income | 75 | | 333 | | 407 |
| Total change for the period | $ (193) | $ 172 | $ 330 | $ (1) | $ 308 |
| March 31, 2019 | $ 90 | $ (3,519) | $ (25,753) | $ (1) | $ (29,182) |

* Foreign currency translation adjustments are presented gross except for any associated hedges which are presented net of tax.

| (Dollars in millions) | Net Unrealized Gains/(Losses) on Cash Flow Hedges | Foreign Currency Translation Adjustments* | Net Change Retirement-Related Benefit Plans | Net Unrealized Gains/(Losses) on Available-For-Sale Securities | Accumulated Other Comprehensive Income/(Loss) |
|---|---|---|---|---|---|
| January 1, 2018 | $ 35 | $ (2,834) | $ (23,796) | $ 3 | $ (26,592) |
| Cumulative effect of a change in accounting principle ** | 5 | 46 | (2,471) | (2) | (2,422) |
| Other comprehensive income before reclassifications | 51 | (115) | 0 | (2) | (65) |
| Amount reclassified from accumulated other comprehensive income | (41) | 0 | 537 | 0 | 495 |
| Total change for the period | $ 10 | $ (115) | $ 537 | $ (2) | $ 430 |
| March 31, 2018 | $ 50 | $ (2,903) | $ (25,730) | $ (1) | $ (28,583) |

* Foreign currency translation adjustments are presented gross except for any associated hedges which are presented net of tax.

** Reflects the adoption of the FASB guidance on stranded tax effects, hedging and financial instruments. Refer to note 2, Accounting Changes.

**10. Retirement-Related Benefits:** The company offers defined benefit pension plans, defined contribution pension plans, as well as nonpension postretirement plans primarily consisting of retiree medical benefits. The following table provides the pre-tax cost for all retirement-related plans.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Retirement-related plans cost | | | |
| Defined benefit and contribution pension plans cost | $ 437 | $ 738 | (40.8)% |
| Nonpension postretirement plans cost | 54 | 51 | 6.4 |
| Total | $ 491 | $ 788 | (37.7)% |

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**Notes to Consolidated Financial Statements (continued)**

The following table provides the components of the cost/(income) for the company s pension plans.

Cost/(Income) of Pension Plans

| (Dollars in millions) | U.S. Plans | | Non-U.S. Plans | |
|---|---|---|---|---|
| For the three months ended March 31: | 2019 | 2018 | 2019 | 2018 |
| Service cost | $ | $ | $ 93 | $ 104 |
| Interest cost (1) | 472 | 430 | 208 | 215 |
| Expected return on plan assets (1) | (650) | (676) | (399) | (348) |
| Amortization of prior service costs/(credits) (1) | 4 | 4 | (6) | (21) |
| Recognized actuarial losses (1) | 140 | 384 | 314 | 359 |
| Curtailments and settlements (1) | | | 1 | 0 |
| Multi-employer plans | | | 9 | 10 |
| Other costs/(credits) (1) | | | 5 | 7 |
| Total net periodic pension (income)/cost of defined benefit plans | $ (34) | $ 143 | $ 223 | $ 327 |
| Cost of defined contribution plans | 149 | 160 | 98 | 108 |
| Total defined benefit and contribution pension plans cost recognized in the Consolidated Statement of Earnings | $ 115 | $ 303 | $ 322 | $ 434 |

(1) These components of net periodic pension cost are included in other (income) and expense in the Consolidated Statement of Earnings.

As of 2019, substantially all the plan participants in the U.S. Qualified IBM Personal Pension Plan (PPP) are considered inactive. As required by U.S. GAAP, this resulted in a change in the amortization period of unrecognized actuarial losses to the average remaining life expectancy of inactive plan participants, which was 18 years as of December 31, 2018. Recognized actuarial losses decreased by approximately $240 million for the three months ended March 31, 2019, compared to the corresponding period in the prior year, primarily driven by the change in amortization period. There was no impact to funded status, retiree benefit payments or funding requirements of the U.S. Qualified PPP as a result of this change.

In 2019, the company expects to contribute approximately $400 million to its non-U.S. defined benefit and multi-employer plans, the largest of which will be contributed to the defined benefit pension plans in Japan, Spain and Belgium. This amount generally represents the legally mandated minimum contribution. Total net contributions to the non-U.S. plans in the first three months of 2019 were $94 million, of which $33 million was in cash and $61 million in U.S. Treasury securities. Total contributions to the non-U.S. plans in the first three months of 2018 were $191 million, of which $44 million was in cash and $147 million in U.S. Treasury securities. The contribution of U.S. Treasury securities is considered a non-cash transaction in the Consolidated Statement of Cash Flows.

The following table provides the components of the cost for the company s nonpension postretirement plans.

Cost of Nonpension Postretirement Plans

| (Dollars in millions) | U.S. Plan | | Non-U.S. Plans | |
|---|---|---|---|---|
| **For the three months ended March 31:** | **2019** | **2018** | **2019** | **2018** |
| Service cost | $ 3 | $ 3 | $ 1 | $ 1 |
| Interest cost (1) | 36 | 33 | 12 | 13 |
| Expected return on plan assets (1) | | | (1) | (1) |
| Amortization of prior service costs/(credits) (1) | (1) | (2) | 0 | 0 |
| Recognized actuarial losses (1) | 1 | 2 | 3 | 1 |
| Curtailments and settlements (1) | | | 0 | 0 |
| Total nonpension postretirement plans cost recognized in Consolidated Statement of Earnings | $ 39 | $ 37 | $ 15 | $ 14 |

(1) These components of net periodic pension cost are included in other (income) and expense in the Consolidated Statement of Earnings.

The company contributed $194 million in U.S. Treasury securities to the U.S. nonpension postretirement benefit plan during the three months ended March 31, 2019, and $120 million in U.S. Treasury securities during the three months ended March 31, 2018. The contribution of U.S. Treasury securities is considered a non-cash transaction in the Consolidated Statement of Cash Flows.

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**Notes to Consolidated Financial Statements (continued)**

**11. Acquisitions/Divestitures:**

**Acquisitions:** The company did not enter into any acquisition transactions during the three months ended March 31, 2019.

*Red Hat* On October 28, 2018, the company announced its intent to acquire all of the outstanding shares of Red Hat. The combination of Red Hat s vast portfolio of open-source technologies, innovative cloud development platform and developer community, combined with IBM s innovative hybrid cloud technology, industry expertise, and commitment to data, trust and security, will deliver the hybrid capabilities required to address the next chapter of cloud implementations. Under the terms of the definitive agreement, Red Hat shareholders will receive $190 per share in cash, representing a total enterprise value of approximately $34 billion. On January 16, 2019, Red Hat stockholders voted to approve the merger with IBM. The transaction is subject to customary closing conditions, including regulatory reviews and is expected to close in the second half of 2019. The company intends to fund the transaction through a combination of cash and debt. Refer to note 13, Borrowings , for additional details on the commitment letter for a bridge term loan facility that IBM entered into in support of this transaction.

**Divestitures:**

*Select IBM Software Products* On December 6, 2018, IBM and HCL Technologies Limited (HCL) announced a definitive agreement, in which HCL will acquire select standalone Cognitive Solutions software products for $1,775 million, inclusive of contingent consideration. The software products in-scope include AppScan, BigFix, Unica, Commerce, Portal, Notes, Domino and Connections. The transaction is expected to close in mid-2019, subject to the satisfaction of applicable regulatory requirements and customary closing conditions. IBM will receive cash consideration, with approximately half at closing and the remainder within 12 to 15 months of closing. At March 31, 2019, the company concluded that the business did not meet the held for sale classification.

*Select IBM Marketing Platform and Commerce Offerings* On April 4, 2019, IBM and Centerbridge Partners, L.P. (Centerbridge) announced a definitive agreement, in which Centerbridge will acquire select marketing platform and commerce offerings from IBM, including Customer Experience Analytics, Content Hub and Marketing Assistant, among others. The transaction is expected to close in mid-2019, subject to the satisfaction of applicable regulatory requirements and customary closing conditions. The financial terms related to this transaction are not expected to have a material impact to IBM s consolidated financial statements. At March 31, 2019, the company concluded that the business did not meet the held for sale classification.

*Seterus* On January 3, 2019, IBM and Mr. Cooper Group announced a definitive agreement, in which Mr. Cooper Group acquired IBM s Seterus home mortgage servicing platform business. The transaction closed in the first quarter of 2019. The financial terms related to this transaction were not material.

Under the company s new segment reporting structure, the above three divested businesses are reported in Other divested businesses. Refer to note 8, Segments, for additional information. Overall, the company expects to recognize a total pre-tax gain on these transactions in the range of $500 million to $700 million.

*Other* In the fourth quarter of 2018, the Global Financing segment entered into a definitive agreement to sell certain commercial financing capabilities and assign a number of its commercial financing contracts, excluding related receivables which will be collected as they become due in the normal course of business. These commercial financing capabilities and contracts have been reported within IBM s Global Financing segment. The transaction closed in the first quarter of 2019. The financial terms related to this transaction were not material.

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**Notes to Consolidated Financial Statements (continued)**

**12. Intangible Assets Including Goodwill:**

**Intangible Assets**

The following table details the company s intangible asset balances by major asset class.

| (Dollars in millions) Intangible asset class | At March 31, 2019 Gross Carrying Amount | Accumulated Amortization | Net Carrying Amount |
|---|---|---|---|
| Capitalized software | $ 1,665 | $ (683) | $ 982 |
| Client relationships | 2,022 | (1,150) | 872 |
| Completed technology | 2,032 | (1,248) | 784 |
| Patents/trademarks | 635 | (348) | 287 |
| Other * | 56 | (25) | 30 |
| Total | $ 6,410 | $ (3,454) | $ 2,956 |

* Other intangibles are primarily acquired proprietary and non-proprietary business processes, methodologies and systems.

| (Dollars in millions) Intangible asset class | At December 31, 2018 Gross Carrying Amount | Accumulated Amortization | Net Carrying Amount |
|---|---|---|---|
| Capitalized software | $ 1,568 | $ (629) | $ 939 |
| Client relationships | 2,068 | (1,123) | 945 |
| Completed technology | 2,156 | (1,296) | 860 |
| Patents/trademarks | 641 | (330) | 311 |
| Other * | 56 | (23) | 32 |
| Total | $ 6,489 | $ (3,402) | $ 3,087 |

* Other intangibles are primarily acquired proprietary and non-proprietary business processes, methodologies and systems.

The net carrying amount of intangible assets decreased $131 million during the first quarter of 2019, primarily due to intangible asset amortization, partially offset by additions resulting from capitalized software. The aggregate intangible amortization expense was $303 million and $340 million for the quarters ended March 31, 2019 and 2018, respectively. In addition, in the first three months of 2019, the company retired $273 million of fully amortized intangible assets, impacting both the gross carrying amount and accumulated amortization by this amount.

The amortization expense for each of the five succeeding years relating to intangible assets currently recorded in the Consolidated Statement of Financial Position is estimated to be the following at March 31, 2019:

| (Dollars in millions) | Capitalized Software | Acquired Intangibles | Total |
|---|---|---|---|
| 2019 (for Q2 - Q4) | $ 383 | $ 501 | $ 885 |
| 2020 | 379 | 565 | 944 |
| 2021 | 209 | 450 | 659 |
| 2022 | 11 | 382 | 393 |
| 2023 | | 64 | 64 |

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**Notes to Consolidated Financial Statements (continued)**

**Goodwill**

The change in the goodwill balances by segment, for the three months ended March 31, 2019 and for the year ended December 31, 2018 are as follows:

| (Dollars in millions) Segment | Balance 1/1/2019 | Goodwill Additions | Purchase Price Adjustments | Divestitures | Foreign Currency Translation And Other Adjustments* | Balance 3/31/2019 |
|---|---|---|---|---|---|---|
| Cloud & Cognitive Software | $ 24,594 | $ | $ 0 | $ | $ 31 | $ 24,625 |
| Global Business Services | 4,711 | | 0 | | (3) | 4,708 |
| Global Technology Services | 3,988 | | | | 16 | 4,003 |
| Systems | 1,847 | | | | 3 | 1,851 |
| Other divested businesses | 1,126 | | | (32) | | 1,094 |
| Total | $ 36,265 | $ | $ 0 | $ (32) | $ 47 | $ 36,281 |

* Primarily driven by foreign currency translation.

| (Dollars in millions) Segment | Balance 1/1/2018 | Goodwill Additions | Purchase Price Adjustments | Divestitures | Foreign Currency Translation And Other Adjustments** | Balance 12/31/2018 |
|---|---|---|---|---|---|---|
| Cloud & Cognitive Software* | $ 24,973 | $ 9 | $ 0 | $ (1) | $ (388) | $ 24,594 |
| Global Business Services* | 4,782 | 24 | (3) | | (92) | 4,711 |
| Global Technology Services* | 4,044 | | 0 | | (56) | 3,988 |
| Systems | 1,862 | | 0 | | (15) | 1,847 |
| Other divested businesses* | 1,127 | 1 | 0 | 0 | (2) | 1,126 |
| Total | $ 36,788 | $ 34 | $ (3) | $ (1) | $ (553) | $ 36,265 |

* Recast to conform to 2019 presentation.

** Primarily driven by foreign currency translation.

In the first quarter of 2019, the company made a number of changes to its organizational structure and management system. With these changes, the company revised its reportable segments. Goodwill was reallocated to the new reporting segments, and as a result, an impairment assessment was performed. There were no goodwill impairment losses recorded during the first three months of 2019 or the full year of 2018 and the company has no accumulated impairment losses. For further information regarding the segment change, refer to note 8, Segments.

Purchase price adjustments recorded in the first three months of 2019 and full year 2018 were related to acquisitions that were still subject to the measurement period that ends at the earlier of 12 months from the acquisition date or when information becomes available. Net purchase price adjustments recorded during the first three months of 2019 and full year 2018 were not material.

**13. Borrowings:**

**Short-Term Debt**

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Commercial paper | $ 2,993 | $ 2,995 |
| Short-term loans | 150 | 161 |
| Long-term debt current maturities | 7,106 | 7,051 |
| Total | $ 10,250 | $ 10,207 |

The weighted-average interest rate for commercial paper at March 31, 2019 and December 31, 2018 was 2.5 percent at both periods. The weighted-average interest rate for short-term loans was 5.8 percent and 4.3 percent at March 31, 2019 and December 31, 2018, respectively.

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**Notes to Consolidated Financial Statements (continued)**

**Long-Term Debt**

Pre-Swap Borrowing

| (Dollars in millions) | Maturities | Balance 3/31/2019 | Balance 12/31/2018 |
|---|---|---|---|
| U.S. dollar debt (weighted-average interest rate at March 31, 2019):* | | | |
| 3.2% | 2019 | $ 3,959 | $ 5,465 |
| 2.6% | 2020 | 4,338 | 4,344 |
| 2.9% | 2021 | 5,531 | 5,529 |
| 2.5% | 2022 | 3,529 | 3,536 |
| 3.2% | 2023 | 2,413 | 2,428 |
| 3.6% | 2024 | 2,046 | 2,037 |
| 7.0% | 2025 | 600 | 600 |
| 3.5% | 2026 | 1,350 | 1,350 |
| 4.7% | 2027 | 969 | 969 |
| 6.5% | 2028 | 313 | 313 |
| 3.7% | 2030 | 149 | 32 |
| 5.9% | 2032 | 600 | 600 |
| 8.0% | 2038 | 83 | 83 |
| 5.6% | 2039 | 745 | 745 |
| 4.0% | 2042 | 1,107 | 1,107 |
| 7.0% | 2045 | 27 | 27 |
| 4.7% | 2046 | 650 | 650 |
| 7.1% | 2096 | 316 | 316 |
| | | $ 28,726 | $ 30,131 |
| Other currencies (weighted-average interest rate at March 31, 2019, in parentheses):* | | | |
| Euros (1.3%) | 2019 2031 | $ 15,438 | $ 10,011 |
| Pound sterling (2.7%) | 2020 2022 | 1,368 | 1,338 |
| Japanese yen (0.3%) | 2022 2026 | 1,314 | 1,325 |
| Other (6.5%) | 2019 2022 | 500 | 391 |
| | | $ 47,346 | $ 43,196 |
| Less: net unamortized discount | | 831 | 802 |
| Less: net unamortized debt issuance costs | | 88 | 76 |
| Add: fair value adjustment** | | 406 | 337 |
| | | $ 46,833 | $ 42,656 |
| Less: current maturities | | 7,106 | 7,051 |
| Total | | $ 39,727 | $ 35,605 |

* Includes notes, debentures, bank loans, secured borrowings and finance lease obligations.

** The portion of the company s fixed-rate debt obligations that is hedged is reflected in the Consolidated Statement of Financial Position as an amount equal to the sum of the debt s carrying value and a fair value adjustment representing changes in the fair value of the hedged debt obligations attributable to movements in benchmark interest rates.

There are no debt securities issued and outstanding by IBM International Group Capital LLC, which is an indirect, 100 percent owned finance subsidiary of IBM, the parent. Any debt securities issued by IBM International Group Capital LLC, would be fully and unconditionally guaranteed by the parent.

The company s indenture governing its debt securities and its various credit facilities each contain significant covenants which obligate the company to promptly pay principal and interest, limit the aggregate amount of secured indebtedness and sale and leaseback transactions to 10 percent of the company s consolidated net tangible assets, and restrict the company s ability to merge or consolidate unless certain conditions are met. The credit facilities also include a covenant on the company s consolidated net interest expense ratio, which cannot be less than 2.20 to 1.0, as well as a cross default provision with respect to other defaulted indebtedness of at least $500 million.

The company is in compliance with all of its significant debt covenants and provides periodic certifications to its lenders. The failure to comply with its debt covenants could constitute an event of default with respect to the debt to which such provisions apply. If certain events of default were to occur, the principal and interest on the debt to which such event of default applied would become immediately due and payable.

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**Notes to Consolidated Financial Statements (continued)**

Pre-swap annual contractual obligations of long-term debt outstanding at March 31, 2019, are as follows:

| (Dollars in millions) | Total |
|---|---|
| 2019 (for Q2 - Q4) | $ 5,459 |
| 2020 | 7,374 |
| 2021 | 6,700 |
| 2022 | 4,354 |
| 2023 | 5,358 |
| 2024 and beyond | 18,102 |
| Total | $ 47,346 |

**Interest on Debt**

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 |
|---|---|---|
| Cost of financing | $ 179 | $ 182 |
| Interest expense | 210 | 165 |
| Interest capitalized | 2 | 3 |
| Total interest paid and accrued | $ 391 | $ 349 |

**Lines of Credit**

On October 28, 2018, the company announced its intent to acquire all of the outstanding shares of Red Hat. In connection with this acquisition, IBM entered into a commitment letter under which certain banks committed to provide the company with a 364-day unsecured bridge term loan facility in an aggregate principal amount of up to $20 billion to fund the acquisition. The company also entered into a fee letter in connection with the 364-day bridge facility, under which the company incurred $60 million in fees. These fees were capitalized and are being amortized to SG&A in the Consolidated Statement of Earnings over the expected term of the bridge term loan facility. For additional information on this transaction, see note 11, Acquisitions/Divestitures.

**14. Contingencies:** As a company with a substantial employee population and with clients in more than 175 countries, IBM is involved, either as plaintiff or defendant, in a variety of ongoing claims, demands, suits, investigations, tax matters and proceedings that arise from time to time in the ordinary course of its business. The company is a leader in the information technology industry and, as such, has been and will continue to be subject to claims challenging its IP rights and associated products and offerings, including claims of copyright and patent infringement and violations of trade secrets and other IP rights. In addition, the company enforces its own IP against infringement, through license negotiations, lawsuits or otherwise. Also, as is typical for companies of IBM s scope and scale, the company is party to actions and proceedings in various jurisdictions involving a wide range of labor and employment issues (including matters related to contested employment decisions, country-specific labor and employment laws, and the company s pension, retirement and other benefit plans), as well as actions with respect to

contracts, product liability, securities, foreign operations, competition law and environmental matters. These actions may be commenced by a number of different parties, including competitors, clients, current or former employees, government and regulatory agencies, stockholders and representatives of the locations in which the company does business. Some of the actions to which the company is party may involve particularly complex technical issues, and some actions may raise novel questions under the laws of the various jurisdictions in which these matters arise.

The company records a provision with respect to a claim, suit, investigation or proceeding when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Any recorded liabilities, including any changes to such liabilities for the quarter ended March 31, 2019 were not material to the Consolidated Financial Statements.

In accordance with the relevant accounting guidance, the company provides disclosures of matters for which the likelihood of material loss is at least reasonably possible. In addition, the company also discloses matters based on its consideration of other matters and qualitative factors, including the experience of other companies in the industry, and investor, customer and employee relations considerations.

With respect to certain of the claims, suits, investigations and proceedings discussed herein, the company believes at this time that the likelihood of any material loss is remote, given, for example, the procedural status, court rulings, and/or the strength of the company s defenses in those matters. With respect to the remaining claims, suits, investigations and

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**Notes to Consolidated Financial Statements (continued)**

proceedings discussed in this note, except as specifically discussed herein, the company is unable to provide estimates of reasonably possible losses or range of losses, including losses in excess of amounts accrued, if any, for the following reasons.

Claims, suits, investigations and proceedings are inherently uncertain, and it is not possible to predict the ultimate outcome of these matters. It is the company s experience that damage amounts claimed in litigation against it are unreliable and unrelated to possible outcomes, and as such are not meaningful indicators of the company s potential liability. Further, the company is unable to provide such an estimate due to a number of other factors with respect to these claims, suits, investigations and proceedings, including considerations of the procedural status of the matter in question, the presence of complex or novel legal theories, and/or the ongoing discovery and development of information important to the matters. The company reviews claims, suits, investigations and proceedings at least quarterly, and decisions are made with respect to recording or adjusting provisions and disclosing reasonably possible losses or range of losses (individually or in the aggregate), to reflect the impact and status of settlement discussions, discovery, procedural and substantive rulings, reviews by counsel and other information pertinent to a particular matter.

Whether any losses, damages or remedies finally determined in any claim, suit, investigation or proceeding could reasonably have a material effect on the company s business, financial condition, results of operations or cash flows will depend on a number of variables, including: the timing and amount of such losses or damages; the structure and type of any such remedies; the significance of the impact any such losses, damages or remedies may have in the Consolidated Financial Statements; and the unique facts and circumstances of the particular matter that may give rise to additional factors. While the company will continue to defend itself vigorously, it is possible that the company s business, financial condition, results of operations or cash flows could be affected in any particular period by the resolution of one or more of these matters.

The following is a summary of the more significant legal matters involving the company.

The company is a defendant in an action filed on March 6, 2003 in state court in Salt Lake City, Utah by the SCO Group (SCO v. IBM). The company removed the case to Federal Court in Utah. Plaintiff is an alleged successor in interest to some of AT&T s UNIX IP rights, and alleges copyright infringement, unfair competition, interference with contract and breach of contract with regard to the company s distribution of AIX and Dynix and contribution of code to Linux and the company has asserted counterclaims. On September 14, 2007, plaintiff filed for bankruptcy protection, and all proceedings in this case were stayed. The court in another suit, the SCO Group, Inc. v. Novell, Inc., held a trial in March 2010. The jury found that Novell is the owner of UNIX and UnixWare copyrights; the judge subsequently ruled that SCO is obligated to recognize Novell s waiver of SCO s claims against IBM and Sequent for breach of UNIX license agreements. On August 30, 2011, the Tenth Circuit Court of Appeals affirmed the district court s ruling and denied SCO s appeal of this matter. In June 2013, the Federal Court in Utah granted SCO s motion to reopen the SCO v. IBM case. In February 2016, the Federal Court ruled in favor of IBM on all of SCO s remaining claims, and SCO appealed. On October 30, 2017, the Tenth Circuit Court of Appeals affirmed the dismissal of all but one of SCO s remaining claims, which was remanded to the Federal Court in Utah.

On May 13, 2010, IBM and the State of Indiana (acting on behalf of the Indiana Family and Social Services Administration) sued one another in a dispute over a 2006 contract regarding the modernization of social service program processing in Indiana. After six weeks of trial, on July 18, 2012, the Indiana Superior Court in Marion County rejected the State s claims in their entirety and awarded IBM $52 million plus interest and costs. On February 13, 2014, the Indiana Court of Appeals reversed portions of the trial judge s findings, found IBM in material breach, and ordered the case remanded to the trial judge to determine the State s damages, if any. The Indiana Court of Appeals also affirmed approximately $50 million of the trial court s award of damages to IBM. On March 22, 2016, the Indiana Supreme Court affirmed the outcome of the Indiana

Court of Appeals and remanded the case to the Indiana Superior Court. On August 7, 2017, the Indiana Superior Court awarded the State $128 million, which it then offset against IBM s previously affirmed award of $50 million, resulting in a $78 million award to the State, plus interest. On September 28, 2018, the Indiana Court of Appeals affirmed the Superior Court s $78 million award to the State, but reversed the Superior Court by awarding IBM prejudgment interest on its previously affirmed $50 million award. In February 2019, the Indiana Supreme Court heard both parties appeals. The matter remains pending.

On March 9, 2017, the Commonwealth of Pennsylvania s Department of Labor and Industry sued IBM in Pennsylvania state court regarding a 2006 contract for the development of a custom software system to manage the Commonwealth s unemployment insurance benefits programs. The matter is pending in a Pennsylvania court.

Following the 2017 final judgment of the Appeal Court in London holding that IBM UK acted lawfully in 2010 in closing its UK defined benefit plans to future accruals for most participants and in implementing a new retirement policy, the Employment Tribunal in Southampton UK is expected to address approximately 290 individual actions alleging constructive

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**Notes to Consolidated Financial Statements (continued)**

dismissal and age discrimination brought against IBM UK in 2010 by employees who left the company at that time. The individual actions were previously stayed.

In May 2015, a putative class action was commenced in the United States District Court for the Southern District of New York related to the company s October 2014 announcement that it was divesting its global commercial semiconductor technology business, alleging violations of the Employee Retirement Income Security Act (ERISA). Management s Retirement Plans Committee and three current or former IBM executives are named as defendants. On September 29, 2017, the Court granted the defendants motion to dismiss the first amended complaint. On December 10, 2018, the Second Circuit Court of Appeals reversed the District Court order and the matter remains pending.

The company is party to, or otherwise involved in, proceedings brought by U.S. federal or state environmental agencies under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), known as Superfund, or laws similar to CERCLA. Such statutes require potentially responsible parties to participate in remediation activities regardless of fault or ownership of sites. The company is also conducting environmental investigations, assessments or remediations at or in the vicinity of several current or former operating sites globally pursuant to permits, administrative orders or agreements with country, state or local environmental agencies, and is involved in lawsuits and claims concerning certain current or former operating sites.

The company is also subject to ongoing tax examinations and governmental assessments in various jurisdictions. Along with many other U.S. companies doing business in Brazil, the company is involved in various challenges with Brazilian tax authorities regarding non-income tax assessments and non-income tax litigation matters. The total potential amount related to all these matters for all applicable years is approximately $900 million. The company believes it will prevail on these matters and that this amount is not a meaningful indicator of liability.

**15. Commitments:** The company s extended lines of credit to third-party entities include unused amounts of $7,902 million and $7,368 million at March 31, 2019 and December 31, 2018, respectively. A portion of these amounts was available to the company s business partners to support their working capital needs. In addition, the company has committed to provide future financing to its clients in connection with client purchase agreements for approximately $4,165 million and $4,432 million at March 31, 2019 and December 31, 2018, respectively.

The company has applied the guidance requiring a guarantor to disclose certain types of guarantees, even if the likelihood of requiring the guarantor s performance is remote. The following is a description of arrangements in which the company is the guarantor.

The company is a party to a variety of agreements pursuant to which it may be obligated to indemnify the other party with respect to certain matters. Typically, these obligations arise in the context of contracts entered into by the company, under which the company customarily agrees to hold the party harmless against losses arising from a breach of representations and covenants related to such matters as title to the assets sold, certain intellectual property (IP) rights, specified environmental matters, third-party performance of nonfinancial contractual obligations and certain income taxes. In each of these circumstances, payment by the company is conditioned on the other party making a claim pursuant to the procedures specified in the particular contract, the procedures of which typically allow the company to challenge the other party s claims. While typically indemnification provisions do not include a contractual maximum on the company s payment, the company s obligations under these

agreements may be limited in terms of time and/or nature of claim, and in some instances, the company may have recourse against third parties for certain payments made by the company.

It is not possible to predict the maximum potential amount of future payments under these or similar agreements due to the conditional nature of the company s obligations and the unique facts and circumstances involved in each particular agreement. Historically, payments made by the company under these agreements have not had a material effect on the company s business, financial condition or results of operations.

In addition, the company guarantees certain loans and financial commitments. The maximum potential future payment under these financial guarantees was $24 million and $26 million at March 31, 2019 and December 31, 2018, respectively. The fair value of the guarantees recognized in the Consolidated Statement of Financial Position is not material.

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**Notes to Consolidated Financial Statements (continued)**

Changes in the company s warranty liability for standard warranties and deferred income for extended warranty are presented in the following tables.

**Standard Warranty Liability**

| (Dollars in millions) | 2019 | 2018 |
|---|---|---|
| Balance at January 1 | $ 118 | $ 152 |
| Current period accruals | 110 | 25 |
| Accrual adjustments to reflect actual experience | (9) | (14) |
| Charges incurred | (111) | (32) |
| Balance at March 31 | $ 107 | $ 130 |

**Extended Warranty Liability**

| (Dollars in millions) | 2019 | 2018 |
|---|---|---|
| Aggregate deferred revenue at January 1 | $ 533 | $ 566 |
| Revenue deferred for new extended warranty contracts | 36 | 46 |
| Amortization of deferred revenue | (64) | (69) |
| Other* | (3) | 5 |
| Aggregate deferred revenue at March 31 | $ 503 | $ 548 |
| Current portion | $ 242 | $ 260 |
| Noncurrent portion | $ 261 | $ 288 |

* Other primarily consists of foreign currency translation adjustments.

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**Notes to Consolidated Financial Statements (continued)**

**16. Earnings Per Share of Common Stock:** The following tables provide the computation of basic and diluted earnings per share of common stock for the three months ended March 31, 2019 and 2018.

| | For the Three Months Ended | |
|---|---|---|
| | **March 31, 2019** | **March 31, 2018** |
| Number of shares on which basic earnings per share is calculated: | | |
| Weighted-average shares outstanding during period | 889,581,542 | 920,680,222 |
| Add Incremental shares under stock-based compensation plans | 3,372,460 | 3,553,104 |
| Add Incremental shares associated with contingently issuable shares | 956,524 | 1,176,108 |
| Number of shares on which diluted earnings per share is calculated | 893,910,526 | 925,409,434 |
| | | |
| Income from continuing operations (millions) | $ 1,593 | $ 1,675 |
| Income/(loss) from discontinued operations, net of tax (millions) | (2) | 4 |
| Net income on which basic earnings per share is calculated (millions) | $ 1,591 | $ 1,679 |
| | | |
| Income from continuing operations (millions) | $ 1,593 | $ 1,675 |
| Net income applicable to contingently issuable shares (millions) | | |
| Income from continuing operations on which diluted earnings per share is calculated (millions) | $ 1,593 | $ 1,675 |
| Income/(loss) from discontinued operations, net of tax, on which basic and diluted earnings per share is calculated (millions) | (2) | 4 |
| Net income on which diluted earnings per share is calculated (millions) | $ 1,591 | $ 1,679 |
| | | |
| Earnings/(loss) per share of common stock: | | |
| Assuming dilution | | |
| Continuing operations | $ 1.78 | $ 1.81 |
| Discontinued operations | 0.00 | 0.00 |
| Total | $ 1.78 | $ 1.81 |
| Basic | | |
| Continuing operations | $ 1.79 | $ 1.82 |
| Discontinued operations | 0.00 | 0.00 |
| Total | $ 1.79 | $ 1.82 |

Stock options to purchase 1,137,019 shares and 16,869 shares were outstanding as of March 31, 2019 and 2018, respectively, but were not included in the computation of diluted earnings per share because the options exercise price during the respective period was greater than the average market price of the common shares, and, therefore, the effect would have been antidilutive.

**17. Subsequent Events**: On April 30, 2019, the company announced that the Board of Directors approved a quarterly dividend of $1.62 per common share. The dividend is payable June 10, 2019 to shareholders of record on May 10, 2019. The dividend declaration represents an increase of $0.05 per common share, which is 3 percent higher than the prior quarterly dividend of $1.57 per common share.

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**Item 2.**

**MANAGEMENT S DISCUSSION AND ANALYSIS**
**OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION**
**FOR THE THREE MONTHS ENDED MARCH 31, 2019**

**Snapshot**

Financial Results Summary Three Months Ended March 31:

| (Dollars and shares in millions except per share amounts)<br>For the three months ended March 31: | | 2019 | | 2018 | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|---|---|
| Revenue | $ | 18,182 | $ | 19,072 | (4.7)%* |
| Gross profit margin | | 44.2% | | 43.2% | 1.0pts. |
| Total expense and other (income) | $ | 6,160 | $ | 7,111 | (13.4)% |
| Income from continuing operations before income taxes | $ | 1,883 | $ | 1,136 | 65.8% |
| Provision for income taxes from continuing operations | $ | 289 | $ | (540) | nm |
| Income from continuing operations | $ | 1,593 | $ | 1,675 | (4.9)% |
| Income from continuing operations margin | | 8.8% | | 8.8% | 0.0pts. |
| Net income | $ | 1,591 | $ | 1,679 | (5.2)% |
| Earnings per share from continuing operations - assuming dilution | $ | 1.78 | $ | 1.81 | (1.7)% |
| Weighted-average shares outstanding - assuming dilution | | 893.9 | | 925.4 | (3.4)% |
| | | **At 3/31/2019** | | **At 12/31/2018** | |
| Assets | $ | 130,926 | $ | 123,382 | 6.1% |
| Liabilities | $ | 114,320 | $ | 106,452 | 7.4% |
| Equity | $ | 16,607 | $ | 16,929 | (1.9)% |

* (0.9) percent adjusted for currency.

nm - not meaningful

Organization of Information:

Effective with the first quarter of 2019, the company made a number of changes to its organizational structure and management system. As a result of these changes, the company revised its reportable segments. There is no change to the company s Consolidated Financial Statements. Refer to note 8, Segments on pages 35 to 36 for additional information on the changes in reportable segments. The periods presented in this Form 10-Q are reported on a comparable basis. The company provided recast historical segment information reflecting these changes in a Form 8-K dated April 4, 2019.

Currency:

The references to adjusted for currency or at constant currency in the Management Discussion do not include operational impacts that could result from fluctuations in foreign currency rates. When the company refers to growth rates at constant currency or adjusts such growth rates for currency, it is done so that certain financial results can be viewed without the impact of fluctuations in foreign currency exchange rates, thereby facilitating period-to-period comparisons of its business performance. Financial results adjusted for currency are calculated by translating current period activity in local currency using the comparable prior year period s currency conversion rate. This approach is used for countries where the functional currency is the local currency. Generally, when the dollar either strengthens or weakens against other currencies, the growth at constant currency rates or adjusting for currency will be higher or lower than growth reported at actual exchange rates. Refer to Currency Rate Fluctuations on page 71 for additional information.

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**Management Discussion (continued)**

Operating (non-GAAP) Earnings:

In an effort to provide better transparency into the operational results of the business, the company separates business results into operating and non-operating categories. Operating earnings from continuing operations is a non-GAAP measure that excludes the effects of certain acquisition-related charges, intangible asset amortization expense resulting from basis differences on equity method investments, retirement-related costs and discontinued operations and their related tax impacts. Due to the unique, non-recurring nature of the enactment of the U.S. Tax Cuts and Jobs Act ( U.S. tax reform ), the company characterizes the one-time provisional charge recorded in the fourth quarter of 2017 and subsequent adjustments to that charge as non-operating. Adjustments include true-ups, accounting elections, any changes to regulations, laws, audit adjustments, etc. that affect the recorded one-time charge. For acquisitions, operating (non-GAAP) earnings exclude the amortization of purchased intangible assets and acquisition-related charges such as in-process research and development, transaction costs, applicable restructuring and related expenses, tax charges related to acquisition integration and pre-closing charges, such as financing costs. These charges are excluded as they may be inconsistent in amount and timing from period to period and are dependent on the size, type and frequency of the company s acquisitions. All other spending for acquired companies is included in both earnings from continuing operations and in operating (non-GAAP) earnings. Throughout the Management Discussion, the impact of acquisitions over the prior 12-month period may be a driver of higher expense year to year. For retirement-related costs, the company characterizes certain items as operating and others as non-operating, consistent with GAAP. The company includes defined benefit plan and nonpension postretirement benefit plan service costs, multi-employer plan costs and the cost of defined contribution plans in operating earnings. Non-operating retirement-related costs include defined benefit plan and nonpension postretirement benefit plan amortization of prior service costs, interest cost, expected return on plan assets, amortized actuarial gains/losses, the impacts of any plan curtailments/settlements and pension insolvency costs and other costs. Non-operating retirement-related costs are primarily related to changes in pension plan assets and liabilities which are tied to financial market performance, and the company considers these costs to be outside of the operational performance of the business.

Overall, the company believes that providing investors with a view of operating earnings as described above provides increased transparency and clarity into both the operational results of the business and the performance of the company s pension plans; improves visibility to management decisions and their impacts on operational performance; enables better comparison to peer companies; and allows the company to provide a long-term strategic view of the business going forward. The company s reportable segment financial results reflect pre-tax operating earnings from continuing operations, consistent with the company s management and measurement system.

The following table provides the company s operating (non-GAAP) earnings for the first quarter of 2019 and 2018.

| **(Dollars in millions except per share amounts)**<br>**For the three months ended March 31:** | **2019** | **2018** | **Yr. to Yr. Percent Change** |
|---|---|---|---|
| Net income as reported | $ 1,591 | $ 1,679 | (5.2)% |
| Income/(loss) from discontinued operations, net of tax | (2) | 4 | nm |
| Income from continuing operations | $ 1,593 | $ 1,675 | (4.9)% |
| Non-operating adjustments (net of tax): | | | |
| Acquisition-related charges | 164 | 164 | (0.2) |
| Non-operating retirement-related costs/(income) | 111 | 325 | (65.8) |
| U.S. tax reform charges | 141 | 107 | 31.3 |
| Operating (non-GAAP) earnings* | $ 2,009 | $ 2,272 | (11.6)% |
| Diluted operating (non-GAAP) earnings per share | $ 2.25 | $ 2.45 | (8.2)% |

* Refer to page 74 for a more detailed reconciliation of net income to operating earnings.

nm - not meaningful

Financial Performance Summary Three Months Ended March 31:

In the first quarter of 2019, the company reported $18.2 billion in revenue, $1.6 billion in income from continuing operations and operating (non-GAAP) earnings of $2.0 billion, resulting in diluted earnings per share from continuing operations of $1.78 as reported and $2.25 on an operating (non-GAAP) basis. The company also generated $4.8 billion in cash from operations, $1.7 billion in free cash flow and delivered shareholder returns of $2.3 billion in gross common stock repurchases and dividends. As the company continued to optimize its portfolio and invest in emerging, high-value areas of the IT industry, there was strong performance in offerings that help clients with their digital transformation and shift of mission-critical work to the cloud.

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**Management Discussion (continued)**

Total consolidated revenue decreased 4.7 percent as reported and 1 percent adjusted for currency compared to the prior year. Cloud & Cognitive Software decreased 1.5 percent as reported, but increased 2 percent adjusted for currency. Within that segment, Cognitive Applications grew 1.7 percent as reported and 4 percent adjusted for currency, Cloud & Data Platforms decreased 1.7 percent as reported, but increased 2 percent adjusted for currency and Transaction Processing Platforms declined 3.6 percent as reported, but was flat adjusted for currency. Global Business Services (GBS) was flat as reported and increased 4 percent adjusted for currency led by Consulting which grew 5.2 percent (9 percent adjusted for currency). Global Technology Services (GTS) decreased 7.4 percent as reported (3 percent adjusted for currency), with declines in Infrastructure & Cloud Services and Technology Support Services. Within GTS, there was continued growth in cloud revenue which increased 8 percent year to year as reported and 13 percent adjusted for currency as the company continued to shift clients to hybrid cloud. Systems decreased 11.4 percent as reported (9 percent adjusted for currency), with IBM Z declining year to year reflecting the product cycle dynamics. Storage Systems declined driven by competitive dynamics and pricing pressures, while Power Systems grew as reported and adjusted for currency, driven by Linux and the full rollout of the POWER9-based architecture.

Total cloud revenue of $4.5 billion in the first quarter of 2019 grew 7 percent as reported and 12 percent adjusted for currency. The annual exit run rate for as-a-Service revenue was $11.7 billion, an increase of 10 percent as reported and 15 percent adjusted for currency.

From a geographic perspective, Americas revenue declined 2.5 percent year to year as reported (1 percent adjusted for currency). Europe/Middle East/Africa (EMEA) decreased 7.3 percent, but was flat adjusted for currency. Asia Pacific declined 5.4 percent year to year as reported (2 percent adjusted for currency).

The consolidated gross margin of 44.2 percent increased 1.0 points year to year, and the operating (non-GAAP) gross margin of 44.7 percent increased 0.9 points versus the prior year. The company has been focused on improving margins and the results in the first quarter reflect the actions that have been taken to focus on higher value and portfolio optimization, and also in driving productivity and operational efficiency especially in the services businesses.

Total expense and other (income) decreased 13.4 percent in the first quarter of 2019 compared to the prior year. The year-to-year performance was driven by a lower level of workforce rebalancing charges (7 points), the impact of currency (5 points) and lower non-operating retirement-related costs (4 points), partially offset by a decrease in intellectual property (IP) income (3 points). Total operating (non-GAAP) expense and other (income) decreased 10.8 percent year to year, driven primarily by the same factors excluding the non-operating retirement-related costs.

Pre-tax income from continuing operations of $1.9 billion increased 65.8 percent and the pre-tax margin was 10.4 percent, an increase of 4.4 points versus 2018. The continuing operations effective tax rate for the first quarter of 2019 was 15.4 percent, an increase of 62.9 points compared to the first quarter of 2018. The year-to-year change was primarily driven by a reduced benefit from audit resolutions (65.8 points), offset by a lower impact from U.S. tax reform (2.5 points) and a more favorable mix of earnings. Net income of $1.6 billion decreased 5.2 percent and the net income margin was 8.8 percent, flat year to year. Operating (non-GAAP) pre-tax income from continuing operations of $2.2 billion grew 28.3 percent year to year and the operating (non-GAAP) pre-tax margin from continuing operations increased 3.2 points to 12.3 percent. The operating (non-GAAP) tax rate for the first quarter of 2019 was 10.0 percent, an increase of 40.6 points compared to the first quarter of 2018. The change in the operating (non-GAAP) tax rate was primarily driven by the same factors

mentioned above, excluding the impacts of U.S. tax reform related activity. Operating (non-GAAP) income from continuing operations of $2.0 billion decreased 11.6 percent with an operating (non-GAAP) income margin from continuing operations of 11.0 percent, down 0.9 points year to year.

Diluted earnings per share from continuing operations of $1.78 in the first quarter of 2019 decreased 1.7 percent and operating (non-GAAP) diluted earnings per share of $2.25 decreased 8.2 percent versus the first quarter of 2018. In the first quarter of 2019, the company repurchased 6.9 million shares of its common stock at a cost of $0.9 billion and had $2.4 billion remaining in the current share repurchase authorization at March 31, 2019.

At March 31, 2019, the balance sheet remains strong and the company continues to be committed to maintaining a strong investment grade rating. Cash, restricted cash and marketable securities at quarter end were $18.1 billion, an increase of $5.9 billion from December 31, 2018. Cash and debt balances increased since year-end 2018, as the company prepares for the acquisition of Red Hat. Key drivers in the balance sheet and total cash flows were:

Total assets increased $7.5 billion ($7.7 billion adjusted for currency) from December 31, 2018 driven by:

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**Management Discussion (continued)**

- An increase of $5.9 billion in cash, restricted cash and marketable securities;

- An increase in operating right-of-use assets of $4.6 billion resulting from the adoption of the new leasing standard; partially offset by

- A decrease in total receivables of $3.4 billion due to collections of higher year-end balances.

Total liabilities increased $7.9 billion ($8.2 billion adjusted for currency) from December 31, 2018 driven by:

- An increase in operating lease liabilities of $4.9 billion resulting from the adoption of the new leasing standard; and

- An increase in total debt of $4.2 billion driven by new issuances.

Total equity of $16.6 billion decreased $0.3 billion from December 31, 2018 as a result of:

- Decreases from dividends ($1.4 billion) and treasury stock ($1.0 billion) primarily due to share repurchases; partially offset by

- Increases from net income ($1.6 billion) and retirement related plans ($0.3 billion).

The company generated $4.8 billion in cash flow provided by operating activities, an increase of $0.2 billion compared to the first quarter of 2018, driven primarily by an increase in cash provided by financing receivables ($0.1 billion). Net cash used in investing activities of $0.9 billion was $0.9 billion lower than the prior year, primarily driven by an increase in cash provided by non-operating finance receivables ($0.3 billion), a decrease in net capital expenditures ($0.3 billion), and lower net purchases of marketable securities and other investments ($0.2 billion). In the first quarter of 2019, financing activities were a source of cash of $1.9 billion compared to a $2.9 billion use of cash in the first quarter of 2018. The $4.8 billion increase in cash flow year to year was driven by an increase in net cash sourced from debt transactions ($4.9 billion), with a higher level of issuances and a lower level of maturities in the current year.

The company continues to expect GAAP diluted earnings per share from continuing operations of at least $12.45 and operating (non-GAAP) earnings of at least $13.90 per diluted share for 2019. The company continues to expect free cash flow to be approximately $12 billion in 2019, with free cash flow realization expected to be approximately 100 percent of GAAP net income. Refer to page 72 in the Liquidity and Capital Resources section for additional information on this non-GAAP measure. Refer to the Looking Forward section on pages 69 to 71 for additional information on the company s expectations.

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**Management Discussion (continued)**

**First Quarter in Review**

*Results of Continuing Operations*

Segment Details

The following is an analysis of the first quarter of 2019 versus the first quarter of 2018 reportable segment external revenue and gross margin results. Segment pre-tax income includes transactions between segments that are intended to reflect an arm s-length transfer price and excludes certain unallocated corporate items.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent/Margin Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Revenue: | | | | |
| Cloud & Cognitive Software | $ 5,037 | $ 5,116* | (1.5)% | 1.5% |
| Gross margin | 75.1% | 76.3%* | (1.3)pts. | |
| Global Business Services | 4,119 | 4,115* | 0.1% | 4.3% |
| Gross margin | 26.2% | 23.4%* | 2.8pts. | |
| Global Technology Services | 6,875 | 7,421* | (7.4)% | (3.0)% |
| Gross margin | 33.7% | 32.6%* | 1.1pts. | |
| Systems | 1,328 | 1,500 | (11.4)% | (8.8)% |
| Gross margin | 46.2% | 43.7% | 2.5pts. | |
| Global Financing | 406 | 405 | 0.2% | 3.9% |
| Gross margin | 34.9% | 34.4% | 0.6pts. | |
| Other | 417 | 515* | (19.0)% | (16.3)% |
| Gross margin | 26.8% | 31.8%* | (5.0)pts. | |
| Total consolidated revenue | $ 18,182 | $ 19,072 | (4.7)% | (0.9)% |
| Total consolidated gross profit | $ 8,043 | $ 8,247 | (2.5)% | |
| Total consolidated gross margin | 44.2% | 43.2% | 1.0pts. | |
| Non-operating adjustments: | | | | |
| Amortization of acquired intangible assets | 76 | 93 | (18.7)% | |
| Operating (non-GAAP) gross profit | $ 8,119 | $ 8,340 | (2.7)% | |
| Operating (non-GAAP) gross margin | 44.7% | 43.7% | 0.9pts. | |

* Recast to reflect segment changes.

Cloud & Cognitive Software

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018* | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Cloud & Cognitive Software external revenue: | $ 5,037 | $ 5,116 | (1.5)% | 1.5% |
| Cognitive Applications | $ 1,308 | $ 1,286 | 1.7% | 4.3% |
| Cloud & Data Platforms | 1,917 | 1,950 | (1.7) | 1.6 |
| Transaction Processing Platforms | 1,812 | 1,880 | (3.6) | (0.4) |

* Recast to reflect segment changes.

Cloud & Cognitive Software revenue of $5,037 million decreased 1.5 percent as reported, but grew 2 percent adjusted for currency in the first quarter of 2019 compared to the prior year. There was year-to-year growth in Cognitive Applications as reported and adjusted for currency. Cloud & Data Platforms declined as reported, but grew adjusted for currency. Transaction Processing Platforms decreased as reported, but was flat on a constant currency basis.

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**Management Discussion (continued)**

Cognitive Applications includes software that addresses vertical and domain-specific solutions, increasingly infused with AI. This includes areas such as health, financial services, IOT solutions, The Weather Company and security software and services. This content was previously reported in Solutions Software, with the exception of security services, which was reported in Infrastructure Services. Cognitive Applications revenue of $1,308 million grew 1.7 percent as reported (4 percent adjusted for currency) compared to the prior year, led by offerings in security, and solution areas such as health, supply chain and weather. Security offerings generated double-digit revenue growth driven by the company s integrated software and services value proposition. Watson Health offerings had broad-based growth this quarter and Weather offerings had double-digit growth and reached an all-time high in the number of active users.

Cloud & Data Platforms includes the distributed middleware and data platform software critical for orchestration and integration of multi-cloud environments, inclusive of public and private clouds. This includes product areas such as WebSphere distributed, IBM Cloud Private, analytics platform software (e.g., DB2 distributed, information integration, and enterprise content management) and IOT, Blockchain and AI platforms. Cloud & Data Platforms revenue of $1,917 million decreased 1.7 percent as reported, but grew 2 percent adjusted for currency compared to the prior year. Offerings that are helping clients modernize and integrate applications as well as collect and manage data, grew in the first quarter as clients transition to hybrid and open multicloud environments.

Transaction Processing Platforms includes software that supports client mission critical on-premise workloads, including transaction processing software as well as analytics and integration software running on IBM operating systems. Transaction Processing Platforms revenue of $1,812 million decreased 3.6 percent as reported, but was flat adjusted for currency in the first quarter of 2019 compared to the prior year. Clients continued to commit to IBM s platform for the long term given the value provided by these platforms while offering predictability in spending.

Within Cloud & Cognitive Software, cloud revenue of $0.7 billion grew 7 percent as reported (10 percent adjusted for currency), with an as-a-Service exit run rate of $2.1 billion.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018* | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|
| Cloud & Cognitive Software: | | | |
| External gross profit | $ 3,782 | $ 3,906 | (3.2)% |
| External gross profit margin | 75.1% | 76.3% | (1.3)pts. |
| Pre-tax income | $ 1,767 | $ 1,680 | 5.2% |
| Pre-tax margin | 30.1% | 27.8% | 2.3pts. |

* Recast to reflect segment changes.

Cloud & Cognitive Software gross profit margin decreased 1.3 points to 75.1 percent in the first quarter of 2019 compared to the prior year, driven by a higher mix of services and higher royalty costs in the current year.

Pre-tax income of $1,767 million increased 5.2 percent in the first quarter of 2019 compared to the prior year. The pre-tax margin increased 2.3 points to 30.1 percent, driven by a lower level of workforce rebalancing charges in the current year, partially offset by lower IP income and continued investment in key strategic areas.

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**Management Discussion (continued)**

Global Business Services

| (Dollars in millions) For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Global Business Services external revenue: | $ 4,119 | $ 4,115* | 0.1% | 4.3% |
| Consulting | $ 1,964 | $ 1,867 | 5.2% | 9.1% |
| Global Process Services | 247 | 246* | 0.3 | 5.3 |
| Application Management | 1,908 | 2,002 | (4.7) | (0.3) |

* Recast to reflect segment changes.

Global Business Services revenue of $4,119 million was flat as reported, but increased 4 percent adjusted for currency in the first quarter of 2019 compared to the prior year. There was strong growth in Consulting, as clients turn to GBS, with its industry specific expertise and innovative technology portfolio, to help them on their digital journey to a Cognitive Enterprise.

Consulting revenue of $1,964 million grew 5.2 percent as reported and 9 percent adjusted for currency. This growth was led by Digital Strategy and iX, consulting for cloud application migrations and the Next Generation Enterprise Application practice.

Global Process Services revenue of $247 million was flat as reported, but grew 5 percent adjusted for currency, driven by strong performance in risk and compliance.

Application Management revenue of $1,908 million declined 4.7 percent as reported, but was flat adjusted for currency. As the business shifts to cloud-based offerings, there was continued growth in Cloud Migration Factory and cloud application development. This growth was offset by ongoing declines in traditional application management engagements.

Within GBS, cloud revenue of $1.2 billion grew 20 percent as reported (25 percent adjusted for currency), with an as-a-Service exit run rate of $1.8 billion.

| (Dollars in millions) For the three months ended March 31: | 2019 | 2018* | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|
| Global Business Services: | | | |

| | | | | |
|---|---|---|---|---|
| External gross profit | $ 1,078 | $ 962 | 12.0% | |
| External gross profit margin | 26.2% | 23.4% | 2.8 | pts. |
| Pre-tax income | $ 315 | $ 125 | 152.1% | |
| Pre-tax margin | 7.5% | 3.0% | 4.5 | pts. |

* Recast to reflect segment changes.

GBS gross profit margin increased 2.8 points year to year to 26.2 percent, driven by a mix to higher-value offerings, continued yield from productivity and utilization initiatives and benefits from currency due to the global delivery model. Pre-tax income increased to $315 million in the first quarter of 2019 and pre-tax margin increased 4.5 points to 7.5 percent, reflecting the improvements in gross margin and a lower level of workforce rebalancing charges in the current year.

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**Management Discussion (continued)**

Global Technology Services

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Global Technology Services external revenue: | $ 6,875 | $ 7,421* | (7.4)% | (3.0)% |
| Infrastructure & Cloud Services | $ 5,209 | $ 5,639* | (7.6)% | (3.3)% |
| Technology Support Services | 1,665 | 1,782 | (6.5) | (2.1) |

* Recast to reflect segment changes.

Global Technology Services revenue of $6,875 million declined 7.4 percent as reported (3 percent adjusted for currency) in the first quarter of 2019 compared to the prior year. The company is continuing to take actions to optimize the portfolio by de-emphasizing lower-value services content to increase margin, profit and cash contribution and better position the business for the longer term.

Infrastructure & Cloud Services revenue of $5,209 million decreased 7.6 percent as reported (3 percent adjusted for currency) compared to the first quarter of the prior year. There was continuing solid growth in cloud revenue as the company continues to migrate client s mission-critical workloads to a hybrid multi-cloud environment.

Technology Support Services revenue of $1,665 million decreased 6.5 percent as reported (2 percent adjusted for currency) due primarily to hardware cycle dynamics.

Within GTS, cloud revenue of $2.1 billion grew 8 percent as reported (13 percent adjusted for currency), with an as-a-Service exit run rate of $7.5 billion.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018* | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|
| Global Technology Services: | | | |
| External gross profit | $ 2,316 | $ 2,421 | (4.3)% |
| External gross profit margin | 33.7% | 32.6% | 1.1 pts. |
| Pre-tax income | $ 275 | $ 66 | 315.1% |
| Pre-tax margin | 3.8% | 0.9% | 3.0 pts. |

* Recast to reflect segment changes.

Global Technology Services gross profit margin increased 1.1 points to 33.7 percent, driven primarily by the mix shift to higher-value, benefits from cloud scale efficiencies and productivity improvements. Pre-tax income increased to $275 million and pre-tax margin increased 3.0 points year to year to 3.8 percent, reflecting the improvements in gross margin and a lower level of workforce rebalancing charges in the current year.

Services Backlog and Signings

| (Dollars in billions) | At March 31, 2019 | At March 31, 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Total backlog | $ 111.6 | $ 121.3 | (8.0)% | (2.3)% |

The estimated total services backlog at March 31, 2019 was $112 billion, a decrease of 8.0 percent as reported (2 percent adjusted for currency).

Total services backlog includes Infrastructure & Cloud Services, Security Services, Consulting, Global Process Services, Application Management and Technology Support Services. Total backlog is intended to be a statement of overall work

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**Management Discussion (continued)**

under contract which is either non-cancellable, or which historically has very low likelihood of termination, given the criticality of certain services to the company s clients. Total backlog does not include as-a-Service arrangements that allow for termination under contractual commitment terms. Backlog estimates are subject to change and are affected by several factors, including terminations, changes in the scope of contracts, periodic revalidations, adjustments for revenue not materialized and adjustments for currency.

Services signings are management s initial estimate of the value of a client s commitment under a services contract. There are no third-party standards or requirements governing the calculation of signings. The calculation used by management involves estimates and judgments to gauge the extent of a client s commitment, including the type and duration of the agreement, and the presence of termination charges or wind-down costs.

Signings include Infrastructure & Cloud Services, Security Services, Consulting, Global Process Services and Application Management contracts. Contract extensions and increases in scope are treated as signings only to the extent of the incremental new value. Technology Support Services (TSS) are generally not included in signings as the maintenance contracts tend to be more steady state, where revenues equal renewals. Certain longer-term TSS contracts that have characteristics similar to outsourcing contracts are included in signings.

Contract portfolios purchased in an acquisition are treated as positive backlog adjustments provided those contracts meet the company s requirements for initial signings. A new signing will be recognized if a new services agreement is signed incidental or coincidental to an acquisition or divestiture.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Total signings | $ 7,637 | $ 9,308 | (18.0)% | (13.8)% |

Systems

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Systems external revenue: | $ 1,328 | $ 1,500 | (11.4)% | (8.8)% |
| Systems Hardware | $ 914 | $ 1,093 | (16.4)% | (14.0)% |
| IBM Z | | | (38.8) | (37.6) |
| Power Systems | | | 5.9 | 9.4 |
| Storage Systems | | | (13.4) | (10.8) |
| Operating Systems Software | 414 | 407 | 1.8 | 5.1 |

Systems revenue of $1,328 million decreased 11.4 percent as reported (9 percent adjusted for currency) in the first quarter of 2019 compared to the prior year. Systems Hardware revenue of $914 million declined 16.4 percent as reported (14 percent adjusted for currency). These declines were driven by IBM Z and Storage Systems, partially offset by growth in Power Systems. Operating Systems Software revenue of $414 million grew 1.8 percent as reported (5 percent adjusted for currency) compared to the prior year.

IBM Z revenue declined 38.8 percent as reported (38 percent adjusted for currency) year to year reflecting the product cycle dynamics. The z14 continues to track ahead of the prior program with strong growth in MIPS shipped during the quarter led by Linux. The single-frame z14 designed specifically for cloud data centers was also a growth driver.

Power Systems revenue grew 5.9 percent as reported (9 percent adjusted for currency) year to year. This was the sixth consecutive quarter of growth, driven by Linux and the full rollout of the POWER9-based architecture. The POWER9-based systems are designed to handle more data intensive workloads in AI, HANA and UNIX, as well as manage advanced analytics and cloud environments. There was double-digit growth in the high-end and entry-level systems, partially offset by declines in the midrange systems, as reported and adjusted for currency.

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**Management Discussion (continued)**

Storage Systems revenue decreased 13.4 percent as reported (11 percent adjusted for currency), driven by declines in high-end and midrange products, partially offset by double-digit growth in all-flash array offerings. The storage market remains competitive with continued pricing pressures. The company continued to introduce new innovations and functionality to differentiate and manage the portfolio for the market shift to flash.

Within Systems, cloud revenue of $0.4 billion declined 18 percent as reported (15 percent adjusted for currency).

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|
| Systems: | | | |
| External Systems Hardware gross profit | $ 264 | $ 312 | (15.3)% |
| External Systems Hardware gross profit margin | 28.9% | 28.5% | 0.4pts. |
| External Operating Systems Software gross profit | $ 349 | $ 343 | 1.7% |
| External Operating Systems Software gross profit margin | 84.2% | 84.3% | (0.1)pts. |
| External total gross profit | $ 613 | $ 655 | (6.4)% |
| External total gross profit margin | 46.2% | 43.7% | 2.5pts. |
| Pre-tax income | $ (202) | $ (203) | (0.4)% |
| Pre-tax margin | (13.5)% | (12.3)% | (1.3)pts. |

The Systems gross profit margin increased 2.5 points to 46.2 percent in the first quarter of 2019 compared to the prior year. The year-to-year increase was driven by actions taken in the prior year to better position the systems cost structure over the longer term, and a current year benefit from mix to operating systems software.

The pre-tax loss in the first quarter of 2019 was flat compared to the prior year. The pre-tax margin decreased 1.3 points year to year, driven by mix due to the z14 product cycle.

Global Financing

Global Financing is a reportable segment that is measured as a stand-alone entity. Global Financing facilitates IBM clients acquisition of information technology systems, software and services by providing financing solutions in the areas where the company has the expertise, while generating strong returns on equity. Global Financing also optimizes the recovery of residual values by selling assets sourced from end of lease, leasing used equipment to new clients, or extending lease arrangements with current clients. Sales of equipment include equipment returned at the end of a lease, surplus internal equipment and used equipment purchased externally. Residual value is a risk unique to the financing business and management of this risk is dependent upon the ability to accurately project future equipment values at lease inception. Global Financing has insight into product plans and cycles for the IBM products under lease. Based upon this product information, Global Financing continually monitors projections of future equipment values and compares them with the residual values reflected in the portfolio.

Results of Operations

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent/ Margin Change |
|---|---|---|---|
| External revenue | $ 406 | $ 405 | 0.2% |
| Internal revenue | 300 | 429 | (30.0) |
| Total revenue | $ 706 | $ 834 | (15.4)% |
| Pre-tax income | $ 288 | $ 377 | (23.4)% |

In the first quarter, Global Financing total revenue of $706 million declined 15.4 percent compared to the prior year. External revenue was flat as reported and increased 4 percent adjusted for currency due to an increase in financing (increased 7.4 percent to $336 million), partially offset by a decrease in used equipment sales (down 24.2 percent to $70 million). Internal revenue decreased 30.0 percent, driven by a decrease in used equipment sales (down 42.2 percent to $188 million), partially offset by an increase in financing (up 8.1 percent to $113 million).

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**Management Discussion (continued)**

The increases in internal and external financing revenue in the first quarter of 2019 compared to the same period in 2018 were primarily due to higher asset yields.

Sales of used equipment declined to 36.5 percent of Global Financing s revenue in the first quarter of 2019 compared to 50.0 percent in the first quarter of 2018 due to lower volumes of internal and external used equipment sales. The gross profit margin on used sales was 52.3 percent and 59.0 percent in the first quarter of 2019 and 2018, respectively. The decrease in gross profit margin was driven by lower margin on external equipment sales and a shift away from higher margin internal equipment sales.

Global Financing pre-tax income decreased 23.4 percent to $288 million in the first quarter of 2019 compared to the same period in 2018, due to lower gross profit of $134 million, offset by a decrease in expense of $46 million, which included the gain from the sale of certain commercial financing capabilities, which closed in the first-quarter 2019.

Global Financing return on equity was 13.7 percent for the three months ended March 31, 2019 compared to 32.5 percent for the three months ended March 31, 2018. The decrease in return on equity was driven by a decline in net income. Net income included higher tax expense in the first quarter of 2019 due to additional guidance issued by the U.S. Treasury regarding the U.S. tax reform repatriation tax. Refer to page 73 for the details of the after-tax income and return on equity calculation.

Geographic Revenue

In addition to the revenue presentation by reportable segment, the company also measures revenue performance on a geographic basis.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change | Yr. to Yr. Percent Change Adjusted For Currency |
|---|---|---|---|---|
| Total Revenue | $ 18,182 | $ 19,072 | (4.7)% | (0.9)% |
| Americas | $ 8,493 | $ 8,707 | (2.5)% | (0.9)% |
| Europe/Middle East/Africa (EMEA) | 5,727 | 6,176 | (7.3) | (0.2) |
| Asia Pacific | 3,961 | 4,188 | (5.4) | (1.8) |

In the first quarter, total revenue of $18,182 million decreased 4.7 percent as reported and 1 percent adjusted for currency compared to the prior year. Americas revenue of $8,493 million decreased 2.5 percent as reported and 1 percent adjusted for currency. EMEA revenue of $5,727 million decreased 7.3 percent as reported, but was flat adjusted for currency. Asia Pacific revenue of $3,961 million decreased 5.4 percent as reported and 2 percent adjusted for currency.

Within Americas, U.S. revenue decreased 2.8 percent compared to the prior year. Canada revenue was flat as reported, but grew 5 percent adjusted for currency. Latin America decreased 3.9 percent as reported, but increased 5 percent adjusted for currency. Within Latin America, Brazil decreased 6.4 percent as reported, but increased 4 percent adjusted for currency.

In EMEA, France declined 9.3 percent as reported and 2 percent adjusted for currency. Germany decreased 7.6 percent as reported, but was flat adjusted for currency. Italy decreased 6.4 percent as reported, but increased 1 percent adjusted for currency. The UK decreased 1.7 percent as reported, but grew 5 percent adjusted for currency. The Middle East and Africa region decreased 8.3 percent as reported and 5 percent adjusted for currency.

Within Asia Pacific, Japan revenue increased 1.8 percent as reported (4 percent adjusted for currency) compared to the prior year. China decreased 16.5 percent as reported (13 percent adjusted for currency), India decreased 17.1 percent as reported (10 percent adjusted for currency) and Australia decreased 12.7 percent as reported (4 percent adjusted for currency).

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**Management Discussion (continued)**

Expense

Total Expense and Other (Income)

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Total consolidated expense and other (income) | $ 6,160 | $ 7,111 | (13.4)% |
| Non-operating adjustments: | | | |
| Amortization of acquired intangible assets | $ (98) | $ (110) | (11.0)% |
| Acquisition-related charges | (39) | 0 | nm |
| Non-operating retirement-related (costs)/income | (138) | (402) | (65.7) |
| Operating (non-GAAP) expense and other (income) | $ 5,886 | $ 6,600 | (10.8)% |
| Total consolidated expense-to-revenue ratio | 33.9% | 37.3% | (3.4)pts. |
| Operating (non-GAAP) expense-to-revenue ratio | 32.4% | 34.6% | (2.2)pts. |

nm - not meaningful

For additional information regarding total expense and other (income) for both expense presentations, see the following analyses by category.

Selling, General and Administrative Expense

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Selling, general and administrative expense: | | | |
| Selling, general and administrative other | $ 4,048 | $ 4,300 | (5.9)% |
| Advertising and promotional expense | 432 | 401 | 7.7 |
| Workforce rebalancing charges | 19 | 540 | (96.4) |
| Amortization of acquired intangible assets | 97 | 110 | (11.6) |
| Stock-based compensation | 74 | 81 | (8.4) |
| Bad debt expense | 20 | 13 | 51.1 |
| Total consolidated selling, general and administrative expense | $ 4,691 | $ 5,445 | (13.9)% |
| Non-operating adjustments: | | | |
| Amortization of acquired intangible assets | $ (97) | $ (110) | (11.6)% |
| Acquisition-related charges | (27) | 0 | nm |
| Operating (non-GAAP) selling, general and administrative expense | $ 4,566 | $ 5,335 | (14.4)% |

nm not meaningful

Total selling, general and administrative (SG&A) expense decreased 13.9 percent in the first quarter of 2019 versus the prior year driven primarily by the following factors:

- Lower workforce rebalancing charges (10 points);
- The effects of currency (3 points); and
- Lower spending (2 points).

Operating (non-GAAP) expense decreased 14.4 percent year to year driven by primarily the same factors.

Bad debt expense decreased $7 million year to year. The receivables provision coverage was 1.7 percent at March 31, 2019, an increase of 10 basis points from December 31, 2018 and unchanged from March 31, 2018.

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**Management Discussion (continued)**

Research, Development and Engineering

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Research, development and engineering expense | $ 1,433 | $ 1,405 | 2.0% |

Research, development and engineering (RD&E) expense was 7.9 percent of revenue in the first quarter of 2019 compared to 7.4 percent of revenue in the first quarter of 2018.

RD&E expense in the first quarter of 2019 increased 2.0 percent year to year primarily driven by:

- Higher spending (4 points); partially offset by
- The effects of currency (2 points).

Intellectual Property and Custom Development Income

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Intellectual Property and Custom Development Income: | | | |
| Licensing of intellectual property including royalty-based fees | $ 50 | $ 249 | (79.8)% |
| Custom development income | 51 | 67 | (24.5) |
| Sales/other transfers of intellectual property | 0 | 0 | 212.5 |
| Total | $ 101 | $ 317 | (68.0)% |

Licensing of intellectual property including royalty-based fees decreased 79.8 percent year to year in the first quarter of 2019. This was primarily due to a decline in new partnership agreements compared with the first quarter of 2018. The timing and amount of licensing, sales or other transfers of IP may vary significantly from period to period depending upon the timing of licensing agreements, economic conditions, industry consolidation and the timing of new patents and know-how development.

Other (Income) and Expense

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Other (income) and expense: | | | |
| Foreign currency transaction losses/(gains) | $ (172) | $ 141 | nm |
| (Gains)/losses on derivative instruments | 69 | (49) | nm |
| Interest income | (70) | (71) | (0.2)% |
| Net (gains)/losses from securities and investment assets | (4) | (22) | (80.8) |
| Retirement-related costs/(income) | 138 | 402 | (65.7) |
| Other | (32) | 11 | nm |
| Total consolidated other (income) and expense | $ (73) | $ 413 | nm |
| Non-operating adjustments: | | | |
| Amortization of acquired intangible assets | $ (1) | $ | nm |
| Acquisition-related charges | 24 | 0 | nm |
| Non-operating retirement-related (costs)/income | (138) | (402) | (65.7)% |
| Operating (non-GAAP) other (income) and expense | $ (187) | $ 11 | nm |

nm - not meaningful

Total consolidated other (income) and expense was income of $73 million in the first quarter of 2019 compared to expense of $413 million in the prior year. The $485 million year-to-year change was primarily driven by:

- Net exchange gains in the current year versus net exchange losses in the prior year ($196 million); and

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**Management Discussion (continued)**

- Lower non-operating retirement-related costs ($264 million). Refer to Retirement-Related Plans for additional information.

Operating (non-GAAP) other (income) and expense was $187 million of income in the first quarter of 2019 compared to expense of $11 million in the prior year. The year-to-year change was driven primarily by the net exchange dynamics described above.

Interest Expense

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Interest expense | $ 210 | $ 165 | 27.4% |
| Non-operating adjustment: | | | |
| Acquisition-related charges | $ (36) | $ | nm |
| Operating (non-GAAP) interest expense | $ 174 | $ 165 | 5.6% |

nm - not meaningful

Interest expense increased $45 million year to year in the first quarter of 2019. Interest expense is presented in cost of financing in the Consolidated Statement of Earnings if the related external borrowings are to support the Global Financing external business. Overall interest expense (excluding capitalized interest) for the first quarter of 2019 was $389 million, an increase of $42 million versus the comparable prior-year period, primarily driven by a higher average debt balance and higher average interest rates.

Retirement-Related Plans

The following table provides the total pre-tax cost for all retirement-related plans. The operating cost amounts are included in the Consolidated Statement of Earnings within the caption (e.g., Cost, SG&A, RD&E) relating to the job function of the plan participants. The non-operating cost amounts are included in other (income) and expense.

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Retirement-related plans cost: | | | |
| Service cost | $ 97 | $ 109 | (10.9)% |
| Multi-employer plans | 9 | 10 | (17.4) |

| | | | | | |
|---|---|---|---|---|---|
| Cost of defined contribution plans | | 248 | | 268 | (7.5) |
| Total operating costs/(income) | $ | 353 | $ | 387 | (8.7)% |
| Interest cost | $ | 728 | $ | 692 | 5.2% |
| Expected return on plan assets | | (1,051) | | (1,025) | 2.5 |
| Recognized actuarial losses | | 458 | | 747 | (38.7) |
| Amortization of prior service costs/(credits) | | (3) | | (19) | (84.5) |
| Curtailments/settlements | | 1 | | 0 | nm |
| Other costs | | 5 | | 7 | (26.9) |
| Total non-operating costs/(income) | $ | 138 | $ | 402 | (65.7)% |
| Total retirement-related plans cost | $ | 491 | $ | 788 | (37.7)% |

nm - not meaningful

Total pre-tax retirement-related plan cost decreased by $297 million compared to the first quarter of 2018, primarily driven by a decrease in recognized actuarial losses ($289 million), primarily due to the change in the amortization period in the U.S. Qualified Personal Pension Plan, higher expected return on plan assets ($26 million) and a decrease in defined contribution plans cost ($20 million), partially offset by higher interest costs ($36 million).

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**Management Discussion (continued)**

As discussed in the Operating (non-GAAP) Earnings section on page 51, the company characterizes certain retirement-related costs as operating and others as non-operating. Utilizing this characterization, operating retirement-related costs in the first quarter of 2019 were $353 million, a decrease of $34 million compared to the first quarter of 2018, primarily driven by lower defined contribution plans cost ($20 million) and lower service cost ($12 million). Non-operating costs of $138 million in the first quarter of 2019 decreased $264 million year to year, driven primarily by lower recognized actuarial losses ($289 million) and a higher expected return on plan assets ($26 million), partially offset by higher interest costs ($36 million).

Taxes

The continuing operations effective tax rate for the first quarter of 2019 was 15.4 percent, an increase of 62.9 points compared to the first quarter of 2018. The operating (non-GAAP) tax rate for the first quarter of 2019 was 10.0 percent, an increase of 40.6 points compared to the first quarter of 2018.

The year-to-year change in the continuing operations effective tax rate was primarily driven by a reduced benefit from audit resolutions (65.8 points), offset by a lower impact from U.S. tax reform (2.5 points) and a more favorable mix of earnings. The change in the operating (non-GAAP) tax rate was primarily driven by the same factors, except for the impacts of U.S. tax reform related activity.

In January 2019, the U.S. Treasury issued additional U.S. tax reform guidelines. The impact is included in the company s first quarter 2019 provision for income taxes (GAAP only).

The company is no longer subject to income tax examination of its U.S. federal tax returns for years prior to 2013. The company s U.S. income tax returns for 2013 and 2014 continue to be examined by the IRS with specific focus on certain cross-border transactions in 2013. With respect to major U.S. state and foreign taxing jurisdictions, the company is generally no longer subject to tax examinations for years prior to 2014. The company is involved in a number of income tax-related matters in India challenging tax assessments issued by the India Tax Authorities. As of March 31, 2019, the company has recorded $759 million as prepaid income taxes representing cash tax deposits paid over time to protect the company s right to appeal various income tax assessments made by the Indian Tax Authorities. Tax years still subject to examination contain matters that could be subject to differing interpretations of applicable tax laws and regulations as it relates to the amount and/or timing of income, deductions and tax credits. Although the outcome of tax audits is always uncertain, the company believes that adequate amounts of tax, interest and penalties have been provided for any adjustments that are expected to result for these years.

The amount of unrecognized tax benefits at March 31, 2019 is $6,561 million which can be reduced by $657 million of offsetting tax benefits associated with timing adjustments, U.S. tax credits, potential transfer pricing adjustments, and state income taxes. The net amount of $5,904 million, if recognized, would favorably affect the company s effective tax rate.

Earnings Per Share

Basic earnings per share is computed on the basis of the weighted-average number of shares of common stock outstanding during the period. Diluted earnings per share is computed on the basis of the weighted-average number of shares of common stock outstanding plus the effect of dilutive potential common shares outstanding during the period using the treasury stock method. Dilutive potential common shares include outstanding stock options and stock awards.

| For the three months ended March 31: | 2019 | 2018 | Yr. to Yr. Percent Change |
|---|---|---|---|
| Earnings per share of common stock from continuing operations: | | | |
| Assuming dilution | $ 1.78 | $ 1.81 | (1.7)% |
| Basic | $ 1.79 | $ 1.82 | (1.6)% |
| Diluted operating (non-GAAP) | $ 2.25 | $ 2.45 | (8.2)% |
| Weighted-average shares outstanding: (in millions) | | | |
| Assuming dilution | 893.9 | 925.4 | (3.4)% |
| Basic | 889.6 | 920.7 | (3.4)% |

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**Management Discussion (continued)**

Actual shares outstanding at March 31, 2019 were 886.6 million. The weighted-average number of common shares outstanding assuming dilution during the first quarter of 2019 was 31.5 million shares (3.4 percent) lower than the same period of 2018. The decrease was primarily the result of the common stock repurchase program.

*Financial Position*

Dynamics

At March 31, 2019, the balance sheet remained strong and the company is well positioned for the long term. Cash, restricted cash and marketable securities at quarter end were $18,144 million compared to $12,222 million at December 31, 2018, with a corresponding increase in debt as the company begins to prepare for the pending Red Hat acquisition. The company continues to manage the investment portfolio to meet its capital preservation and liquidity objectives. Total debt of $49,976 million increased $4,165 million from December 31, 2018, driven by new debt issuances of $5,962 million; partially offset by debt maturities of $1,751 million. Within total debt, $29,522 million is in support of the Global Financing business. In the first quarter of 2019, the company adopted the new leasing standard, which increased assets and corresponding lease liabilities by $4,634 million and $4,903 million, respectively, as of March 31, 2019. In the first three months of 2019, the company generated $4,759 million in cash from operations, compared to $4,602 million in the first three months of 2018. The company has consistently generated strong cash flows from operations and continues to have access to additional sources of liquidity through the capital markets and its credit facilities.

The assets and debt associated with the Global Financing business are a significant part of the company s financial position. Debt for Global Financing is expected to decline during 2019 as the company winds down its OEM Commercial Financing content. The financial position amounts appearing on pages 5 and 6 are the consolidated amounts including Global Financing.

Global Financing Financial Position Key Metrics:

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Cash and cash equivalents | $ 1,582 | $ 1,833 |
| Net investment in sales-type and direct financing leases (1) | 6,548 | 6,924 |
| Equipment under operating leases external clients (2) | 394 | 444 |
| Client loans | 11,791 | 12,802 |
| Total client financing assets | 18,733 | 20,170 |
| Commercial financing receivables | 10,333 | 11,838 |
| Intercompany financing receivables (3) (4) | 5,168 | 4,873 |
| Total assets | $ 36,750 | $ 41,320 |
| Debt | $ 29,522 | $ 31,227 |
| Total equity | $ 3,276 | $ 3,470 |

(1) Includes deferred initial direct costs which are eliminated in IBM s consolidated results.

(2) Includes intercompany mark-up, priced on an arm s-length basis, on products purchased from the company s product divisions

which is eliminated in IBM s consolidated results.

(3) Entire amount eliminated for purposes of IBM s consolidated results and therefore does not appear on pages 5 and 6.

(4) These assets, along with all other financing assets in this table, are leveraged at the value in the table using Global Financing debt.

At March 31, 2019, substantially all client and commercial financing assets were IT related assets, and approximately 55 percent of the total external portfolio was with investment grade clients with no direct exposure to consumers. This investment grade percentage is based on the credit ratings of the companies in the portfolio.

The company has a long-standing practice of taking mitigating actions, in certain circumstances, to transfer credit risk to third parties, including credit insurance, financial guarantees, non-recourse borrowings, transfers of receivables recorded as true sales in accordance with accounting guidance or sales of equipment under operating lease. Adjusting for the mitigation actions, the investment grade content would increase by 16 points to 71 percent, an increase of 1 point year to year.

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**Management Discussion (continued)**

IBM Working Capital

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Current assets | $ 52,705 | $ 49,146 |
| Current liabilities | 38,871 | 38,227 |
| Working capital | $ 13,834 | $ 10,918 |
| Current ratio | 1.36:1 | 1.29:1 |

Working capital increased $2,916 million from the year-end 2018 position. The key changes are described below:

Current assets increased $3,560 million ($3,725 million adjusted for currency) due to:

- An increase of $5,922 million ($6,022 million adjusted for currency) in cash, restricted cash, and marketable securities; partially offset by

- A decline in receivables of $2,619 million ($2,561 million adjusted for currency) primarily driven by declines in financing receivables of $2,101 million as a result of collections of higher year-end balances.

Current liabilities increased $644 million ($732 million adjusted for currency) as a result of:

- An increase in operating lease liabilities of $1,313 million ($1,315 million adjusted for currency) as a result of the adoption of the new leasing standard; and

- An increase in deferred income of $969 million ($1,011 million adjusted for currency) primarily due to the cyclical increase from annual billings; partially offset by

- A decrease in accounts payable of $847 million ($843 million adjusted for currency) reflecting declines from

typically higher year-end balances; and

- A decrease in taxes payable of $562 million ($538 million adjusted for currency).

Receivables and Allowances

Roll Forward of Total IBM Receivables Allowance for Credit Losses (included in Total IBM)

| (Dollars in millions) January 1, 2019 | Additions * | Write-offs ** | Other *** | March 31, 2019 |
|---|---|---|---|---|
| $ 639 | $ 20 | $ (21) | $ (2) | $ 636 |

* Additions for Allowance for Credit Losses are charged to expense.

** Refer to note A, Significant Accounting Policies, in the company s 2018 Annual Report on pages 87 and 88 for additional information regarding Allowance for Credit Loss write-offs.

*** Primarily represents translation adjustments.

The total IBM receivables provision coverage was 1.7 percent at March 31, 2019, an increase of 10 basis points compared to December 31, 2018. The increase was driven by the overall decline in gross receivables.

Global Financing Receivables and Allowances

The following table presents external Global Financing receivables excluding residual values, the allowance for credit losses and immaterial miscellaneous receivables.

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**Management Discussion (continued)**

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Recorded investment (1) | $ 28,321 | $ 31,182 |
| Specific allowance for credit losses | 221 | 220 |
| Unallocated allowance for credit losses | 66 | 72 |
| Total allowance for credit losses | 287 | 292 |
| Net financing receivables | $ 28,034 | $ 30,890 |
| Allowance for credit losses coverage | 1.0% | 0.9% |

(1) Includes deferred initial direct costs which are eliminated in IBM s consolidated results.

The percentage of Global Financing receivables reserved increased from 0.9 percent at December 31, 2018, to 1.0 percent at March 31, 2019. The increase was primarily driven by the overall decline in gross receivables. Specific reserves were flat at March 31, 2019 compared to year-end 2018. Unallocated reserves decreased 7.7 percent from $72 million at December 31, 2018, to $66 million at March 31, 2019.

Roll Forward of Global Financing Receivables Allowance for Credit Losses

| (Dollars in millions) January 1, 2019 | Additions * | Write-offs ** | Other *** | March 31, 2019 |
|---|---|---|---|---|
| $ 292 | $ 3 | $ (8) | $ (1) | $ 287 |

* Additions for Allowance for Credit Losses are charged to expense.

** Refer to note A, Significant Accounting Policies, in the company s 2018 Annual Report on pages 87 and 88 for additional information regarding allowance for credit loss write-offs.

*** Primarily represents translation adjustments.

Global Financing s bad debt expense was $3 million for the three months ended March 31, 2019, compared to $4 million for the same period in 2018.

Noncurrent Assets and Liabilities

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Noncurrent assets | $ 78,221 | $ 74,236 |
| Long-term debt | $ 39,727 | $ 35,605 |
| Noncurrent liabilities (excluding debt) | $ 35,722 | $ 32,621 |

Noncurrent assets increased $3,985 million ($4,012 million adjusted for currency) due to:

- An increase in operating right-of-use assets of $4,634 million ($4,658 million adjusted for currency) as a result of the adoption of the new leasing standard; partially offset by

- A decrease in long-term financing receivables of $787 million ($773 million adjusted for currency) as a result of seasonal reductions of higher year-end balances.

Long-term debt increased $4,122 million ($4,213 million adjusted for currency) due to:

- Issuances of $5,922 million; partially offset by

- Reclassifications to short-term debt of $1,749 million to reflect upcoming maturities.

Noncurrent liabilities (excluding debt) increased $3,101 million ($3,255 million adjusted for currency) due to:

- An increase in long-term operating lease liabilities of $3,590 million as a result of the adoption of the new leasing standard.

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**Management Discussion (continued)**

Debt

The company s funding requirements are continually monitored and strategies are executed to manage the overall asset and liability profile. Additionally, the company maintains sufficient flexibility to access global funding sources as needed.

| (Dollars in millions) | At March 31, 2019 | At December 31, 2018 |
|---|---|---|
| Total company debt | $ 49,976 | $ 45,812 |
| Total Global Financing segment debt | $ 29,522 | $ 31,227 |
| Debt to support external clients | 25,366 | 27,536 |
| Debt to support internal clients | 4,156 | 3,690 |
| Non-Global Financing debt | $ 20,455 | $ 14,585 |

Total debt of $49,976 million increased $4,165 million from December 31, 2018, driven by new debt issuances of $5,962 million; partially offset by debt maturities of $1,751 million.

Non-Global Financing debt of $20,455 million was up $5,870 million from December 31, 2018 in preparation for the pending acquisition of Red Hat.

Global Financing provides financing predominantly for the company s external client assets, as well as for assets under contract by other IBM units. These assets, primarily for Global Technology Services, generate long-term, stable revenue streams similar to the Global Financing asset portfolio. Based on their attributes, these Global Technology Services assets are leveraged with the balance of the Global Financing asset base.

The debt used to fund Global Financing assets is composed of intercompany loans and external debt. Total debt changes generally correspond with the level of client and commercial financing receivables, the level of cash and cash equivalents, the change in intercompany and external payables and the change in intercompany investment from IBM. The terms of the intercompany loans are set by the company to substantially match the term, currency and interest rate variability underlying the financing receivable and are based on arm s-length pricing. The Global Financing debt-to-equity ratio remained at 9.0 to 1 at March 31, 2019.

Global Financing provides financing predominantly for the company s external client assets, as well as for assets under contract by other IBM units. As previously stated, the company measures Global Financing as a stand-alone entity, and accordingly, interest expense relating to debt supporting Global Financing s external client and internal business is included in the Global Financing Results of Operations on page 59 and in note 8, Segments, on pages 35 and 36. In the company s Consolidated Statement of Earnings, the external debt-related interest expense supporting Global Financing s internal financing to the company is reclassified from cost of financing to interest expense.

Equity

Total equity decreased $323 million from December 31, 2018, primarily due to decreases from dividends paid ($1,397 million) and an increase in treasury stock ($950 million) primarily due to share repurchases; partially offset by increases from net income ($1,591 million) and retirement-related plans ($330 million).

Cash Flow

The company s cash flows from operating, investing and financing activities, as reflected in the Consolidated Statement of Cash Flows on page 7, are summarized in the following table. These amounts include the cash flows associated with the Global Financing business.

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**Management Discussion (continued)**

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 |
|---|---|---|
| Net cash provided by/(used in) continuing operations: | | |
| Operating activities | $ 4,759 | $ 4,602 |
| Investing activities | (853) | (1,764) |
| Financing activities | 1,863 | (2,909) |
| Effect of exchange rate changes on cash, cash equivalents and restricted cash | (102) | 100 |
| Net change in cash, cash equivalents and restricted cash | $ 5,668 | $ 28 |

Net cash provided by operating activities increased $158 million as compared to the first three months of 2018 driven primarily by:

- An increase of $98 million in cash provided by financing receivables.

Net cash used in investing activities decreased $912 million driven by:

- An increase of $281 million in cash provided by non-operating finance receivables;
- A decrease in cash used for net capital expenditures of $279 million; and
- A decrease in net purchases of marketable securities and other investments of $248 million.

Financing activities were a net source of cash of $1,863 million in the first quarter of 2019 compared to a net use of cash of $2,909 million in the first quarter of 2018. The year-to-year increase in cash flow of $4,772 million was driven by:

- An increase in net cash sourced from debt transactions of $4,945 million primarily driven by a higher level of issuances and a lower level of maturities in the current year.

**Looking Forward**

The company s strategies, investments and actions are all made with an objective of optimizing long-term performance. A long-term perspective ensures that the company is well-positioned to take advantage of the major shifts in technology, business and the global economy.

As part of its long-term strategic model, the company expects to continue to allocate capital efficiently and effectively to investments, and to return value to shareholders through a combination of dividends and share repurchases. Over the long term, in consideration of the opportunities it will continue to develop, the company continues to expect to have the ability to generate low single-digit revenue growth, and with a higher-value business mix, mid single-digit profit growth, high single-digit operating (non-GAAP) earnings per share growth, with free cash flow realization of GAAP net income over 90 percent.

Over the last several years, the company has been making investments and shifting resources, embedding AI and cloud into its offerings while building new solutions and modernizing its existing platforms. These investments not only drive current performance, but will extend the company s innovation leadership into the future. The company s key differentiators are built around three pillars innovative technology, industry expertise and trust and security, uniquely delivered through an integrated model.

The company is focused on the next chapter of cloud, which will shift mission-critical work to the cloud and optimize everything from supply chains to core banking systems. To address this opportunity, enterprises need to be able to move and manage data, services, and workflows across multiple clouds and on-premises. They also need to be able to address security concerns, data protection and protocols, availability, and cloud management. This requires a hybrid, multi-cloud, open approach. As a result, the company has been reshaping its business to address this opportunity, investing heavily to build capabilities. Going forward, the company will continue providing growth rates for cloud and as-a service the signposts of key emerging high value areas of the IT industry. The company eliminated its strategic imperatives reporting, established in 2015, with a goal of achieving approximately $40B of revenue across its strategic imperatives, which was achieved in 2018.

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**Management Discussion (continued)**

IBM s pending acquisition of Red Hat will bring together the best-in-class hybrid cloud providers and will enable companies to securely unlock the full value of cloud for their businesses. IBM and Red Hat will be strongly positioned to address this opportunity and accelerate hybrid cloud adoption. The company is proceeding through the regulatory process and continues to expect to close the transaction in the second half of 2019. The acquisition of Red Hat reinforces IBM s high-value model. It is expected to accelerate IBM s revenue growth, gross margin and be accretive to free cash flow within 12 months of closing. The company will continue with a disciplined financial policy and is committed to maintaining strong investment grade credit ratings and supporting a solid and growing dividend. The company will target a leverage profile consistent with a mid to high single A credit rating. During the first quarter of 2019, the company began the issuance of additional debt in preparation of the pending acquisition. In order to reduce debt, the company intends to suspend its share repurchase program in 2020 and 2021.

At mid-April 2019 spot rates, the company expects a currency headwind of approximately 2.5 points to second quarter 2019 revenue growth and a headwind of approximately 2.0 points to full year 2019 revenue growth. The company expects revenue dynamics from the first quarter to the second quarter of 2019 to be similar to the last two years, which is a sequential increase of approximately $900 million to $1 billion. For full-year 2019, the company expects to expand gross and pre-tax margins.

Overall, the company continues to expect GAAP earnings per share from continuing operations for 2019 to be at least $12.45. Excluding acquisition-related charges of $0.76 per share, non-operating retirement-related items of $0.45 per share and tax reform enactment impacts of $0.24 per share, operating (non-GAAP) earnings per share is expected to be at least $13.90. Earnings per share expectations do not include Red Hat, as financial implications for 2019 are heavily dependent on the timing of the closing. Expectations will be updated after the transaction closes. The two announced divestitures of software products are expected to close in the second quarter and have been included in the full-year earnings per share expectations.

For the second quarter of 2019, the company expects GAAP earnings per share from continuing operations and operating (non-GAAP) earnings per share to be approximately 22 percent of the respective full-year expectations. Looking forward to the second half of 2019, the company expects growth in earnings per share to be skewed to the fourth quarter. The company expects the gains on the previously announced divestitures to be between $500 million and $700 million and the company s earnings per share expectations for the second quarter of 2019 assume the low-end of this range. For the full year and second quarter of 2019, the company s expectations assume minimal to no impact to profit and earnings per share overall, with the majority of any gains offset by foregone profit and stranded costs from the divestitures, as well as actions taken to address structure and stranded costs.

The company continues to expect free cash flow to be approximately $12 billion in 2019. Free cash flow expectations for the year reflect expected operational profit performance and continued balance sheet efficiency including capital management, partially offset by a cash tax headwind. Free cash flow realization, which is defined as free cash flow to income from continuing operations (GAAP), is expected to be approximately 100 percent for the year. These expectations also take into account the estimated impact of the announced and closed divestitures, however do not include estimated impacts from the pending acquisition of Red Hat, other than an estimate of pre-closing financing costs.

For full-year 2019, the company expects the GAAP effective tax rate to be approximately 12 to 13 percent, including an estimate for potential discrete tax events (discretes). Discretes by their nature are difficult to estimate and the actual impacts will be recorded as the discrete events occur. The company expects its operating (non-GAAP) tax rate for 2019 to be approximately 11 to 12 percent (which is a 3 to 4 points headwind year to year), including an estimate of potential discretes. The rates will change year to year based on discrete tax 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. The GAAP effective tax rate could also be affected by adjustments to the

previously recorded charges for U.S. tax reform attributable to any changes in law, new regulations and guidance, audit adjustments, among others.

Beginning in the second quarter of 2019 and continuing throughout the year, IBM s Global Financing business will wind down the portion of its commercial financing operations, which provides short-term working capital solutions for OEM information technology suppliers, distributors and resellers. IBM Global Financing will continue to provide differentiated end-to-end financing solutions, including commercial financing in support of IBM partner relationships. The wind down of this activity is expected to reduce IBM s revenue, with a nominal impact to profit, however it does not change the company s earnings per share and free cash flow expectations for 2019.

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**Management Discussion (continued)**

Beginning in 2019, within the IBM U.S. Qualified Personal Pension Plan, substantially all the plan participants are now considered inactive, which, as required by U.S. GAAP, resulted in a change in the amortization period of unrecognized actuarial losses, from the average remaining service period of active plan participants to the average remaining life expectancy of inactive plan participants. These periods are approximately 6 years and 18 years, respectively. As a result of this change, there will be a reduction to 2019 amortization expense of approximately $900 million. Actuarial loss amortization is reported within non-operating pension costs. There will be no impact to 2019 operating (non-GAAP) retirement-related costs, funded status, retiree benefit payments or funding requirements of the U.S. Qualified Personal Pension Plan. However, there will be an impact to free cash flow realization.

The company expects 2019 pre-tax retirement-related plan cost to be approximately $2.0 billion, a decrease of approximately $1 billion compared to 2018. This estimate reflects current pension plan assumptions at December 31, 2018. Within total retirement-related plan cost, operating retirement-related plan cost is expected to be approximately $1.5 billion, approximately flat versus 2018. Non-operating retirement-related plan cost is expected to be approximately $0.6 billion, a decrease of approximately $1 billion compared to 2018, primarily driven by lower actuarial loss amortization resulting from the change in amortization period for the U.S. plan. Contributions for all retirement-related plans are expected to be approximately $2.4 billion in 2019, an increase of approximately $100 million compared to 2018.

Currency Rate Fluctuations

Changes in the relative values of non-U.S. currencies to the U.S. dollar (USD) affect the company s financial results and financial position. At March 31, 2019, currency changes resulted in assets and liabilities denominated in local currencies being translated into fewer dollars than at year-end 2018. The company uses financial hedging instruments to limit specific currency risks related to financing transactions and other foreign currency-based transactions.

During periods of sustained movements in currency, the marketplace and competition adjust to the changing rates. For example, when pricing offerings in the marketplace, the company may use some of the advantage from a weakening U.S. dollar to improve its position competitively, and price more aggressively to win the business, essentially passing on a portion of the currency advantage to its customers. Competition will frequently take the same action. Consequently, the company believes that some of the currency-based changes in cost impact the prices charged to clients. The company also maintains currency hedging programs for cash management purposes which temporarily mitigate, but do not eliminate, the volatility of currency impacts on the company s financial results.

The company translates revenue, cost and expense in its non-U.S. operations at current exchange rates in the reported period. References to adjusted for currency or constant currency reflect adjustments based upon a simple mathematical formula. However, this constant currency methodology that the company utilizes to disclose this information does not incorporate any operational actions that management could take to mitigate fluctuating currency rates. Currency movements impacted the company s year-to-year revenue and earnings per share growth in the first three months of 2019. Based on the currency rate movements in the first three months of 2019, total revenue decreased 4.7 percent as reported and 0.9 percent at constant currency versus the first three months of 2018. On an income from continuing operations before income tax basis, these translation impacts offset by the net impact of hedging activities resulted in a theoretical maximum (assuming no pricing or sourcing actions) increase of approximately $60 million in the first three months of 2019 on an as-reported basis and an increase of approximately $50 million on an operating (non-GAAP) basis. The same mathematical exercise resulted in an increase of approximately $70 million in the first three months of 2018 on an as-reported basis and an increase of approximately $90 million on an operating (non-GAAP) basis. The company views these amounts as a theoretical maximum impact to its as-reported financial results. Considering the operational responses mentioned above, movements of exchange rates, and the nature and timing of hedging instruments, it is difficult to predict future currency impacts on any

particular period, but the company believes it could be substantially less than the theoretical maximum given the competitive pressure in the marketplace.

For non-U.S. subsidiaries and branches that operate in U.S. dollars or whose economic environment is highly inflationary, translation adjustments are reflected in results of operations. Generally, the company manages currency risk in these entities by linking prices and contracts to U.S. dollars.

Liquidity and Capital Resources

In the company s 2018 Annual Report, on pages 60 to 62, there is a discussion of the company s liquidity including two tables that present three years of data. The table presented on page 60 includes net cash from operating activities, cash, restricted cash and short-term marketable securities, and the size of the company s global credit facilities for each of the past

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**Management Discussion (continued)**

three years. For the three months ended, or as of, as applicable, March 31, 2019, those amounts are $4.8 billion of net cash from operating activities, $18.1 billion of cash, restricted cash and short-term marketable securities and $15.3 billion in global credit facilities, respectively.

On October 28, 2018, IBM announced its intent to acquire all the outstanding shares of Red Hat. The transaction is subject to customary closing conditions, including regulatory clearance. The company intends to fund this transaction through a combination of cash and debt. In connection with this acquisition, IBM entered into a commitment letter under which certain banks committed to provide the company with a 364-day unsecured bridge term loan facility in an aggregate principal amount of up to $20 billion to fund the acquisition.

The major rating agencies ratings on the company s debt securities at March 31, 2019 appear in the following table and remain unchanged from December 31, 2018. IBM will continue with a disciplined financial policy and is committed to maintaining strong investment grade credit ratings. The company does not have ratings trigger provisions in its debt covenants or documentation, which would allow the holders to declare an event of default and seek to accelerate payments thereunder in the event of a change in credit rating. The company s contractual agreements governing derivative instruments contain standard market clauses which can trigger the termination of the agreement if the company s credit rating were to fall below investment grade. At March 31, 2019, the fair value of those instruments that were in a liability position was $705 million, before any applicable netting, and this position is subject to fluctuations in fair value period to period based on the level of the company s outstanding instruments and market conditions. The company has no other contractual arrangements that, in the event of a change in credit rating, would result in a material adverse effect on its financial position or liquidity.

| IBM and IBM Credit LLC ratings: | STANDARD AND POOR S | MOODY S INVESTORS SERVICE | FITCH RATINGS |
|---|---|---|---|
| Senior long-term debt | A | A1 | A |
| Commercial paper | A-1 | Prime-1 | F1 |

The company prepares its Consolidated Statement of Cash Flows in accordance with applicable accounting standards for cash flow presentation on page 7 of this Form 10-Q and highlights causes and events underlying sources and uses of cash in that format on page 69. For the purpose of running its business, the company manages, monitors and analyzes cash flows in a different manner.

Management uses free cash flow as a measure to evaluate its operating results, plan share repurchase levels, strategic investments and assess its ability and need to incur and service debt. The entire free cash flow amount is not necessarily available for discretionary expenditures. The company defines free cash flow as net cash from operating activities less the change in Global Financing receivables and net capital expenditures, including the investment in software. A key objective of the Global Financing business is to generate strong returns on equity, and increasing receivables is the basis for growth. Accordingly, management considers Global Financing receivables as a profit-generating investment, not as working capital that should be minimized for efficiency. Therefore, management includes presentations of both free cash flow and net cash from operating activities that exclude the effect of Global Financing receivables. Free cash flow guidance is derived using an estimate of profit, working capital and operational cash outflows. As previously noted, the company views Global Financing receivables as a profit-generating investment which it seeks to maximize and therefore it is not considered when formulating guidance for free cash flow. As a result the company does not estimate a GAAP Net Cash from Operations expectation metric.

The following is management s view of cash flows for the first three months of 2019 and 2018 prepared in a manner consistent with the description above.

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**Management Discussion (continued)**

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 |
|---|---|---|
| Net cash from operating activities per GAAP | $ 4,759 | $ 4,602 |
| Less: change in Global Financing receivables | 2,458 | 2,360 |
| Net cash from operating activities, excluding Global Financing receivables | $ 2,302 | $ 2,242 |
| Capital expenditures, net | (614) | (893) |
| Free cash flow (FCF) | $ 1,688 | $ 1,349 |
| Acquisitions | (1) | (71) |
| Divestitures | 33 | |
| Share repurchase | (920) | (777) |
| Common stock repurchases for tax withholdings | (61) | (53) |
| Dividends | (1,397) | (1,382) |
| Non-Global Financing debt | 5,890 | (547) |
| Other (includes Global Financing net receivables and Global Financing debt) | 690 | 1,794 |
| Change in cash, cash equivalents, restricted cash and short-term marketable securities | $ 5,922 | $ 313 |

In the first three months of 2019, the company generated free cash flow of $1.7 billion, an increase of $0.3 billion versus the prior year. In the first quarter, the company continued to focus its cash utilization on returning value to shareholders including $1.4 billion in dividends and $0.9 billion in gross common stock repurchases (6.9 million shares).

Events that could temporarily change the historical cash flow dynamics discussed previously and in the company s 2018 Annual Report include significant changes in operating results, material changes in geographic sources of cash, unexpected adverse impacts from litigation, future pension funding requirements during periods of severe downturn in the capital markets or the timing of tax payments. Whether any litigation has such an adverse impact will depend on a number of variables, which are more completely described in note 14, Contingencies, in this Form 10-Q. With respect to pension funding, the company expects to make legally mandated pension plan contributions to certain non-U.S. defined benefit plans of approximately $400 million in 2019. Contributions related to all retirement-related plans are expected to be approximately $2.4 billion in 2019. Financial market performance could increase the legally mandated minimum contributions in certain non-U.S. countries that require more frequent remeasurement of the funded status. The company is not quantifying any further impact from pension funding because it is not possible to predict future movements in the capital markets or pension plan funding regulations.

In 2019, the company is not legally required to make any contributions to the U.S. defined benefit pension plans.

The company s cash flows are sufficient to fund its current operations and obligations, including investing and financing activities such as dividends and debt service. When additional requirements arise, the company has several liquidity options available. These options may include the ability to borrow additional funds at reasonable interest rates and utilizing its committed global credit facilities.

**Global Financing Return on Equity Calculation**

| (Dollars in millions)<br>For the three months ended March 31: | 2019 | 2018 |
|---|---|---|

| | | | | |
|---|---|---|---|---|
| Numerator | | | | |
| Global Financing after-tax income* | $ | 116 | $ | 284 |
| Annualized after-tax income (1) | $ | 463 | $ | 1,137 |
| Denominator | | | | |
| Average Global Financing equity (2)** | $ | 3,372 | $ | 3,501 |
| Global Financing return on equity (1)/(2) | | 13.7% | | 32.5% |

* Calculated based upon an estimated tax rate principally based on Global Financing s geographic mix of earnings as IBM s provision for income taxes is determined on a consolidated basis.

** Average of the ending equity for Global Financing for the last two quarters.

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**Management Discussion (continued)**

**GAAP Reconciliation**

The tables below provide a reconciliation of the company s income statement results as reported under GAAP to its operating earnings presentation which is a non-GAAP measure. The company s calculation of operating (non-GAAP) earnings, as presented, may differ from similarly titled measures reported by other companies. Refer to the Operating (non-GAAP) Earnings section on page 51 for the company s rationale for presenting operating earnings information.

| (Dollars in millions except per share amounts)<br>For the three months ended March 31, 2019: | GAAP | Acquisition-Related Adjustments | Retirement-Related Adjustments | U.S. Tax Reform Charges** | Operating (non-GAAP) |
|---|---|---|---|---|---|
| Gross profit | $ 8,043 | $ 76 | $ | $ | $ 8,119 |
| Gross profit margin | 44.2% | 0.4pts. | pts. | pts. | 44.7% |
| S,G&A | $ 4,691 | $ (124) | $ | $ | $ 4,566 |
| R,D&E | 1,433 | | | | 1,433 |
| Other (income) and expense | (73) | 23 | (138) | | (187) |
| Interest expense | 210 | (36) | | | 174 |
| Total expense and other (income) | 6,160 | (137) | (138) | | 5,886 |
| Pre-tax income from continuing operations | 1,883 | 212 | 138 | | 2,233 |
| Pre-tax margin from continuing operations | 10.4% | 1.2pts. | 0.8pts. | pts. | 12.3% |
| Provision for income taxes* | $ 289 | $ 49 | $ 26 | $ (141) | $ 224 |
| Effective tax rate | 15.4% | 0.7pts. | 0.2pts. | (6.3) pts. | 10.0% |
| Income from continuing operations | $ 1,593 | $ 164 | $ 111 | $ 141 | $ 2,009 |
| Income margin from continuing operations | 8.8% | 0.9pts. | 0.6pts. | 0.8pts. | 11.0% |
| Diluted earnings per share from continuing operations | $ 1.78 | $ 0.18 | $ 0.13 | $ 0.16 | $ 2.25 |

* The tax impact on operating (non-GAAP) pre-tax income from continuing operations is calculated under the same accounting principles applied to the GAAP pre-tax income which employs an annual effective tax rate method to the results.

** Operating (non-GAAP) earnings exclude charges associated with the enactment of U.S. tax reform due to their unique non-recurring nature.

| (Dollars in millions except per share amounts)<br>For the three months ended March 31, 2018: | GAAP | Acquisition-Related Adjustments | Retirement-Related Adjustments | U.S. Tax Reform Charges** | Operating (non-GAAP) |
|---|---|---|---|---|---|
| Gross profit | $ 8,247 | $ 93 | $ | $ | $ 8,340 |
| Gross profit margin | 43.2% | 0.5pts. | pts. | pts. | 43.7% |
| S,G&A | $ 5,445 | $ (110) | $ | $ | $ 5,335 |
| R,D&E | 1,405 | | | | 1,405 |
| Other (income) and expense | 413 | | (402) | | 11 |
| Interest expense | 165 | | | | 165 |
| Total expense and other (income) | 7,111 | (110) | (402) | | 6,600 |
| Pre-tax income from continuing operations | 1,136 | 203 | 402 | | 1,740 |
| Pre-tax margin from continuing operations | 6.0% | 1.1pts. | 2.1pts. | pts. | 9.1% |
| Provision for income taxes* | $ (540) | $ 39 | $ 76 | $ (107) | $ (532) |
| Effective tax rate | (47.5)% | 7.8pts. | 15.4pts. | (6.1) pts. | (30.5)% |

| | | | | | |
|---|---|---|---|---|---|
| Income from continuing operations | $ 1,675 | $ 164 | $ 325 | $ 107 | $ 2,272 |
| Income margin from continuing operations | 8.8% | 0.9pts. | 1.7pts. | 0.6pts. | 11.9% |
| Diluted earnings per share from continuing operations | $ 1.81 | $ 0.17 | $ 0.35 | $ 0.12 | $ 2.45 |

* The tax impact on operating (non-GAAP) pre-tax income from continuing operations is calculated under the same accounting principles applied to the GAAP pre-tax income which employs an annual effective tax rate method to the results.

** Operating (non-GAAP) earnings exclude charges associated with the enactment of U.S. tax reform due to their unique non-recurring nature.

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**Management Discussion (continued)**

**Forward-Looking and Cautionary Statements**

Except for the historical information and discussions contained herein, statements contained in this Form 10-Q may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on the company s current assumptions regarding future business and financial performance. These statements involve a number of risks, uncertainties and other factors that could cause actual results to differ materially, including, but not limited to, the following: a downturn in economic environment and client spending budgets; the company s failure to meet growth and productivity objectives; a failure of the company s innovation initiatives; damage to the company s reputation; risks from investing in growth opportunities; failure of the company s intellectual property portfolio to prevent competitive offerings and the failure of the company to obtain necessary licenses; cybersecurity and data privacy considerations; fluctuations in financial results; impact of local legal, economic, political and health conditions; adverse effects from environmental matters, tax matters and the company s pension plans; ineffective internal controls; the company s use of accounting estimates; the company s ability to attract and retain key employees and its reliance on critical skills; impacts of relationships with critical suppliers; product quality issues; impacts of business with government clients; currency fluctuations and customer financing risks; impact of changes in market liquidity conditions and customer credit risk on receivables; reliance on third party distribution channels and ecosystems; the company s ability to successfully manage acquisitions, alliances and dispositions, including integration challenges, failure to achieve objectives, the assumption of liabilities, and higher debt levels; legal proceedings and investigatory risks; risk factors related to IBM securities; and other risks, uncertainties and factors discussed in the company s Form 10-Qs, Form 10-K and in the company s other filings with the U.S. Securities and Exchange Commission (SEC) or in materials incorporated therein by reference. The company assumes no obligation to update or revise any forward-looking statements.

**Item 4. Controls and Procedures**

The company s management evaluated, with the participation of the Chief Executive Officer and Chief Financial Officer, the effectiveness of the company s disclosure controls and procedures as of the end of the period covered by this report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that the company s disclosure controls and procedures were effective as of the end of the period covered by this report. There has been no change in the company s internal control over financial reporting that occurred during the quarter covered by this report that has materially affected, or is reasonably likely to materially affect, the company s internal control over financial reporting.

**Part II Other Information**

**Item 1. Legal Proceedings**

Refer to note 14, Contingencies, on pages 45 to 47 of this Form 10-Q.

**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds and Issuer Repurchases of Equity Securities**

The following table provides information relating to the company s repurchase of common stock for the first quarter of 2019.

| Period | Total Number of Shares Purchased | Average Price Paid per Share | Total Number of Shares Purchased as Part of Publicly Announced Program | Approximate Dollar Value of Shares that May Yet Be Purchased Under The Program* |
|---|---|---|---|---|
| January 1, 2019 - January 31, 2019 | 2,961,581 | $ 122.91 | 2,961,581 | $ 2,974,850,211 |
| February 1, 2019 - February 28, 2019 | 2,084,642 | $ 136.72 | 2,084,642 | $ 2,689,832,120 |
| March 1, 2019 - March 31, 2019 | 1,810,455 | $ 138.63 | 1,810,455 | $ 2,438,843,554 |
| Total | 6,856,678 | $ 131.26 | 6,856,678 | |

* On October 30, 2018, the Board of Directors authorized $4.0 billion in funds for use in the company s common stock repurchase program. The company stated that it would repurchase shares on the open market or in private transactions depending on market conditions. The common stock repurchase program does not have an expiration date. This table does not include shares tendered to satisfy the exercise price in connection with cashless exercises of employee stock options or shares tendered to satisfy tax withholding obligations in connection with employee equity awards.

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**Item 5. Other Information**

As disclosed in the company s 2019 Proxy Statement filed on March 11, 2019, Hutham S. Olayan and James W. Owens were not nominees for election at the company s annual meeting of stockholders held on April 30, 2019, and their terms on the Board ended. As a result, Article III, Section 2 of the company s By-Laws was amended to decrease the number of directors to twelve, effective April 30, 2019. The full text of IBM s By-Laws, as amended effective April 30, 2019, is included as Exhibit 3.2 of this report.

On April 30, 2019, the company entered into a consulting arrangement with Erich Clementi, who retired as Senior Vice President on March 31, 2019. For a period of one year, Mr. Clementi may be asked, from time to time, to provide consulting services to the company as an independent contractor. The fee for such services would be $7,000 per day for each day he provides four or more hours of services and $3,500 per day for each day that he provides less than four hours.

The consulting arrangement is set forth in the Letter Agreement attached as Exhibit 10.1.

**Item 6. Exhibits**

| Exhibit Number | |
|---|---|
| 3.2 | The By-Laws of IBM, as amended through April 30, 2019. |
| 10.1 | Letter Agreement, signed by Erich Clementi and IBM, effective as of April 30, 2019. |
| 10.2 | Terms and Conditions of IBM LTPP Equity Awards, effective June 1, 2019. |
| 31.1 | Certification by principal executive officer pursuant to Rule 13A-14(a) or 15D-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 31.2 | Certification by principal financial officer pursuant to Rule 13A-14(a) or 15D-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. |
| 32.1 | Certification by principal executive officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 32.2 | Certification by principal financial officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 101.INS | XBRL Instance Document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document |

| | |
|---|---|
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document |

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**SIGNATURE**

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 thereunto duly authorized.

International Business Machines Corporation
(Registrant)

Date: April 30, 2019

By: /s/ Robert F. Del Bene
Robert F. Del Bene
Vice President and Controller