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 JUNE 30, 2020

1-2360
(Commission file number)

INTERNATIONAL BUSINESS MACHINES CORPORATION
(Exact name of registrant as specified in its charter)

New York	**13-0871985**
(State of incorporation)	(IRS employer identification number)
One New Orchard Road **Armonk, New York**	**10504**
(Address of principal executive offices)	(Zip Code)

914-499-1900
(Registrant's telephone number)

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

Title of each class	**Trading symbol**	**Name of each exchange on which registered**
Capital stock, par value $.20 per share	IBM	New York Stock Exchange NYSE Chicago
2.750% Notes due 2020	IBM 20B	New York Stock Exchange
1.875% Notes due 2020	IBM 20A	New York Stock Exchange
0.500% Notes due 2021	IBM 21B	New York Stock Exchange
2.625% Notes due 2022	IBM 22A	New York Stock Exchange
1.250% Notes due 2023	IBM 23A	New York Stock Exchange
0.375% Notes due 2023	IBM 23B	New York Stock Exchange
1.125% Notes due 2024	IBM 24A	New York Stock Exchange
2.875% Notes due 2025	IBM 25A	New York Stock Exchange
0.950% Notes due 2025	IBM 25B	New York Stock Exchange
0.875% Notes due 2025	IBM 25C	New York Stock Exchange
0.300% Notes due 2026	IBM 26B	New York Stock Exchange
1.250% Notes due 2027	IBM 27B	New York Stock Exchange
0.300% Notes due 2028	IBM 28B	New York Stock Exchange
1.750% Notes due 2028	IBM 28A	New York Stock Exchange
1.500% Notes due 2029	IBM 29	New York Stock Exchange
1.750% Notes due 2031	IBM 31	New York Stock Exchange
0.650% Notes due 2032	IBM 32A	New York Stock Exchange
1.200% Notes due 2040	IBM 40	New York Stock Exchange
7.00% Debentures due 2025	IBM 25	New York Stock Exchange
6.22% Debentures due 2027	IBM 27	New York Stock Exchange
6.50% Debentures due 2028	IBM 28	New York Stock Exchange
7.00% Debentures due 2045	IBM 45	New York Stock Exchange
7.125% Debentures due 2096	IBM 96	New York Stock Exchange

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 ☒ No ☐

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

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

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐	Smaller reporting company ☐
	Emerging growth company ☐

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

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

The registrant had 890,578,748 shares of common stock outstanding at June 30, 2020.

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Part I - Financial Information

Item 1. Consolidated Financial Statements:

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED INCOME STATEMENT
(UNAUDITED)

(Dollars in millions except per share amounts)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Revenue:				
Services	$ 10,937	$ 11,836 *	$ 22,311	$ 23,751 *
Sales	6,918	6,974 *	12,813	12,836 *
Financing	268	351	570	756
Total revenue	18,123	19,161	35,694	37,342
Cost:				
Services	7,520	8,181 *	15,363	16,453 *
Sales	1,739	1,741 *	3,363	3,344 *
Financing	165	228	345	492
Total cost	9,423	10,151	19,071	20,290
Gross profit	8,700	9,010	16,622	17,053
Expense and other (income):				
Selling, general and administrative	5,248	5,456	11,203	10,147
Research, development and engineering	1,582	1,407	3,207	2,840
Intellectual property and custom development income	(203)	(222)	(319)	(323)
Other (income) and expense	179	(747)	361	(820)
Interest expense	323	348	649	558
Total expense and other (income)	7,129	6,242	15,101	12,402
Income from continuing operations before income taxes	1,571	2,768	1,522	4,651
Provision for/(benefit from) income taxes	209	269	(1,017)	558
Income from continuing operations	$ 1,362	$ 2,499	$ 2,538	$ 4,093
Income/(loss) from discontinued operations, net of tax	(1)	(1)	(2)	(4)
Net income	$ 1,361	$ 2,498	$ 2,536	$ 4,089
Earnings/(loss) per share of common stock:				
Assuming dilution:				
Continuing operations	$ 1.52	$ 2.81	$ 2.83	$ 4.58
Discontinued operations	0.00	0.00	0.00	0.00
Total	$ 1.52	$ 2.81	$ 2.83	$ 4.58
Basic:				
Continuing operations	$ 1.53	$ 2.82	$ 2.85	$ 4.61
Discontinued operations	0.00	0.00	0.00	0.00
Total	$ 1.53	$ 2.82	$ 2.85	$ 4.61
Weighted-average number of common shares outstanding: (millions)				
Assuming dilution	894.9	890.8	895.0	892.4
Basic	889.4	886.3	888.7	887.9

* Reclassified to conform to current period presentation. Refer to note 1, "Basis of Presentation," for additional information.
(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
(UNAUDITED)

(Dollars in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net income	$ 1,361	$ 2,498	$ 2,536	$ 4,089
Other comprehensive income/(loss), before tax:				
Foreign currency translation adjustments	4	5	(915)	176
Net changes related to available-for-sale securities:				
Unrealized gains/(losses) arising during the period	1	(2)	1	(3)
Reclassification of (gains)/losses to net income	—	—	—	—
Total net changes related to available-for-sale securities	1	(2)	1	(3)
Unrealized gains/(losses) on cash flow hedges:				
Unrealized gains/(losses) arising during the period	(36)	(6)	(216)	(359)
Reclassification of (gains)/losses to net income	(59)	(168)	32	(70)
Total unrealized gains/(losses) on cash flow hedges	(94)	(175)	(184)	(429)
Retirement-related benefit plans:				
Prior service costs/(credits)	—	—	(4)	—
Net (losses)/gains arising during the period	57	116	65	113
Curtailments and settlements	13	3	21	4
Amortization of prior service (credits)/costs	0	(3)	1	(6)
Amortization of net (gains)/losses	566	460	1,136	924
Total retirement-related benefit plans	637	576	1,219	1,035
Other comprehensive income/(loss), before tax	548	405	121	779
Income tax (expense)/benefit related to items of other comprehensive income	(21)	(64)	(281)	(131)
Other comprehensive income/(loss), net of tax	527	340	(160)	649
Total comprehensive income/(loss)	$ 1,888	$ 2,839	$ 2,377	$ 4,738

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEET
(UNAUDITED)

ASSETS

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Assets:		
Current assets:		
Cash and cash equivalents	$ 12,041	$ 8,172
Restricted cash	147	141
Marketable securities	2,063	696
Notes and accounts receivable — trade (net of allowances of $369 in 2020 and $299 in 2019)	6,543	7,870
Short-term financing receivables (net of allowances of $206 in 2020 and $188 in 2019)	11,967	14,192
Other accounts receivable (net of allowances of $32 in 2020 and $33 in 2019)	937	1,733
Inventory, at lower of average cost or net realizable value:		
Finished goods	288	220
Work in process and raw materials	1,581	1,399
Total inventory	1,869	1,619
Deferred costs	2,127	1,896
Prepaid expenses and other current assets	2,260	2,101
Total current assets	39,953	38,420
Property, plant and equipment	31,666	32,028
Less: Accumulated depreciation	21,957	22,018
Property, plant and equipment — net	9,709	10,010
Operating right-of-use assets — net	4,774	4,996
Long-term financing receivables (net of allowances of $58 in 2020 and $33 in 2019)	7,351	8,712
Prepaid pension assets	7,254	6,865
Deferred costs	2,445	2,472
Deferred taxes	8,689	5,182
Goodwill	57,833	58,222
Intangible assets — net	14,270	15,235
Investments and sundry assets	1,921	2,074
Total assets	$ 154,200	$ 152,186

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEET – (CONTINUED)
(UNAUDITED)

LIABILITIES AND EQUITY

(Dollars in millions except per share amount)	At June 30, 2020	At December 31, 2019
Liabilities:		
Current liabilities:		
Taxes	$ 2,627	$ 2,839
Short-term debt	9,289	8,797
Accounts payable	4,719	4,896
Compensation and benefits	3,486	3,406
Deferred income	12,469	12,026
Operating lease liabilities	1,343	1,380
Other accrued expenses and liabilities	4,509	4,357
Total current liabilities	38,442	37,701
Long-term debt	55,449	54,102
Retirement and nonpension postretirement benefit obligations	16,483	17,142
Deferred income	3,787	3,851
Operating lease liabilities	3,684	3,879
Other liabilities	15,666	14,526
Total liabilities	133,512	131,202
Equity:		
IBM stockholders' equity:		
Common stock, par value $0.20 per share, and additional paid-in capital	56,135	55,895
Shares authorized: 4,687,500,000		
Shares issued: 2020 - 2,241,228,730		
2019 - 2,237,996,975		
Retained earnings	162,559	162,954
Treasury stock - at cost	(169,386)	(169,413)
Shares: 2020 - 1,350,649,982		
2019 - 1,350,886,521		
Accumulated other comprehensive income/(loss)	(28,757)	(28,597)
Total IBM stockholders' equity	20,551	20,841
Noncontrolling interests	137	144
Total equity	20,688	20,985
Total liabilities and equity	$ 154,200	$ 152,186

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF CASH FLOWS
(UNAUDITED)

(Dollars in millions)	Six Months Ended June 30, 2020	2019
Cash flows from operating activities:		
Net income	$ 2,536	$ 4,089
Adjustments to reconcile net income to cash provided by operating activities		
Depreciation	2,068	2,130
Amortization of intangibles	1,245	610
Stock-based compensation	436	248
Net (gain)/loss on asset sales and other	161	(787)
Changes in operating assets and liabilities, net of acquisitions/divestitures	1,606	1,410
Net cash provided by operating activities	8,052	7,700
Cash flows from investing activities:		
Payments for property, plant and equipment	(1,215)	(1,122)
Proceeds from disposition of property, plant and equipment	82	383
Investment in software	(301)	(305)
Acquisition of businesses, net of cash acquired	(19)	(43)
Divestitures of businesses, net of cash transferred	757	888
Non-operating finance receivables — net	95	3,828
Purchases of marketable securities and other investments	(3,478)	(1,803)
Proceeds from disposition of marketable securities and other investments	1,942	1,483
Net cash provided by/(used in) investing activities	(2,138)	3,309
Cash flows from financing activities:		
Proceeds from new debt	10,190	31,249
Payments to settle debt	(8,423)	(3,869)
Short-term borrowings/(repayments) less than 90 days — net	(449)	(307)
Common stock repurchases	—	(1,236)
Common stock repurchases for tax withholdings	(211)	(152)
Financing — other	43	41
Cash dividends paid	(2,890)	(2,833)
Net cash provided by/(used in) financing activities	(1,739)	22,894
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(301)	27
Net change in cash, cash equivalents and restricted cash	3,874	33,930
Cash, cash equivalents and restricted cash at January 1	8,314	11,604
Cash, cash equivalents and restricted cash at June 30	$ 12,188	$ 45,534

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF EQUITY
(UNAUDITED)

(Dollars in millions except per share amounts)	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 - April 1, 2020	$ 56,092	$ 162,626	$ (169,437)	$ (29,283)	$ 19,999	$ 129	$ 20,128
Net income plus other comprehensive income/(loss):							
Net income		1,361			1,361		1,361
Other comprehensive income/(loss)				527	527		527
Total comprehensive income/(loss)					$ 1,888		$ 1,888
Cash dividends paid — common stock ($1.63 per share)		(1,450)			(1,450)		(1,450)
Common stock issued under employee plans (2,296,269 shares)	42				42		42
Purchases (1,311,046 shares) and sales (1,701,568 shares) of treasury stock under employee plans — net		22	50		72		72
Changes in noncontrolling interests						8	8
Equity – June 30, 2020	$ 56,135	$ 162,559	$ (169,386)	$ (28,757)	$ 20,551	$ 137	$ 20,688

(Dollars in millions except per share amounts)	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 - April 1, 2019	$ 55,287	$ 159,396	$ (169,021)	$ (29,182)	$ 16,481	$ 126	$ 16,607
Net income plus other comprehensive income/(loss):							
Net income		2,498			2,498		2,498
Other comprehensive income/(loss)				340	340		340
Total comprehensive income/(loss)					$ 2,839		$ 2,839
Cash dividends paid — common stock ($1.62 per share)		(1,435)			(1,435)		(1,435)
Common stock issued under employee plans (1,883,226 shares)	117				117		117
Purchases (681,109 shares) and sales (330,849 shares) of treasury stock under employee plans — net		9	(49)		(40)		(40)
Other treasury shares purchased, not retired (2,300,679 shares)			(316)		(316)		(316)
Changes in noncontrolling interests						5	5
Equity - June 30, 2019	$ 55,404	$ 160,467	$ (169,385)	$ (28,841)	$ 17,645	$ 131	$ 17,776

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
AND SUBSIDIARY COMPANIES
CONSOLIDATED STATEMENT OF EQUITY – (CONTINUED)
(UNAUDITED)

(Dollars in millions except per share amounts)	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, 2020	$ 55,895	$ 162,954	$ (169,413)	$ (28,597)	$ 20,841	$ 144	$ 20,985
Cumulative effect of change in accounting principle*		(66)			(66)		(66)
Net income plus other comprehensive income/(loss):							
Net income		2,536			2,536		2,536
Other comprehensive income/(loss)				(160)	(160)		(160)
Total comprehensive income/(loss)					$ 2,377		$ 2,377
Cash dividends paid — common stock ($3.25 per share)		(2,890)			(2,890)		(2,890)
Common stock issued under employee plans (3,231,755 shares)	239				239		239
Purchases (1,621,500 shares) and sales (1,858,039 shares) of treasury stock under employee plans — net		24	26		50		50
Changes in noncontrolling interests						(7)	(7)
Equity - June 30, 2020	$ 56,135	$ 162,559	$ (169,386)	$ (28,757)	$ 20,551	$ 137	$ 20,688

*Reflects the adoption of the FASB guidance on current expected credit losses. Refer to note 2, "Accounting Changes."

(Dollars in millions except per share amounts)	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		4,089			4,089		4,089
Other comprehensive income/(loss)				649	649		649
Total comprehensive income/(loss)					$ 4,738		$ 4,738
Cash dividends paid — common stock ($3.19 per share)		(2,833)			(2,833)		(2,833)
Common stock issued under employee plans (3,275,215 shares)	254				254		254
Purchases (1,135,819 shares) and sales (413,711 shares) of treasury stock under employee plans — net		11	(99)		(88)		(88)
Other treasury shares purchased, not retired (9,157,357 shares)			(1,216)		(1,216)		(1,216)
Changes in other equity		(5)			(5)		(5)
Changes in noncontrolling interests						(3)	(3)
Equity - June 30, 2019	$ 55,404	$ 160,467	$ (169,385)	$ (28,841)	$ 17,645	$ 131	$ 17,776

(Amounts may not add due to rounding.)
(The accompanying notes are an integral part of the financial statements.)

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 2020, the company realigned offerings and the related management system to reflect divestitures completed in the second half of 2019 and tighter integration of certain industry-related consulting services. These changes impacted a few of the company's reportable segments, but did not impact the Consolidated Financial Statements. Refer to note 4, "Segments," for additional information on the company's reportable segments. The periods presented in this Form 10-Q are reported on a comparable basis. On April 6, 2020, Arvind Krishna became Chief Executive Officer of IBM and announced a number of management changes which did not impact the company's reportable segments.

For the three months ended June 30, 2020, the company reported a provision for income taxes of $209 million. For the six months ended June 30, 2020, the company reported a benefit from income taxes of $1,017 million. The tax benefit was primarily related to the tax impacts of an intra-entity sale of certain of the company's intellectual property in the first quarter, which required the recognition of a $3,442 million deferred tax asset. The recognition of this deferred tax asset and the related impacts resulted in a net one-time benefit in the first quarter of $939 million. For the three and six months ended June 30, 2019, the company reported a provision for income taxes of $269 million and $558 million, respectively.

On July 9, 2019, the company completed the acquisition of all of the outstanding shares of Red Hat, Inc. (Red Hat). Refer to note 5, "Acquisitions & Divestitures," and note 10, "Intangible Assets Including Goodwill," for additional information.

Noncontrolling interest amounts of $6.8 million and $4.9 million, net of tax, for the three months ended June 30, 2020 and 2019, respectively, and $11.3 million and $11.9 million, net of tax, for the six months ended June 30, 2020 and 2019, respectively, are included as a reduction within other (income) and expense in the Consolidated Income Statement.

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 2019 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 period amounts have been reclassified to conform to the current period presentation. Specifically, beginning in the third-quarter 2019, revenues and related costs for post-contract support provided for perpetual (one-time charge) software licenses have been reclassified from Services Revenue to Sales Revenue and Services Cost to Sales Cost within the Consolidated Income Statement. The revenue and cost amounts reclassified were $0.5 billion and $0.1 billion, respectively, for the three months ended June 30, 2019. The revenue and cost amounts reclassified were $1.0 billion and $0.2 billion, respectively, for the six months ended June 30, 2019. This reclassification had no impact on total revenue, total cost, net income, financial position or cash flows for any periods presented. Other immaterial reclassifications have been annotated where applicable.

2. Accounting Changes:

New Standards to be Implemented

Simplifying the Accounting for Income Taxes

Standard/Description–Issuance date: December 2019. This guidance simplifies various aspects of income tax accounting by removing certain exceptions to the general principle of the guidance and also clarifies and amends existing guidance to improve consistency in application.

Effective Date and Adoption Considerations–The guidance is effective January 1, 2021 and early adoption is permitted. The company will adopt the guidance as of the effective date.

Effect on Financial Statements or Other Significant Matters–The guidance is not expected to have a material impact in the consolidated financial results.

Standards Implemented

Reference Rate Reform

Standard/Description–Issuance date: March 2020. This guidance provides optional expedients and exceptions for applying GAAP to contract modifications, hedging relationships, and other transactions that reference London Interbank Offered Rate (LIBOR) or another reference rate expected to be discontinued, subject to meeting certain criteria.

Effective Date and Adoption Considerations–The guidance is effective as of March 12, 2020 through December 31, 2022.

Effect on Financial Statements or Other Significant Matters–The company made a policy election in the first quarter of 2020 to adopt the practical expedient which allows for the continuation of fair value hedge accounting for interest rate derivative contracts upon the transition from LIBOR to Secured Overnight Financing Rate (SOFR) or another reference rate alternative, without any impact to the Consolidated Income Statement. The company is continuing to evaluate the potential impact of the replacement of the LIBOR benchmark on its interest rate risk management activities.

Simplifying the Test for Goodwill Impairment

Standard/Description–Issuance date: January 2017. This guidance simplifies the goodwill impairment test by removing Step 2. It also requires disclosure of any reporting units that have zero or negative carrying amounts if they have goodwill allocated to them.

Effective Date and Adoption Considerations–The guidance was effective January 1, 2020 and early adoption was permitted. The company adopted the guidance on a prospective basis as of the effective date.

Effect on Financial Statements or Other Significant Matters–The guidance did not have a material impact in the consolidated financial results.

Financial Instruments–Credit Losses

Standard/Description–Issuance date: June 2016, with amendments in 2018, 2019 and 2020. This changes the guidance for credit losses based on an expected loss model rather than an incurred loss model. It 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 credit losses. It also expands the scope of financial instruments subject to impairment, including off-balance sheet commitments and residual value.

Effective Date and Adoption Considerations–The guidance was effective January 1, 2020 with one-year early adoption permitted. The company adopted the guidance as of the effective date, using the transition methodology whereby prior comparative periods were not retrospectively presented in the Consolidated Financial Statements.

Effect on Financial Statements or Other Significant Matters–At January 1, 2020, an increase in the allowance for credit losses of $81 million was recorded for accounts receivable–trade and financing receivables (inclusive of its related off-balance sheet commitments). Additionally, net deferred taxes were reduced by $14 million in the Consolidated Balance Sheet, resulting in a cumulative-effect net decrease to retained earnings of $66 million. Refer to note 8, "Financing Receivables," and note 12, "Commitments," for additional information.

Leases

Standard/Description–Issuance date: February 2016, with amendments in 2018 and 2019. This guidance requires lessees to recognize right-of-use (ROU) assets and lease liabilities for most leases in the Consolidated Balance Sheet. For lessors, it also eliminated the use of third-party residual value guarantee insurance in the lease classification test, and overall aligns with revenue recognition guidance. Due to changes in lease termination guidance, when equipment is returned to the company prior to the end of the lease term, the carrying amounts of lease receivables are reclassified to loan receivables. The guidance also requires qualitative and quantitative disclosures to assess the amount, timing and uncertainty of cash flows arising from leases.

Effective Date and Adoption Considerations–The company adopted the guidance on its effective date of 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 non-lease components for all asset classes. The company made a policy election to not recognize ROU assets and lease liabilities for short-term leases for all asset classes.

Effect on Financial Statements or Other Significant Matters–The guidance had a material impact on the Consolidated Balance Sheet as of the effective date. As a lessee, at adoption, the company recognized operating and financing 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 on January 1, 2019 was not material. None of the other changes to the guidance had a material impact in the company's consolidated financial results at the effective date.

For all other standards that the company adopted in 2019, there was no material impact in the consolidated financial results.

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)	Three Months Ended June 30, 2020	2019	Six Months Ended June 30, 2020	2019
Cloud & Data Platforms	$ 2,797	$ 2,173	$ 5,333	$ 4,090
Cognitive Applications	1,246	1,372 *	2,428	2,609 *
Transaction Processing Platforms	1,706	2,018	3,226	3,830
Total Cloud & Cognitive Software	$ 5,748	$ 5,563 *	$ 10,987	$ 10,530 *
Consulting	1,936	2,020 *	4,007	4,021 *
Application Management	1,734	1,919	3,573	3,827
Global Process Services	221	258	447	505
Total Global Business Services	$ 3,890	$ 4,197 *	$ 8,027	$ 8,353 *
Infrastructure & Cloud Services	4,813	5,174	9,729	10,383
Technology Support Services	1,503	1,663	3,054	3,328
Total Global Technology Services	$ 6,316	$ 6,837	$ 12,783	$ 13,711
Systems Hardware	1,488	1,328	2,484	2,241
Operating Systems Software	365	425	736	840
Total Systems	$ 1,852	$ 1,753	$ 3,220	$ 3,081
Global Financing**	265	351	564	757
Other	50	460 *	113	911 *
Total revenue	$ 18,123	$ 19,161	$ 35,694	$ 37,342

* Recast to conform to current period presentation. Refer to note 4, "Segments," for additional information.

** 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)	Three Months Ended June 30, 2020	2019	Six Months Ended June 30, 2020	2019
Americas	$ 8,450	$ 8,806	$ 16,617	$ 17,299
Europe/Middle East/Africa	5,695	6,149	11,212	11,876
Asia Pacific	3,977	4,205	7,865	8,167
Total	$ 18,123	$ 19,161	$ 35,694	$ 37,342

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. RPO 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 June 30, 2020, the aggregate amount of the transaction price allocated to RPO related to customer contracts that are unsatisfied or partially unsatisfied was $117 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.

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

For the three and six months ended June 30, 2020, revenue was reduced by $56 million and $54 million, respectively, for performance obligations satisfied (or partially satisfied) in previous periods mainly due to changes in estimates on percentage-of-completion based contracts.

Contract Balances

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

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Notes and accounts receivable — trade (net of allowances of $369 and $299 at June 30, 2020 and December 31, 2019, respectively)	$ 6,543	$ 7,870
Contract assets (1)	505	492
Deferred income (current)	12,469	12,026
Deferred income (noncurrent)	3,787	3,851

(1) Included within prepaid expenses and other current assets in the Consolidated Balance Sheet.

The amount of revenue recognized during the three and six months ended June 30, 2020 that was included within the deferred income balance at March 31, 2020 and December 31, 2019 was $4.5 billion and $6.5 billion, respectively, and was primarily related to services and software.

The following table provides roll forwards of the notes and accounts receivable – trade allowance for credit losses for the six months ended June 30, 2020 and the year ended December 31, 2019:

(Dollars in millions) January 1, 2020*	Additions / (Releases)	Write-offs	Other**	June 30, 2020
$ 316	$ 87	$ (26)	$ (8)	$ 369

January 1, 2019	Additions / (Releases)	Write-offs	Other**	December 31, 2019
$ 309	$ 98	$ (113)	$ 5	$ 299

* Opening balance does not equal the allowance at December 31, 2019 due to the adoption of the guidance for current expected credit losses. Refer to note 2, “Accounting Changes,” for additional information.

** Primarily represents translation adjustments.

The contract assets allowance for credit losses was not material in any of the periods presented.

4. Segments:

During the first quarter of 2020, the company realigned offerings and the related management system to reflect divestitures completed in the second half of 2019 and tighter integration of certain industry-related consulting services. Accordingly, the company updated its Cloud & Cognitive Software segment, Global Business Services segment and the Other – divested businesses category in the first quarter of 2020 and recast the related historical information for consistency with the go-forward performance. Total recast revenue for full-year 2019 was approximately $0.3 billion of IBM's total $77 billion. There was no change to the Global Technology Services, Systems or Global Financing segments, and there was no impact to IBM's consolidated results. The following table displays the segment updates:

Management System Change	Resulting Segment Implications
Divestitures of IBM's Risk Analytics and Regulatory Offerings and Sales Performance Management Offerings	- Cloud & Cognitive Software (Cognitive Applications) + Other Divested Business
Realignment of certain industry-related consulting offerings to the Global Business Services segment	- Cloud & Cognitive Software (Cognitive Applications) + Global Business Services (Consulting)

SEGMENT INFORMATION

(Dollars in millions)	Cloud & Cognitive Software	Global Business Services	Global Technology Services	Systems	Global Financing	Total Segments
For the three months ended June 30, 2020:						
External revenue	$ 5,748	$ 3,890	$ 6,316	$ 1,852	$ 265	$ 18,072
Internal revenue	743	55	304	240	241	1,582
Total revenue	$ 6,491	$ 3,945	$ 6,621	$ 2,092	$ 506	$ 19,655
Pre-tax income from continuing operations	$ 1,708	$ 362	$ 250	$ 248	$ 176	$ 2,744
Revenue year-to-year change	5.2 %	(7.5)%	(7.3)%	8.7 %	(20.0)%	(2.4)%
Pre-tax income year-to-year change	(14.9)%	25.1 %	6.4 %	304.8 %	(26.2)%	(3.1)%
Pre-tax income margin	26.3 %	9.2 %	3.8 %	11.8 %	34.9 %	14.0 %
For the three months ended June 30, 2019:						
External revenue	$ 5,563 *	$ 4,197 *	$ 6,837	$ 1,753	$ 351	$ 18,701 *
Internal revenue	607	69	302	171	281	1,430
Total revenue	$ 6,170 *	$ 4,266 *	$ 7,139	$ 1,924	$ 632	$ 20,131 *
Pre-tax income from continuing operations	$ 2,007 *	$ 290 *	$ 235	$ 61	$ 239	$ 2,832 *
Pre-tax income margin	32.5 %*	6.8 %*	3.3 %	3.2 %	37.8 %	14.1 %*

Reconciliations to IBM as Reported:

(Dollars in millions) For the three months ended June 30:	2020	2019
Revenue:		
Total reportable segments	$ 19,655	$ 20,131 *
Other—divested businesses	13	403 *
Other revenue	37	57
Eliminations of internal transactions	(1,582)	(1,430)
Total consolidated revenue	$ 18,123	$ 19,161
Pre-tax income from continuing operations:		
Total reportable segments	$ 2,744	$ 2,832 *
Amortization of acquired intangible assets	(472)	(169)
Acquisition-related (charges)/income	(1)	(102)
Non-operating retirement-related (costs)/income	(273)	(136)
Eliminations of internal transactions	(121)	(60)
Other—divested businesses	(22)	561 *
Unallocated corporate amounts	(283)	(156)
Total pre-tax income from continuing operations	$ 1,571	$ 2,768

* Recast to conform to current period presentation.

SEGMENT INFORMATION

(Dollars in millions)	Cloud & Cognitive Software	Global Business Services	Global Technology Services	Systems	Global Financing	Total Segments
For the six months ended June 30, 2020:						
External revenue	$ 10,987	$ 8,027	$ 12,783	$ 3,220	$ 564	$ 35,581
Internal revenue	1,556	101	599	388	453	3,096
Total revenue	$ 12,543	$ 8,128	$ 13,382	$ 3,608	$ 1,017	$ 38,677
Pre-tax income from continuing operations	$ 2,641	$ 633	$ 72	$ 31	$ 370	$ 3,747
Revenue year-to-year change	4.7 %	(4.3)%	(6.4)%	5.7 %	(24.0)%	(2.2)%
Pre-tax income year-to-year change	(30.4)%	7.8 %	(85.9)%	nm	(29.8)%	(29.0)%
Pre-tax income margin	21.1 %	7.8 %	0.5 %	0.9 %	36.4 %	9.7 %
For the six months ended June 30, 2019:						
External revenue	$ 10,530 *	$ 8,353 *	$ 13,711	$ 3,081	$ 757	$ 36,432 *
Internal revenue	1,448	143	591	334	581	3,097
Total revenue	$ 11,978 *	$ 8,495 *	$ 14,303	$ 3,415	$ 1,338	$ 39,529 *
Pre-tax income/(loss) from continuing operations	$ 3,792 *	$ 587 *	$ 510	$ (141)	$ 527	$ 5,276 *
Pre-tax income/(loss) margin	31.7 %*	6.9 %*	3.6 %	(4.1)%	39.4 %	13.3 %*

Reconciliations to IBM as Reported:

(Dollars in millions) For the six months ended June 30:	2020	2019
Revenue:		
Total reportable segments	$ 38,677	$ 39,529 *
Other—divested businesses	32	780 *
Other revenue	81	131
Eliminations of internal transactions	(3,096)	(3,097)
Total consolidated revenue	$ 35,694	$ 37,342
Pre-tax income from continuing operations:		
Total reportable segments	$ 3,747	$ 5,276 *
Amortization of acquired intangible assets	(945)	(343)
Acquisition-related (charges)/income	(2)	(141)
Non-operating retirement-related (costs)/income	(538)	(274)
Eliminations of internal transactions	(176)	(149)
Other—divested businesses	3	505 *
Unallocated corporate amounts	(568)	(224)
Total pre-tax income from continuing operations	$ 1,522	$ 4,651

* Recast to conform to current period presentation.
nm - not meaningful

5. Acquisitions & Divestitures:

Acquisitions

Purchase price consideration for all acquisitions was paid primarily in cash. All acquisitions, except otherwise stated were for 100 percent of the acquired business and are reported in the Consolidated Statement of Cash Flows, net of acquired cash and cash equivalents.

During the six months ended June 30, 2020, the company completed two acquisitions in the Cloud & Cognitive Software segment. One acquisition was completed in the second quarter of 2020, and one acquisition was completed in the first quarter of 2020. These acquisitions did not have a material impact in the Consolidated Financial Statements.

On July 9, 2019, the company completed the acquisition of all of the outstanding shares of Red Hat at an aggregate cost of $35 billion. Red Hat's portfolio of open-source and cloud technologies combined with IBM's innovative hybrid cloud technology and industry expertise are delivering the hybrid multi-cloud capabilities required to address the next chapter of cloud implementations.

On the acquisition date, Red Hat shareholders received $190 per share in cash, representing a total equity value of approximately $34 billion. The company funded the transaction through a combination of cash on hand and proceeds from debt issuances.

The following table reflects the purchase price and the resulting purchase price allocation as of June 30, 2020. The net purchase price adjustment recorded in the second-quarter 2020 was related to noncurrent tax assets and liabilities.

(Dollars in millions)	Amortization Life (in years)	Allocated Amount
Current assets*		$ 3,186
Property, plant and equipment/noncurrent assets		948
Intangible assets:		
Goodwill	N/A	22,986
Client relationships	10	7,215
Completed technology	9	4,571
Trademarks	20	1,686
Total assets acquired		$ 40,592
Current liabilities**		1,395
Noncurrent liabilities		4,117
Total liabilities assumed		$ 5,513
Total purchase price		$ 35,080

* Includes $2.2 billion of cash and cash equivalents.

** Includes $485 million of short-term debt related to the convertible notes acquired from Red Hat that were recognized at their fair value on the acquisition date, which was fully settled as of October 1, 2019.

N/A – not applicable

The goodwill generated is primarily attributable to the assembled workforce of Red Hat and the increased synergies expected to be achieved from the integration of Red Hat products into the company's various integrated solutions neither of which qualify as an amortizable intangible asset.

The overall weighted-average useful life of the identified amortizable intangible assets acquired was 10.9 years. These identified intangible assets will be amortized on a straight-line basis over their useful lives, which approximates the pattern that the assets' economic benefits are expected to be consumed over time. The following table presents the goodwill allocated to the segments as of June 30, 2020.

(Dollars in billions) Segment	Goodwill Allocated*
Cloud & Cognitive Software	$ 18.4
Global Technology Services	3.1
Global Business Services	1.1
Systems	0.4
Total	$ 23.0

*It is expected that approximately six percent of the goodwill will be deductible for tax purposes.

Divestitures

Select IBM Software Products – On June 30, 2019, HCL Technologies Limited (HCL) acquired select standalone Cloud & Cognitive Software products from IBM for $1,775 million, inclusive of $150 million of contingent consideration. The transaction included commercial software, intellectual property and services offerings in addition to transition services for IT and other services. The total pre-tax gain recognized on this transaction as of June 30, 2020 was $637 million. The total gain on sale may change in the future due to contingent consideration or changes in other transaction estimates, however, material changes are not expected.

The company received cash of $812 million at closing and $40 million of contingent consideration in the third quarter of 2019. In the second quarter of 2020, HCL remitted $812 million of cash to the company, of which receivables of $165 million had been previously transferred as a participating interest to a third-party bank in the first quarter of 2020. Any earned outstanding contingent consideration is expected to be paid to IBM within 27 months of the closing. In addition, IBM remits payment to HCL predominantly for servicing certain customer contracts until such contracts are terminated or entitlements are assumed by HCL, related to deferred revenue that existed prior to closing. IBM made cash payments to HCL of $81 million and $219 million during the three and six months ended June 30, 2020, respectively.

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 would acquire select marketing platform and commerce offerings from IBM. The transaction included commercial software and services offerings. In addition, IBM is providing Centerbridge with IT transition services. All other contracted transition services have concluded as of June 30, 2020. Upon closing, Centerbridge announced that this business would be re-branded under the name Acoustic. The closing completed for the U.S. on June 30, 2019. The company received a net cash payment of $240 million and expects to receive an additional $150 million of cash within 36 months of the U.S. closing.

A subsequent closing occurred in most other countries on March 31, 2020. The closing of all remaining countries occurred as of June 30, 2020. The pre-tax gain recognized on this transaction as of June 30, 2020 was $75 million, and was not material to the consolidated financial results in any quarter. The pre-tax gain is subject to adjustment in the future due to changes in transaction-related estimates which are not expected to be material.

IBM Risk Analytics and Regulatory Offerings – On September 24, 2019, IBM and SS&C Technologies Holdings, Inc. (SS&C) entered into a definitive agreement in which SS&C would acquire certain Algorithmics and related assets from IBM. The transaction closed in the fourth quarter of 2019. The company recognized an immaterial pre-tax gain on the sale for the year ended December 31, 2019.

Sales Performance Management Offerings – On November 20, 2019, IBM and Varicent Parent Holdings Corporation (Varicent) entered into a definitive agreement in which Varicent would acquire certain sales performance management assets from IBM. The initial closing of certain countries was completed on December 31, 2019. The company received a net cash payment of $230 million and recognized a pre-tax gain on the sale of $136 million for the year ended December 31, 2019. A subsequent closing for the remaining countries occurred on March 31, 2020 and the company recognized an immaterial pre-tax gain.

The above divested businesses are reported in Other–divested businesses as described in note 4, "Segments."

The pre-tax gains recognized on the divestitures above were recorded in other (income) and expense in the Consolidated Income Statement.

6. 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 and six months ended June 30, 2020 and 2019.

	For the Three Months Ended	
	June 30, 2020	June 30, 2019
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	889,435,166	886,273,682
Add — Incremental shares under stock-based compensation plans	4,290,365	3,281,570
Add — Incremental shares associated with contingently issuable shares	1,213,549	1,276,549
Number of shares on which diluted earnings per share is calculated	894,939,080	890,831,801
Income from continuing operations (millions)	$ 1,362	$ 2,499
Income/(loss) from discontinued operations, net of tax (millions)	(1)	(1)
Net income on which basic earnings per share is calculated (millions)	$ 1,361	$ 2,498
Income from continuing operations (millions)	$ 1,362	$ 2,499
Net income applicable to contingently issuable shares (millions)	—	0
Income from continuing operations on which diluted earnings per share is calculated (millions)	$ 1,362	$ 2,500
Income/(loss) from discontinued operations, net of tax, on which basic and diluted earnings per share is calculated (millions)	(1)	(1)
Net income on which diluted earnings per share is calculated (millions)	$ 1,361	$ 2,499
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 1.52	$ 2.81
Discontinued operations	0.00	0.00
Total	$ 1.52	$ 2.81
Basic		
Continuing operations	$ 1.53	$ 2.82
Discontinued operations	0.00	0.00
Total	$ 1.53	$ 2.82

Stock options to purchase 1,511,989 shares and 762,019 shares were outstanding as of June 30, 2020 and 2019, 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.

	For the Six Months Ended	
	June 30, 2020	June 30, 2019
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	888,702,256	887,927,612
Add — Incremental shares under stock-based compensation plans	5,015,390	3,327,015
Add — Incremental shares associated with contingently issuable shares	1,271,513	1,116,537
Number of shares on which diluted earnings per share is calculated	894,989,159	892,371,164
Income from continuing operations (millions)	$ 2,538	$ 4,093
Income/(loss) from discontinued operations, net of tax (millions)	(2)	(4)
Net income on which basic earnings per share is calculated (millions)	$ 2,536	$ 4,089
Income from continuing operations (millions)	$ 2,538	$ 4,093
Net income applicable to contingently issuable shares (millions)	(2)	0
Income from continuing operations on which diluted earnings per share is calculated (millions)	$ 2,536	$ 4,093
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)	$ 2,534	$ 4,090
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 2.83	$ 4.58
Discontinued operations	0.00	0.00
Total	$ 2.83	$ 4.58
Basic		
Continuing operations	$ 2.85	$ 4.61
Discontinued operations	0.00	0.00
Total	$ 2.85	$ 4.61

Stock options to purchase 1,324,444 shares and 949,519 shares (average of first and second quarter share amounts) were outstanding as of June 30, 2020 and 2019, 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.

7. Financial Assets & Liabilities:

Fair Value Measurements

Fair value is defined 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. The company classifies 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.

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.

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.

The company holds investments primarily in time deposits, certificates of deposit, and U.S. government debt that are designated as available-for-sale. The primary objective of the company's cash and debt investment portfolio is to maintain principal by investing in very liquid and highly rated investment grade securities.

Available-for-sale securities are measured for impairment on a recurring basis by comparing the security's fair value with its amortized cost basis. Effective January 1, 2020 with the adoption of the new standard on credit losses, if the fair value of the security falls below its amortized cost basis, the change in fair value is recognized in the period the impairment is identified when the loss is due to credit factors. The change in fair value due to non-credit factors is recorded in other comprehensive income when the company does not intend to sell and has the ability to hold the investment. The company's standard practice is to hold all of its debt security investments classified as available-for-sale until maturity. There were no impairments for credit losses or non-credit impairments for the three and six months ended June 30, 2020. Prior to the adoption of the new standard, available-for-sale securities were measured for impairment using an other-than-temporary impairment model. No impairment was recorded for the three and six months ended June 30, 2019.

Certain nonfinancial 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 nonfinancial assets depend on the type of asset. There were no material impairments of nonfinancial assets for the six months ended June 30, 2020 and 2019, respectively.

The following table presents the company's financial assets and financial liabilities that are measured at fair value on a recurring basis at June 30, 2020 and December 31, 2019.

(Dollars in millions)	Fair Value Hierarchy Level	At June 30, 2020 Assets (7)	At June 30, 2020 Liabilities (8)	At December 31, 2019 Assets (7)	At December 31, 2019 Liabilities (8)
Cash equivalents (1)					
Time deposits and certificates of deposit (2)	2	$ 7,785	$ N/A	$ 4,392	$ N/A
Money market funds	1	926	N/A	427	N/A
Total cash equivalents		$ 8,712	$ N/A	$ 4,819	$ N/A
Equity investments (3)	1	0	N/A	0	N/A
Debt securities-current (2)(4)	2	2,063	N/A	696	N/A
Debt securities-noncurrent (2)(5)	2	22	N/A	65	N/A
Derivatives designated as hedging instruments					
Interest rate contracts	2	126	—	56	—
Foreign exchange contracts	2	161	468	175	635
Derivatives not designated as hedging instruments					
Foreign exchange contracts	2	8	18	10	33
Equity contracts (6)	1,2	11	4	1	4
Total		$ 11,104	$ 491	$ 5,823	$ 673

(1) Included within cash and cash equivalents in the Consolidated Balance Sheet.
(2) Available-for-sale securities with an amortized cost basis that approximates fair value.
(3) Included within investments and sundry assets in the Consolidated Balance Sheet.
(4) Primarily includes time deposits and U.S. treasury bills that are reported within marketable securities in the Consolidated Balance Sheet.
(5) Primarily includes corporate debt securities with a maximum maturity of two years that are reported within investments and sundry assets in the Consolidated Balance Sheet.
(6) Level 1 includes immaterial amounts related to equity futures contracts.
(7) The gross balances of derivative assets contained within prepaid expenses and other current assets, and investments and sundry assets in the Consolidated Balance Sheet at June 30, 2020 were $195 million and $112 million, respectively, and at December 31, 2019 were $149 million and $94 million, respectively.
(8) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Balance Sheet at June 30, 2020 were $289 million and $202 million, respectively, and at December 31, 2019 were $167 million and $506 million, respectively.

N/A – not applicable

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 June 30, 2020 and December 31, 2019, 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 $55,449 million and $54,102 million, and the estimated fair value was $61,600 million and $58,431 million at June 30, 2020 and December 31, 2019, 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.

8. Financing Receivables:

Financing receivables primarily consist of client loan and installment payment receivables (loans) and investment in sales-type and direct financing leases (collectively referred to as client financing receivables) and commercial financing 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. Investment in sales-type and direct financing leases relate principally to the company's Systems products and are for terms ranging generally from two to six years. Commercial financing receivables relate primarily to working capital financing for dealers and remarketers of IBM products. Payment terms for working capital financing generally range from 30 to 90 days.

Effective January 1, 2020, the company adopted the new accounting standard related to credit losses, using the transition methodology whereby prior comparative periods were not retrospectively presented in the Consolidated Financial Statements. Refer to note 2, "Accounting Changes," for additional information. Under this new guidance, the amortized cost basis of a financial asset represents the original amount of the financing receivable (including residual value) adjusted for unearned income, deferred initial direct costs, cash collected, write-offs and any foreign exchange adjustments. The allowance for credit losses represents future expected credit losses over the life of the receivables based on past experience, current information and forward-looking economic considerations. Prior to the effective date, financing receivables were measured at recorded investment, which does not include residual value. As a result, all prior periods are presented at recorded investment, while current period information is presented at amortized cost. Additionally, current period information reflects updates to the portfolio segments, and other presentation changes within the following tables, as a result of the adoption of this new guidance.

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

	Client Financing Receivables			
(Dollars in millions) At June 30, 2020:	Client Loan and Installment Payment Receivables (Loans)	Investment in Sales-Type and Direct Financing Leases	Commercial Financing Receivables	Total
Financing receivables, gross	$ 12,539	$ 4,967	$ 2,393	$ 19,898
Unearned income	(506)	(393)	(3)	(903)
Residual value*	—	586	—	586
Amortized cost	$ 12,033	$ 5,160	$ 2,389	$ 19,582
Allowance for credit losses	(164)	(89)	(11)	(264)
Total financing receivables, net	$ 11,869	$ 5,070	$ 2,379	$ 19,318
Current portion	$ 7,501	$ 2,087	$ 2,379	$ 11,967
Noncurrent portion	$ 4,368	$ 2,983	$ —	$ 7,351

* Includes guaranteed and unguaranteed residual value.

(Dollars in millions) At December 31, 2019:	Client Financing Receivables Client Loan and Installment Payment Receivables (Loans)	Client Financing Receivables Investment in Sales-Type and Direct Financing Leases	Commercial Financing Receivables	Total
Financing receivables, gross	$ 13,592	$ 6,077	$ 3,836	$ 23,504
Unearned income	(570)	(509)	(4)	(1,083)
Recorded investment	$ 13,022	$ 5,567	$ 3,831	$ 22,421
Allowance for credit losses	(138)	(72)	(11)	(221)
Unguaranteed residual value	—	652	—	652
Guaranteed residual value	—	53	—	53
Total financing receivables, net	$ 12,884	$ 6,199	$ 3,820	$ 22,904
Current portion	$ 8,037	$ 2,334	$ 3,820	$ 14,192
Noncurrent portion	$ 4,847	$ 3,865	$ —	$ 8,712

The company has a long-standing practice of taking mitigation actions, in certain circumstances, to transfer credit risk to third parties. These actions may include credit insurance, financial guarantees, nonrecourse borrowings, transfers of receivables recorded as true sales in accordance with accounting guidance or sales of equipment under operating lease.

Financing receivables pledged as collateral for borrowings were $758 million and $1,062 million at June 30, 2020 and December 31, 2019, respectively.

In the second quarter of 2020, the company sold $711 million of financing receivables, consisting of lease and loan receivables of $417 million and $294 million, respectively, approximately half of which were scheduled to be due within the next 12 months. The transfer of these receivables qualified as true sales and therefore reduced Global Financing receivables and resulted in a benefit to cash flows from operating activities. The impact to the Consolidated Income Statement, including fees and net gain associated with the transfer of these receivables was not material.

The company did not have any financing receivables held for sale as of June 30, 2020 and December 31, 2019.

Allowance for Credit Losses – Financing Receivables

Refer to note A, “Significant Accounting Policies,” in the company’s 2019 Annual Report for a full description of its accounting policies for trade and financing receivables, contract assets and related allowances. The descriptions below include any changes to those policies due to the new standard.

Effective with the adoption of the new credit losses standard, the company’s estimates of its allowances for expected credit losses include consideration of: past events, including any historical default, historical concessions and resulting troubled debt restructurings, current economic conditions, taking into account any non-freestanding mitigating credit enhancements and certain forward-looking information, including reasonable and supportable forecasts.

Collectively Evaluated Financing Receivables

The company determines its allowance for credit losses based on two portfolio segments: client financing receivables and commercial financing receivables, and further segments the portfolio into three classes: Americas, Europe/Middle East/Africa (EMEA) and Asia Pacific.

For client financing receivables, the company uses a credit loss model to calculate allowances based on its internal loss experience and current conditions and forecasts, by class of financing receivable. The company records an unallocated reserve that is calculated by applying a reserve rate to its portfolio, excluding accounts that have been individually evaluated and specifically reserved. This reserve rate is based upon credit rating, probability of default, term and loss history. The allowance is adjusted quarterly for expected recoveries of amounts that were previously written off

or are expected to be written off. Recoveries cannot exceed the aggregated amount of the previous write-off or expected write-off.

Macroeconomic variables attributed to the expected credit losses for client financing receivables may vary by class of financing receivables based on historical experiences, portfolio composition and current environment. In addition to a qualitative review of credit risk factors across the portfolio, the company considers forward-looking macroeconomic variables such as gross domestic product, unemployment rates, equity prices and corporate profits when quantifying the impact of economic forecasts on its client financing receivables allowance for expected credit losses. The company also considers the impact of current conditions and economic forecasts relating to specific industries, geographical areas, and client-specific exposures on the portfolio. Under this approach, forecasts of these variables over two years are considered reasonable and supportable. Beyond two years, the company reverts to long-term average loss experience. Forward-looking estimates require the use of judgment, particularly in times of economic uncertainty. Consistent with the first quarter of 2020, with evolving global impacts from the COVID-19 pandemic, external economic models have been revised with increased frequency and with alternative scenarios. The company's allowances at June 30, 2020, reflect the qualitative process described above. Any changes to economic models that occurred after the balance sheet date will be reflected in future periods.

The allowance for commercial financing receivables is estimated based on a combination of write-off history and current economic conditions, excluding any individually evaluated accounts. The commercial financing receivables portfolio segment is excluded from the tables in the sections below as the receivables are short term in nature and the current estimated risk of loss and resulting impact to the company's financial results are not material.

At January 1, 2020, upon adoption of the new standard, the company recorded an additional allowance for client and commercial financing receivables (including related off-balance sheet commitments) of $64 million. This was primarily driven by an increase in the client financing receivables allowance. Refer to note 12, "Commitments," for additional information regarding off-balance sheet commitments.

Client Financing Receivables

The following tables present the amortized cost basis or recorded investment for client financing receivables at June 30, 2020 and December 31, 2019, further segmented by three classes: Americas, Europe/Middle East/Africa (EMEA) and Asia Pacific.

(Dollars in millions) **At June 30, 2020:**	**Americas**	**EMEA**	**Asia Pacific**	**Total**
Amortized cost	$ 9,060	$ 4,932	$ 3,201	$ 17,192
Allowance for credit losses				
Beginning balance at December 31, 2019	$ 120	$ 54	$ 36	$ 210
Adjustment for adoption of new standard	21	15	5	41
Beginning balance at January 1, 2020	$ 142	$ 69	$ 41	$ 252
Write-offs	$ (17)	$ (1)	$ (2)	$ (21)
Recoveries	0	0	2	2
Additions/(releases)	28	9	(2)	34
Other*	(13)	0	(1)	(14)
Ending balance at June 30, 2020	$ 140	$ 76	$ 37	$ 253

* Primarily represents translation adjustments.

(Dollars in millions) At December 31, 2019:	Americas	EMEA	Asia Pacific	Total
Recorded investment				
Lease receivables	$ 3,419	$ 1,186	$ 963	$ 5,567
Loan receivables	6,726	3,901	2,395	13,022
Ending balance	$ 10,144	$ 5,087	$ 3,359	$ 18,590
Recorded investment collectively evaluated for impairment	$ 10,032	$ 5,040	$ 3,326	$ 18,399
Recorded investment individually evaluated for impairment	$ 112	$ 47	$ 32	$ 191
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	$ (42)	$ (3)	$ (18)	$ (63)
Recoveries	1	0	1	2
Additions/(releases)	5	(7)	(3)	(5)
Other*	(1)	0	(1)	(2)
Ending balance at December 31, 2019	$ 120	$ 54	$ 36	$ 210
Lease receivables	$ 33	$ 23	$ 16	$ 72
Loan receivables	$ 88	$ 31	$ 20	$ 138
Related allowance, collectively evaluated for impairment	$ 25	$ 11	$ 4	$ 39
Related allowance, individually evaluated for impairment	$ 96	$ 43	$ 32	$ 171

* Primarily represents translation adjustments.

Write-offs of lease receivables and loan receivables were $16 million and $47 million, respectively, for the year ended December 31, 2019. Provisions for credit losses recorded for lease receivables and loan receivables were a release of $6 million and an addition of $2 million, respectively, for the year ended December 31, 2019.

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 tables summarize information about the amortized cost basis or recorded investment in client financing receivables, including amortized cost or recorded investment aged over 90 days and still accruing, billed invoices aged over 90 days and still accruing, and amortized cost or recorded investment not accruing.

(Dollars in millions) At June 30, 2020:	Total Amortized Cost	Amortized Cost > 90 Days (1)	Amortized Cost > 90 Days and Accruing (1)	Billed Invoices > 90 Days and Accruing	Amortized Cost Not Accruing (2)
Americas	$ 9,060	$ 323	$ 231	$ 30	$ 111
EMEA	4,932	115	31	5	89
Asia Pacific	3,201	48	20	4	29
Total client financing receivables	$ 17,192	$ 486	$ 283	$ 38	$ 229

(1) At a contract level, which includes total billed and unbilled amounts for financing receivables aged greater than 90 days.
(2) Of the amortized cost not accruing, there is a related allowance of $171 million. Financing income recognized on these receivables was immaterial for the three and six months ended June 30, 2020, respectively.

(Dollars in millions) At December 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	$ 3,419	$ 187	$ 147	$ 11	$ 41
EMEA	1,186	28	13	2	17
Asia Pacific	963	19	7	1	11
Total lease receivables	$ 5,567	$ 234	$ 168	$ 14	$ 69
Americas	$ 6,726	$ 127	$ 71	$ 11	$ 72
EMEA	3,901	77	8	3	72
Asia Pacific	2,395	26	6	2	21
Total loan receivables	$ 13,022	$ 231	$ 85	$ 15	$ 166
Total	$ 18,590	$ 465	$ 253	$ 29	$ 235

(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, $191 million is individually evaluated for impairment with a related allowance of $171 million. Financing income recognized on these receivables was immaterial for the three and six months ended June 30, 2019, respectively.

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 credit quality of the customer is evaluated based on these indicators and is assigned the same risk rating whether the receivable is a lease or a loan.

The following tables present the amortized cost basis or recorded investment for client financing receivables by credit quality indicator at June 30, 2020 and December 31, 2019, respectively. Receivables with a credit quality indicator ranging from Aaa to Baa3 are considered investment grade. All others are considered non-investment grade. Effective January 1, 2020, under the new guidance for credit losses, the company discloses its credit quality by year of origination. Additionally, under the new guidance, the amortized cost is presented on a gross basis, whereas under the prior guidance, the company presented the recorded investment net of the allowance for credit losses. At June 30, 2020, the credit quality indicators reflect mitigating credit enhancement actions taken by customers which reduces the risk to IBM.

(Dollars in millions)	Americas		EMEA		Asia Pacific	
At June 30, 2020:	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D
Vintage year:						
2020	$ 1,556	$ 1,185	$ 925	$ 1,062	$ 548	$ 273
2019	2,076	1,187	922	836	719	271
2018	1,173	608	403	328	498	221
2017	582	257	107	170	266	77
2016	144	95	52	65	176	48
2015 and prior	57	140	37	27	80	24
Total	$ 5,588	$ 3,472	$ 2,444	$ 2,487	$ 2,287	$ 914

(Dollars in millions)	Lease Receivables			Loan Receivables		
At December 31, 2019:	Americas	EMEA	Asia Pacific	Americas	EMEA	Asia Pacific
Credit rating:						
Aaa – Aa3	$ 465	$ 54	$ 43	$ 1,028	$ 193	$ 189
A1 – A3	750	181	454	1,186	395	892
Baa1 – Baa3	955	409	147	1,882	1,527	619
Ba1 – Ba2	746	326	154	1,513	921	388
Ba3 – B1	215	140	101	471	564	205
B2 – B3	242	50	47	522	253	72
Caa – D	13	2	2	36	18	10
Total	$ 3,385	$ 1,162	$ 947	$ 6,638	$ 3,871	$ 2,376

Troubled Debt Restructurings

The company did not have any significant troubled debt restructurings during the six months ended June 30, 2020 or for the year ended December 31, 2019.

9. Leases:

Accounting for leases as a lessor

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

(Dollars in millions)	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Lease income — sales-type and direct financing leases				
Sales-type lease selling price	$ 368	$ 179	$ 579	$ 328
Less: Carrying value of underlying assets*	117	74	194	129
Gross profit	$ 251	$ 105	$ 385	$ 199
Interest income on lease receivables	65	73	139	151
Total sales-type and direct financing lease income	$ 316	$ 178	$ 524	$ 350
Lease income — operating leases	68	82	139	172
Variable lease income	27	9	58	27
Total lease income	$ 411	$ 269	$ 721	$ 548

* Excludes unguaranteed residual value.

10. Intangible Assets Including Goodwill:

Intangible Assets

The following table presents the company's intangible asset balances by major asset class:

(Dollars in millions)	At June 30, 2020 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class			
Capitalized software	$ 1,759	$ (776)	$ 983
Client relationships	8,665	(1,665)	7,000
Completed technology	5,964	(1,466)	4,498
Patents/trademarks	2,213	(445)	1,768
Other**	56	(35)	20
Total	$ 18,656	$ (4,387)	$ 14,270

(Dollars in millions)	At December 31, 2019 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class			
Capitalized software	$ 1,749	$ (743)	$ 1,006
Client relationships	8,921	(1,433)	7,488
Completed technology	6,261	(1,400)	4,861
Patents/trademarks	2,301	(445)	1,856
Other**	56	(31)	24
Total	$ 19,287	$ (4,052)	$ 15,235

* Amounts as of June 30, 2020 and December 31, 2019 include a decrease in net intangible asset balances of $6 million and $42 million, respectively, due to foreign currency translation.

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

The net carrying amount of intangible assets decreased $965 million during the first six months of 2020, primarily due to intangible asset amortization, partially offset by additions of capitalized software. The aggregate intangible amortization expense was $623 million and $1,245 million for the second quarter and first six months of 2020, respectively, versus $307 million and $610 million for the second quarter and first six months of 2019, respectively. The increase in intangible amortization expense was primarily due to an increase in the gross carrying amount of intangible assets from the Red Hat acquisition which closed in the third quarter of 2019. In addition, in the first six months of 2020, the company retired $913 million of fully amortized intangible assets, impacting both the gross carrying amount and accumulated amortization by this amount.

The future amortization expense relating to intangible assets currently recorded in the Consolidated Balance Sheet is estimated to be the following at June 30, 2020:

(Dollars in millions)	Capitalized Software	Acquired Intangibles	Total
Remainder of 2020	$ 288	$ 905	$ 1,193
2021	445	1,748	2,193
2022	215	1,686	1,901
2023	35	1,373	1,407
2024	0	1,323	1,323
Thereafter	—	6,251	6,251

Goodwill

The changes in the goodwill balances by segment for the six months ended June 30, 2020 and for the year ended December 31, 2019 are as follows:

(Dollars in millions) Segment	Balance 1/1/2020	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation And Other Adjustments**	Balance 6/30/2020
Cloud & Cognitive Software	$ 43,037	$ 11	$ (139)	$ —	$ (147)	$ 42,762
Global Business Services	5,775	—	—	—	(45)	5,730
Global Technology Services	7,141	—	—	—	(61)	7,080
Systems	2,270	—	—	—	(8)	2,261
Other—divested businesses	—	—	—	—	—	—
Total	$ 58,222	$ 11	$ (139)	$ —	$ (260)	$ 57,833

(Dollars in millions) Segment	Balance 1/1/2019	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation And Other Adjustments**	Balance 12/31/2019
Cloud & Cognitive Software*	$ 24,463	$ 18,399	$ 133	$ —	$ 41	$ 43,037
Global Business Services	4,711	1,059	1	(1)	5	5,775
Global Technology Services	3,988	3,119	—	—	34	7,141
Systems	1,847	525	(110)	—	7	2,270
Other—divested businesses*	1,256	—	—	(1,256)	—	—
Total	$ 36,265	$ 23,102	$ 24	$ (1,257)	$ 87	$ 58,222

* Recast to conform to 2020 presentation.
** Primarily driven by foreign currency translation.

There were no goodwill impairment losses recorded during the first six months of 2020 or full year 2019 and the company has no accumulated impairment losses.

Purchase price adjustments recorded in the first six months of 2020 and full year 2019 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. During the first six months of 2020, net purchase price adjustments recorded to noncurrent tax assets and liabilities were related to the Red Hat acquisition. Net purchase price adjustments recorded in full-year 2019 were not material.

11. Borrowings:

Short-Term Debt

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Commercial paper	$ 115	$ 304
Short-term loans	730	971
Long-term debt—current maturities	8,444	7,522
Total	$ 9,289	$ 8,797

The weighted-average interest rate for commercial paper at June 30, 2020 and December 31, 2019 was 1.4 percent and 1.6 percent, respectively. The weighted-average interest rate for short-term loans was 5.0 percent and 6.1 percent at June 30, 2020 and December 31, 2019, respectively.

Long-Term Debt

Pre-Swap Borrowing

(Dollars in millions)	Maturities	Balance 6/30/2020	Balance 12/31/2019
U.S. dollar debt (weighted-average interest rate at June 30, 2020):*			
2.2%	2020	$ 1,513	$ 4,326
1.6%	2021	5,536	8,498
2.6%	2022	6,246	6,289
3.3%	2023	2,403	2,388
3.3%	2024	5,041	5,045
6.6%	2025	654	636
3.3%	2026	4,350	4,350
3.0%	2027	2,219	969
6.5%	2028	313	313
3.5%	2029	3,250	3,250
2.0%	2030	1,350	—
5.9%	2032	600	600
8.0%	2038	83	83
4.5%	2039	2,745	2,745
2.9%	2040	650	—
4.0%	2042	1,107	1,107
7.0%	2045	27	27
4.7%	2046	650	650
4.3%	2049	3,000	3,000
3.0%	2050	750	—
7.1%	2096	316	316
		$ 42,804	$ 44,594
Other currencies (weighted-average interest rate at June 30, 2020, in parentheses):*			
Euro (1.1%)	2020–2040	$ 18,545	$ 14,306
Pound sterling (2.7%)	2020–2022	1,301	1,390
Japanese yen (0.3%)	2022–2026	1,349	1,339
Other (3.1%)	2020–2022	203	375
		$ 64,203	$ 62,003
Finance lease obligations (1.8%)	2021–2030	268	204
		$ 64,470	$ 62,207
Less: net unamortized discount		892	881
Less: net unamortized debt issuance costs		165	142
Add: fair value adjustment**		480	440
		$ 63,893	$ 61,624
Less: current maturities		8,444	7,522
Total		$ 55,449	$ 54,102

* Includes notes, debentures, bank loans and secured borrowings.

** The portion of the company's fixed-rate debt obligations that was hedged was reflected in the Consolidated Balance Sheet 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.

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 its 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.

In the first half of 2019, the company issued an aggregate of $20 billion of U.S. dollar fixed- and floating-rate notes and $5.7 billion of Euro fixed-rate notes. The proceeds were primarily used for the acquisition of Red Hat. For additional information on this transaction, refer to note 5, "Acquisitions & Divestitures." In the first half of 2020, the company issued an aggregate of $4.1 billion of Euro fixed-rate notes and $4.0 billion of U.S. dollar fixed-rate notes. The proceeds from the Euro issuance were primarily used to early redeem outstanding fixed-rate notes which were due in 2021 in the aggregate amount of $2.9 billion. The company incurred a loss of $49 million in the first quarter of 2020 upon redemption, which was recorded in other (income) and expense in the Consolidated Income Statement.

Pre-swap annual contractual obligations of long-term debt outstanding at June 30, 2020, are as follows:

(Dollars in millions)	Total
Remainder of 2020	$ 4,366
2021	6,937
2022	7,194
2023	5,417
2024	6,324
Thereafter	34,232
Total	$ 64,470

Interest on Debt

(Dollars in millions) For the six months ended June 30:	2020	2019
Cost of financing	$ 237	$ 343
Interest expense	649	558
Interest capitalized	5	3
Total interest paid and accrued	$ 891	$ 904

Lines of Credit

On July 2, 2020, the company and IBM Credit LLC entered into a new $2.5 billion 364-day Credit Agreement to replace the existing $2.5 billion 364-day Credit Agreement, and also extended the maturity date of the existing $2.5 billion Three-Year Credit Agreement. The new maturity dates for the 364-day and Three-Year Credit Agreements are July 1, 2021 and July 20, 2023, respectively. The company also amended its $10.25 billion Five-Year Credit Agreement to include an option exercisable in 2021 to extend the current maturity date of July 20, 2024 by an additional two years.

At June 30, 2020, there were no borrowings by the company, or its subsidiaries, under these credit facilities.

12. Commitments:

The company's extended lines of credit to third-party entities include unused amounts of $1.9 billion and $1.8 billion at June 30, 2020 and December 31, 2019, 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 $5.7 billion and $6.3 billion at June 30, 2020 and December 31, 2019, respectively. Effective January 1, 2020, the company adopted the new standard on credit losses, which resulted in the recognition of a related allowance for non-cancellable off-balance sheet commitments. Refer to note 2, "Accounting Changes," for additional information. The allowance for these commitments is recorded in other liabilities in the Consolidated Balance Sheet and was not material at June 30, 2020. The company collectively evaluates the allowance for these arrangements using a provision methodology consistent with the portfolio of the commitments. Refer to note 8, "Financing Receivables," for additional information.

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 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 and the fair value of these guarantees recognized in the Consolidated Balance Sheet at June 30, 2020 and December 31, 2019 was not material.

Changes in the company's warranty liability for standard warranties, which are included in other accrued expenses and liabilities and other liabilities in the Consolidated Balance Sheet, and for extended warranty contracts, which are included in deferred income in the Consolidated Balance Sheet, are presented in the following tables.

Standard Warranty Liability

(Dollars in millions)	2020	2019
Balance at January 1	$ 113	$ 118
Current period accruals	43	45
Accrual adjustments to reflect actual experience	(14)	(1)
Charges incurred	(49)	(59)
Balance at June 30	$ 93	$ 103

Extended Warranty Liability

(Dollars in millions)	2020	2019
Balance at January 1	$ 477	$ 533
Revenue deferred for new extended warranty contracts	93	81
Amortization of deferred revenue	(115)	(128)
Other*	(9)	0
Balance at June 30	$ 445	$ 486
Current portion	$ 216	$ 225
Noncurrent portion	$ 228	$ 260

* Other primarily consists of foreign currency translation adjustments.

13. 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 June 30, 2020 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 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 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.

In December 2017, CIS General Insurance Limited (CISGIL) sued IBM UK regarding a contract entered into by IBM UK and CISGIL in 2015 to implement and operate an IT insurance platform. The contract was terminated by IBM UK in July 2017 for non-payment by CISGIL. CISGIL alleges wrongful termination, breach of contract and breach of warranty. The matter is pending in the London High Court with trial beginning in January 2020.

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. On January 14, 2020, the Supreme Court of the United States vacated the decision and remanded the case to the Second Circuit. On June 22, 2020, the Second Circuit reinstated its prior decision and remanded the case to the District Court.

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 $700 million. The company believes it will prevail on these matters and that this amount is not a meaningful indicator of liability.

14. Equity Activity:

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the three months ended June 30, 2020:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 4	$ 135	$ 139
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	$ (36)	$ 9	$ (26)
Reclassification of (gains)/losses to:			
Cost of services	1	0	1
Cost of sales	(9)	3	(7)
Cost of financing	7	(2)	5
SG&A expense	(7)	2	(5)
Other (income) and expense	(70)	18	(52)
Interest expense	19	(5)	15
Total unrealized gains/(losses) on cash flow hedges	$ (94)	$ 25	$ (70)
Retirement-related benefit plans (1):			
Prior service costs/(credits)	$ —	$ 0	$ 0
Net (losses)/gains arising during the period	57	(22)	35
Curtailments and settlements	13	(4)	9
Amortization of prior service (credits)/costs	0	1	1
Amortization of net (gains)/losses	566	(155)	411
Total retirement-related benefit plans	$ 637	$ (180)	$ 457
Other comprehensive income/(loss)	$ 548	$ (21)	$ 527

(1) These accumulated other comprehensive income (AOCI) components are included in the computation of net periodic pension cost. Refer to note 17, “Retirement-Related Benefits,” for additional information.

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the three months ended June 30, 2019:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 5	$ 37	$ 42
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (2)	$ 0	$ (1)
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ (2)	$ 0	$ (1)
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ (6)	$ 2	$ (4)
Reclassification of (gains)/losses to:			
Cost of services	(20)	5	(15)
Cost of sales	(11)	3	(8)
Cost of financing	25	(6)	18
SG&A expense	(12)	3	(9)
Other (income) and expense	(202)	51	(151)
Interest expense	52	(13)	39
Total unrealized gains/(losses) on cash flow hedges	$ (175)	$ 45	$ (129)
Retirement-related benefit plans (1):			
Net (losses)/gains arising during the period	$ 116	$ (25)	$ 92
Curtailments and settlements	3	0	3
Amortization of prior service (credits)/costs	(3)	0	(3)
Amortization of net (gains)/losses	460	(123)	337
Total retirement-related benefit plans	$ 576	$ (147)	$ 430
Other comprehensive income/(loss)	$ 405	$ (64)	$ 340

(1) These AOCI components are included in the computation of net periodic pension cost. Refer to note 17, “Retirement-Related Benefits,” for additional information.

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the six months ended June 30, 2020:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ (915)	$ 13	$ (902)
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	$ (216)	$ 55	$ (162)
Reclassification of (gains)/losses to:			
Cost of services	(9)	2	(6)
Cost of sales	(18)	5	(13)
Cost of financing	15	(4)	11
SG&A expense	(17)	4	(13)
Other (income) and expense	19	(5)	15
Interest expense	41	(10)	31
Total unrealized gains/(losses) on cash flow hedges	$ (184)	$ 47	$ (137)
Retirement-related benefit plans (1):			
Prior service costs/(credits)	$ (4)	$ 1	$ (3)
Net (losses)/gains arising during the period	65	(24)	41
Curtailments and settlements	21	(6)	15
Amortization of prior service (credits)/costs	1	1	2
Amortization of net (gains)/losses	1,136	(312)	824
Total retirement-related benefit plans	$ 1,219	$ (341)	$ 879
Other comprehensive income/(loss)	$ 121	$ (281)	$ (160)

(1) These AOCI components are included in the computation of net periodic pension cost. Refer to note 17, “Retirement-Related Benefits,” for additional information.

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the six months ended June 30, 2019:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 176	$ 38	$ 214
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (3)	$ 1	$ (2)
Reclassification of (gains)/losses to other (income) and expense	—	—	—
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	$ (359)	$ 87	$ (272)
Reclassification of (gains)/losses to:			
Cost of services	(29)	8	(22)
Cost of sales	(30)	8	(21)
Cost of financing	53	(13)	40
SG&A expense	(34)	9	(25)
Other (income) and expense	(115)	29	(86)
Interest expense	86	(22)	64
Total unrealized gains/(losses) on cash flow hedges	$ (429)	$ 106	$ (323)
Retirement-related benefit plans (1):			
Net (losses)/gains arising during the period	$ 113	$ (24)	$ 89
Curtailments and settlements	4	0	4
Amortization of prior service (credits)/costs	(6)	1	(5)
Amortization of net (gains)/losses	924	(252)	671
Total retirement-related benefit plans	$ 1,035	$ (275)	$ 760
Other comprehensive income/(loss)	$ 779	$ (131)	$ 649

(1) These AOCI components are included in the computation of net periodic pension cost. Refer to note 17, "Retirement-Related Benefits," for additional information.

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, 2020	$ (179)	$ (3,700)	$ (24,718)	$ 0	$ (28,597)
Other comprehensive income before reclassifications	(162)	(902)	38	1	(1,025)
Amount reclassified from accumulated other comprehensive income	25	—	841	—	866
Total change for the period	$ (137)	$ (902)	$ 879	$ 1	$ (160)
June 30, 2020	$ (316)	$ (4,602)	$ (23,839)	$ 1	$ (28,757)

* 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, 2019	$ 284	$ (3,690)	$ (26,083)	$ 0	$ (29,490)
Other comprehensive income before reclassifications	(272)	214	89	(2)	29
Amount reclassified from accumulated other comprehensive income	(51)	—	671	—	620
Total change for the period	$ (323)	$ 214	$ 760	$ (2)	$ 649
June 30, 2019	$ (39)	$ (3,477)	$ (25,323)	$ (2)	$ (28,841)

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

15. 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.

In the Consolidated Balance Sheet, 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 accounts payable for the obligation to return cash collateral at June 30, 2020 was $2 million and no amount was recognized at December 31, 2019. No amount was recognized in other accounts receivable for the right to reclaim cash collateral at June 30, 2020 and $26 million was recognized at December 31, 2019. The company restricts the use of cash collateral received to rehypothecation, and therefore reports it in restricted cash in the Consolidated Balance Sheet. No amount was rehypothecated at June 30, 2020 and December 31, 2019. Additionally, if derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Balance Sheet at June 30, 2020 and December 31, 2019, the total derivative asset and liability positions each would have been reduced by $220 million and $194 million, respectively.

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 June 30, 2020 and December 31, 2019, the total notional amount of the company's interest-rate

swaps was $3.0 billion at both periods. The weighted-average remaining maturity of these instruments at June 30, 2020 and December 31, 2019 was approximately 1.7 years and 2.2 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 June 30, 2020 and December 31, 2019.

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. In the second quarter of 2019, the company issued an aggregate of $20 billion of indebtedness (refer to note 11, “Borrowings,” for additional information). Following the receipt of the net proceeds from this debt offering, the company terminated $5.5 billion of forward starting interest-rate swaps. There were no instruments outstanding at June 30, 2020 and December 31, 2019.

In connection with cash flow hedges of forecasted interest payments related to the company's borrowings, the company recorded net losses of $183 million and net losses of $192 million (before taxes) at June 30, 2020 and December 31, 2019, respectively, in AOCI. The company estimates that $18 million (before taxes) of the deferred net losses on derivatives in AOCI at June 30, 2020 will be reclassified to net income within the next 12 months, providing an offsetting economic impact against the underlying interest payments.

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. At June 30, 2020 and December 31, 2019, the carrying value of debt designated as hedging instruments was $17.1 billion and $7.3 billion, respectively. The $9.8 billion increase is part of the company’s risk management strategy and is primarily for the designation of new issuances and previously hedged Euro denominated debt. The company also uses cross-currency swaps and foreign exchange forward contracts for risk management purposes. At June 30, 2020 and December 31, 2019, the total notional amount of derivative instruments designated as net investment hedges was $8.8 billion and $7.9 billion, respectively. At June 30, 2020 and December 31, 2019, the weighted-average remaining maturity of these instruments was approximately 0.3 years and 0.1 years, respectively.

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 remaining length of time over which the company hedged its exposure is approximately four years. At June 30, 2020 and December 31, 2019, the total notional amount of forward contracts designated as cash flow hedges of forecasted royalty and cost transactions was $9.4 billion and $9.7 billion, respectively. At June 30, 2020 and December 31, 2019, the weighted-average remaining maturity of these instruments was approximately 0.7 years and 0.8 years, respectively.

At June 30, 2020 and December 31, 2019, in connection with cash flow hedges of anticipated royalties and cost transactions, the company recorded net gains of $58 million and net gains of $145 million (before taxes), respectively, in AOCI. The company estimates that $28 million (before taxes) of deferred net gains on derivatives in AOCI at June 30, 2020 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. At June 30, 2020, the maximum length of time remaining over which the company hedged its exposure was approximately eight years. At June 30, 2020 and December 31, 2019, the total notional amount of cross-currency swaps designated as cash flow hedges of foreign currency denominated debt was $2.4 billion and $8.2 billion, respectively. The $5.7 billion decrease in cross-currency swaps is part of the company's risk management strategy and the previously hedged foreign currency denominated debt has been designated as a hedge of net investment in foreign subsidiaries.

At June 30, 2020 and December 31, 2019, in connection with cash flow hedges of foreign currency denominated borrowings, the company recorded net losses of $291 million and net losses of $185 million (before taxes), respectively, in AOCI. The company estimates that $25 million (before taxes) of deferred net losses on derivatives in AOCI at June 30, 2020 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 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 Income Statement. At June 30, 2020 and December 31, 2019, the total notional amount of derivative instruments in economic hedges of foreign currency exposure was $4.3 billion and $7.1 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 Income Statement. 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 Income Statement. At June 30, 2020 and December 31, 2019, the total notional amount of derivative instruments in economic hedges of these compensation obligations was $1.2 billion and $1.3 billion, respectively.

Cumulative Basis Adjustments for Fair Value Hedges

At June 30, 2020 and December 31, 2019, the following amounts were recorded in the Consolidated Balance Sheet related to cumulative basis adjustments for fair value hedges:

(Dollars in millions)	June 30, 2020	December 31, 2019
Short-term debt:		
Carrying amount of the hedged item	$ (1,313)	$ —
Cumulative hedging adjustments included in the carrying amount - assets/(liabilities)	(14)	—
Long-term debt:		
Carrying amount of the hedged item	$ (2,138)	$ (3,411)
Cumulative hedging adjustments included in the carrying amount - assets/(liabilities)	(466)(1)	(440)(1)

(1) Includes ($378) million and ($404) million of hedging adjustments on discontinued hedging relationships at June 30, 2020 and December 31, 2019, respectively.

The Effect of Derivative Instruments in the Consolidated Income Statement

The total amounts of income and expense line items presented in the Consolidated Income Statement 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 June 30:	2020	2019	2020	2019
Cost of services	$ 7,520	$ 8,181 *	$ (1)	$ 20
Cost of sales	1,739	1,741 *	9	11
Cost of financing	165	228	2	(18)
SG&A expense	5,248	5,456	157	38
Other (income) and expense	179	(747)	92	271
Interest expense	323	348	7	(39)

* Reclassified to conform to current period presentation.

(Dollars in millions) For the three months ended June 30:	Consolidated Income Statement Line Item	Gain (Loss) Recognized in Consolidated Income Statement: Recognized on Derivatives 2020	Recognized on Derivatives 2019	Attributable to Risk Being Hedged (2) 2020	Attributable to Risk Being Hedged (2) 2019
Derivative instruments in fair value hedges (1):					
Interest rate contracts	Cost of financing	$ 3	$ 23	$ 3	$ (20)
	Interest expense	8	48	8	(43)
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	22	69	N/A	N/A
Equity contracts	SG&A expense	150	26	N/A	N/A
Total		$ 183	$ 165	$ 11	$ (64)

(Dollars in millions) For the three months ended June 30:	Gain (Loss) Recognized in Consolidated Income Statement and Other Comprehensive Income: Recognized in OCI 2020	Recognized in OCI 2019	Consolidated Income Statement Line Item	Reclassified from AOCI 2020	Reclassified from AOCI 2019	Amounts Excluded from Effectiveness Testing (3) 2020	Amounts Excluded from Effectiveness Testing (3) 2019
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ 3	Cost of financing	$ (1)	$ (1)	$ —	$ —
			Interest expense	(3)	(2)	—	—
Foreign exchange contracts	(36)	(10)	Cost of services	(1)	20	—	—
			Cost of sales	9	11	—	—
			Cost of financing	(6)	(24)	—	—
			SG&A expense	7	12	—	—
			Other (income) and expense	70	202	—	—
			Interest expense	(16)	(51)	—	—
Instruments in net investment hedges (4):							
Foreign exchange contracts	(535)	(148)	Cost of financing	—	—	4	4
			Interest expense	—	—	10	9
Total	$ (571)	$ (154)		$ 59	$ 168	$ 14	$ 13

(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

(Dollars in millions) For the six months ended June 30:	Total 2020	Total 2019	Gains/(Losses) of Total Hedge Activity 2020	Gains/(Losses) of Total Hedge Activity 2019
Cost of services	$ 15,363	$ 16,453 *	$ 9	$ 29
Cost of sales	3,363	3,344 *	18	30
Cost of financing	345	492	6	(36)
SG&A expense	11,203	10,147	(34)	179
Other (income) and expense	361	(820)	(9)	202
Interest expense	649	558	16	(59)

* Reclassified to conform to current period presentation.

(Dollars in millions) For the six months ended June 30:	Consolidated Income Statement Line Item	Gain (Loss) Recognized in Consolidated Income Statement: Recognized on Derivatives 2020	Recognized on Derivatives 2019	Attributable to Risk Being Hedged (2) 2020	Attributable to Risk Being Hedged (2) 2019
Derivative instruments in fair value hedges (1):					
Interest rate contracts	Cost of financing	$ 21	$ 55	$ (11)	$ (50)
	Interest expense	56	90	(29)	(82)
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	10	87	N/A	N/A
Equity contracts	SG&A expense	(51)	145	N/A	N/A
Total		$ 37	$ 377	$ (39)	$ (132)

(Dollars in millions) For the six months ended June 30:	Gain (Loss) Recognized in Consolidated Income Statement and Other Comprehensive Income: Recognized in OCI 2020	Recognized in OCI 2019	Consolidated Income Statement Line Item	Reclassified from AOCI 2020	Reclassified from AOCI 2019	Amounts Excluded from Effectiveness Testing (3) 2020	Amounts Excluded from Effectiveness Testing (3) 2019
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ (168)	Cost of financing	$ (2)	$ (1)	$ —	$ —
			Interest expense	(6)	(1)	—	—
Foreign exchange contracts	(216)	(191)	Cost of services	9	29	—	—
			Cost of sales	18	30	—	—
			Cost of financing	(13)	(52)	—	—
			SG&A expense	17	34	—	—
			Other (income) and expense	(19)	115	—	—
			Interest expense	(35)	(85)	—	—
Instruments in net investment hedges (4):							
Foreign exchange contracts	(50)	(128)	Cost of financing	—	—	11	12
			Interest expense	—	—	30	19
Total	$ (266)	$ (487)		$ (32)	$ 70	$ 41	$ 30

(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 and six months ended June 30, 2020 and 2019, 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.

16. 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)	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Cost	$ 40	$ 22	$ 67	$ 42
Selling, general and administrative	155	93	272	167
Research, development and engineering	52	21	97	39
Pre-tax stock-based compensation cost	$ 247	$ 135	$ 436	$ 248
Income tax benefits	(52)	(29)	(96)	(54)
Total net stock-based compensation cost	$ 196	$ 106	$ 340	$ 194

Pre-tax stock-based compensation cost for the three months ended June 30, 2020 increased $112 million compared to the corresponding period in the prior year. This was primarily due to increases related to the conversion of stock-based compensation previously issued by Red Hat ($62 million), restricted stock units ($45 million) and performance share units ($5 million).

Pre-tax stock-based compensation cost for the six months ended June 30, 2020 increased $188 million compared to the corresponding period in the prior year. This was primarily due to increases related to the conversion of stock-based compensation previously issued by Red Hat ($127 million) and restricted stock units ($63 million), partially offset by decreases in performance share units ($2 million).

Total unrecognized compensation cost related to non-vested awards at June 30, 2020 was $1.6 billion and is expected to be recognized over a weighted-average period of approximately 2.6 years.

Capitalized stock-based compensation cost was not material at June 30, 2020 and 2019.

17. 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 tables provide the pre-tax cost for all retirement-related plans.

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Retirement-related plans — cost			
Defined benefit and contribution pension plans — cost	$ 596	$ 441	34.9 %
Nonpension postretirement plans — cost	50	53	(5.6)
Total	$ 645	$ 494	30.6 %

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Retirement-related plans — cost			
Defined benefit and contribution pension plans — cost	$ 1,179	$ 878	34.3 %
Nonpension postretirement plans — cost	102	107	(4.8)
Total	$ 1,281	$ 985	30.0 %

The following tables provide the components of the cost/(income) for the company's pension plans.

Cost/(Income) of Pension Plans

(Dollars in millions) For the three months ended June 30:	U.S. Plans 2020	U.S. Plans 2019	Non-U.S. Plans 2020	Non-U.S. Plans 2019
Service cost	$ —	$ —	$ 95	$ 93
Interest cost (1)	375	469	137	206
Expected return on plan assets (1)	(542)	(650)	(311)	(396)
Amortization of prior service costs/(credits) (1)	4	4	(5)	(7)
Recognized actuarial losses (1)	207	139	340	312
Curtailments and settlements (1)	—	—	13	3
Multi-employer plans	—	—	7	8
Other costs/(credits) (1)	—	—	9	6
Total net periodic pension (income)/cost of defined benefit plans	$ 44	$ (37)	$ 284	$ 225
Cost of defined contribution plans	154	140	113	114
Total defined benefit and contribution pension plans cost recognized in the Consolidated Income Statement	$ 198	$ 103	$ 397	$ 339

(Dollars in millions) For the six months ended June 30:	U.S. Plans 2020	U.S. Plans 2019	Non-U.S. Plans 2020	Non-U.S. Plans 2019
Service cost	$ —	$ —	$ 190	$ 185
Interest cost (1)	750	941	266	413
Expected return on plan assets (1)	(1,084)	(1,300)	(620)	(795)
Amortization of prior service costs/(credits) (1)	8	8	(9)	(13)
Recognized actuarial losses (1)	415	279	682	626
Curtailments and settlements (1)	—	—	21	4
Multi-employer plans	—	—	14	17
Other costs/(credits) (1)	—	—	14	11
Total net periodic pension (income)/cost of defined benefit plans	$ 89	$ (71)	$ 559	$ 449
Cost of defined contribution plans	309	289	223	212
Total defined benefit and contribution pension plans cost recognized in the Consolidated Income Statement	$ 398	$ 218	$ 782	$ 661

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

The following tables provide the components of the cost for the company's nonpension postretirement plans.

Cost of Nonpension Postretirement Plans

(Dollars in millions) For the three months ended June 30:	U.S. Plan 2020	U.S. Plan 2019	Non-U.S. Plans 2020	Non-U.S. Plans 2019
Service cost	$ 2	$ 3	$ 1	$ 1
Interest cost (1)	26	36	8	12
Expected return on plan assets (1)	—	—	(1)	(1)
Amortization of prior service costs/(credits) (1)	1	(1)	0	0
Recognized actuarial losses (1)	7	0	5	3
Curtailments and settlements (1)	—	—	—	—
Total nonpension postretirement plans cost recognized in Consolidated Income Statement	$ 36	$ 38	$ 14	$ 15

(Dollars in millions)	U.S. Plan		Non-U.S. Plans	
For the six months ended June 30:	2020	2019	2020	2019
Service cost	$ 4	$ 5	$ 3	$ 3
Interest cost (1)	51	73	18	25
Expected return on plan assets (1)	—	—	(2)	(3)
Amortization of prior service costs/(credits) (1)	2	(1)	0	0
Recognized actuarial losses (1)	15	0	11	5
Curtailments and settlements (1)	—	—	0	0
Total nonpension postretirement plans cost recognized in Consolidated Income Statement	$ 72	$ 77	$ 29	$ 30

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

The company does not anticipate any significant changes to the expected plan contributions in 2020 from the amounts disclosed in the 2019 Annual Report.

The table below includes contributions to the following plans:

	Plan Contributions			
	Three Months Ended June 30,		Six Months Ended June 30,	
(Dollars in millions)	2020	2019	2020	2019
U.S. nonpension postretirement benefit plan	$ 65	$ 33	$ 200	$ 227
Non-U.S. DB and multi-employer plans	29	34	111	128
Total plan contributions	$ 94	$ 66	$ 311	$ 355

During the three months ended June 30, 2020 and 2019, $155 million and $101 million, respectively, was contributed in U.S. Treasury securities (includes the Active Medical Trust). During the six months ended June 30, 2020 and 2019, $410 million and $357 million, respectively, was contributed in U.S. Treasury securities (includes the Active Medical Trust). The contribution of U.S. Treasury securities is considered a non-cash transaction.

18. Subsequent Events:

On July 28, 2020, the company announced that the Board of Directors approved a quarterly dividend of $1.63 per common share. The dividend is payable September 10, 2020 to shareholders of record on August 10, 2020.

Item 2.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2020

Snapshot

Financial Results Summary — Three Months Ended June 30:

(Dollars and shares in millions except per share amounts) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change*
Revenue	$ 18,123	$ 19,161	(5.4)%**
Gross profit margin	48.0 %	47.0 %	1.0 pts.
Total expense and other (income)	$ 7,129	$ 6,242	14.2 %
Income from continuing operations before income taxes	$ 1,571	$ 2,768	(43.2)%
Provision for income taxes from continuing operations	$ 209	$ 269	(22.2)%
Income from continuing operations	$ 1,362	$ 2,499	(45.5)%
Income from continuing operations margin	7.5 %	13.0 %	(5.5)pts.
Net income	$ 1,361	$ 2,498	(45.5)%
Earnings per share from continuing operations - assuming dilution	$ 1.52	$ 2.81	(45.9)%
Weighted-average shares outstanding - assuming dilution	894.9	890.8	0.5 %

* 2020 results were impacted by Red Hat acquisition-related activity.
** (3.9) percent adjusted for currency; (1.9) percent excluding divested businesses and adjusted for currency.

Organization of Information:

In the first quarter of 2020, we realigned offerings and the related management system to reflect divestitures completed in the second half of 2019 and tighter integration of certain industry-specific consulting services. These changes impacted Cloud & Cognitive Software and Global Business Services but did not impact the Consolidated Financial Statements. Total recast revenue for full-year 2019 was approximately $0.3 billion of IBM's total $77 billion. Refer to note 4, "Segments," for additional information on our reportable segments. The periods presented in this Form 10-Q are reported on a comparable basis. We provided recast historical segment information reflecting these changes in a Form 8-K dated April 21, 2020.

On July 9, 2019, IBM acquired 100 percent of the outstanding shares of Red Hat, Inc. (Red Hat). Red Hat is reported within the Cloud & Cognitive Software segment, in Cloud & Data Platforms. Compared to the prior-year period, the Consolidated Income Statement for the three and six months ended June 30, 2020 includes impacts from purchase accounting adjustments, higher intangible asset amortization and other acquisition-related activities. Refer to note 5, "Acquisitions & Divestitures," for additional information.

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" for additional information.

Revenue Adjusted for Divested Businesses and Constant Currency:

To provide better transparency on the recurring performance of the ongoing business, the company provides total revenue, geographic revenue and cloud revenue growth rates excluding divested businesses and at constant currency. These divested businesses are included in the category "Other–divested businesses."

Operating (non-GAAP) Earnings:

In an effort to provide better transparency into the operational results of the business, supplementally, 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), management characterizes the one-time provisional charge recorded in the fourth quarter of 2017 and 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 retention, 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 significantly impacted by 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, management 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, management believes that supplementally 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. Our reportable segment financial results reflect pre-tax operating earnings from continuing operations, consistent with our management and measurement system. In addition, these non-GAAP measures provide a perspective consistent with areas of interest we routinely receive from investors and analysts.

The following table provides the company's operating (non-GAAP) earnings for the second quarter of 2020 and 2019.

(Dollars in millions except per share amounts) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change*
Net income as reported	$ 1,361	$ 2,498	(45.5)%
Income/(loss) from discontinued operations, net of tax	(1)	(1)	(26.6)
Income from continuing operations	$ 1,362	$ 2,499	(45.5)%
Non-operating adjustments (net of tax):			
Acquisition-related charges	365	217	68.3
Non-operating retirement-related costs/(income)	222	97	129.9
U.S. tax reform charges	—	14	(100.0)
Operating (non-GAAP) earnings**	$ 1,949	$ 2,827	(31.0)%
Diluted operating (non-GAAP) earnings per share**	$ 2.18	$ 3.17	(31.2)%

* 2020 results were impacted by Red Hat acquisition-related activity.

** Refer to page 90 for a more detailed reconciliation of net income to operating earnings and operating earnings per share.

Environmental Dynamics

On March 11, 2020, the World Health Organization (WHO) declared the novel coronavirus (COVID-19) a global pandemic. This resulted in significant governmental measures being initiated around the globe, including travel bans and border closings, shelter-in-place orders, closures of non-essential businesses and social distancing requirements in efforts to slow down and control the spread of the virus.

The health of IBM employees, our clients, business partners and community remain our primary focus. We are actively engaged to ensure our plans and response activities continue to be aligned with recommendations of the WHO, the U.S. Centers for Disease Control and Prevention and governmental regulations.

IBM's technical and industry leaders continue to provide help to government and health agencies as they monitor and manage the outbreak. IBM's Summit supercomputer is helping researchers at the U.S. Department of Energy identify drug compounds that could disable the coronavirus. IBM's Watson Health unit is working directly with health organizations around the world to better understand the nature of COVID-19. The IBM Clinical Development system has been made available, without charge, to national health agencies to reduce the time and cost of clinical trials by providing data and analysis from web-enabled devices. Our cognitive Operational Risk Insight tool has also been made available to not-for-profit organizations. IBM extended its online education resources for teachers, students and parents on IBM Skills, offering them the ability to tap into new knowledge, skills and online credentials, anytime, anywhere and for free. We worked with the City of New York through delivery of 300,000 tablets with educational software and free cellular data connections to help students learn remotely.

The COVID-19 pandemic is an unprecedented, global challenge and it has placed every company in uncharted waters. In this current environment, the underlying fundamentals of our business continue to remain sound:

- IBM has always focused on the enterprise space, and within that our business is more concentrated in large enterprises, which in total have been relatively more stable throughout the pandemic;
- Our diversification and mix by industry, geography and client segment provides some stability during these times;
- From an industry perspective, the majority of our revenue comes from clients in financial services, telecom, and the public sector – including government and healthcare;

- Approximately 70 percent of our revenue comes from industries that run the world's most critical processes, such as core banking systems, supply chains, and claims processing, and those industries have been less impacted;
- From a geographic perspective, we are continuing to see markets experience different impacts from the pandemic over time. Our global footprint of more than 170 countries provides some natural hedge.
- Approximately 60 percent of our annual revenue is in recurring revenue streams;
- Our innovative technology and our industry-specific expertise are assets to our clients; and,
- Our balance sheet remains strong with ample liquidity and access to capital, and we remain committed to our dividend to provide value to shareholders.

Our industry, geographic and client profile and our annuity base provide some level of stability, not only in our revenue, but also in profit and cash, as we manage through these challenging times. However, while we have adapted quickly to conduct business virtually around the world, with the current macroeconomic environment, we have experienced disruptions in transactional performance and volume reductions.

The long-term economic effects of the pandemic remain unknown. However, this environment has only reinforced the need for clients to accelerate their digital transformations, with hybrid cloud and AI at the core of their reinventions. While the current environment poses certain short-term challenges, it also presents long-term opportunities that IBM will seize as our hybrid cloud and AI platforms, together with our expertise in running critical processes, ideally position us to guide clients on their journeys.

Financial Performance Summary — Three Months Ended June 30:

In the second quarter of 2020, we reported $18.1 billion in revenue, $1.4 billion in income from continuing operations and operating (non-GAAP) earnings of $1.9 billion, resulting in diluted earnings per share from continuing operations of $1.52 as reported and $2.18 on an operating (non-GAAP) basis. We also generated $3.6 billion in cash from operations, $2.3 billion in free cash flow and delivered shareholder returns of $1.5 billion through dividends. Although the external dynamics associated with the pandemic continued into the second quarter, these results reflect strong performance in hybrid cloud, momentum in Red Hat, gross margin expansion and solid cash generation.

Total consolidated revenue decreased 5.4 percent as reported and 2 percent excluding divested businesses and adjusted for currency. Across our segments, there were impacts from transactional performance and volume reductions as clients continued to delay projects, defer purchases and favor operational expenditures over capital spending in the current environment. This slowdown in large purchases and discretionary spending was most evident in our transactional software and project-oriented services. On a segment basis, Cloud & Cognitive Software increased 3.3 percent as reported and 5 percent adjusted for currency. Within this segment, Cloud & Data Platforms grew 28.7 percent (30 percent adjusted for currency) as a result of the Red Hat acquisition and continued momentum, but this growth was partially offset by declines in Cognitive Applications and Transaction Processing Platforms. We had a significant increase in the number of Red Hat large deals in the quarter and expanded Red Hat's presence in certain underpenetrated markets. Global Business Services (GBS) decreased 7.3 percent as reported (6 percent adjusted for currency) with declines across all lines of business. Clients' shift to focus on their operational stability and cash preservation delayed both existing projects and new commitments. Global Technology Services (GTS) decreased 7.6 percent as reported (5 percent adjusted for currency), with declines in Infrastructure & Cloud Services and Technology Support Services. In this segment, revenue was impacted by lower volumes in more challenged industries including retail, automotive, consumer goods, and travel and transportation. Systems grew 5.7 percent as reported (6 percent adjusted for currency) driven by continued strong performance in IBM Z and good growth in Storage Systems.

Total cloud revenue of $6.3 billion in the second quarter of 2020 grew 30 percent as reported (32 percent adjusted for currency) and 34 percent excluding divested businesses and adjusted for currency, an increase of over 10 points of

growth compared to the last quarter. Over the trailing 12 months, total cloud revenue was $23.5 billion, up 20 percent as reported (22 percent adjusted for currency) and 23 percent excluding divested businesses and adjusted for currency.

From a geographic perspective, Americas revenue declined 4.0 percent year to year as reported but was flat excluding divested businesses and adjusted for currency. Europe/Middle East/Africa (EMEA) decreased 7.4 percent as reported (3 percent excluding divested businesses and adjusted for currency). Asia Pacific declined 5.4 percent year to year as reported (4 percent excluding divested businesses and adjusted for currency).

Total consolidated gross margin of 48.0 percent increased 1.0 points year to year reflecting the combination of Red Hat, our focus on productivity and operational efficiencies and cloud scale-out. Operating (non-GAAP) gross margin of 49.0 percent increased 1.6 points versus the prior year, primarily driven by the same factors.

Total expense and other (income) increased 14.2 percent in the second quarter of 2020 versus the prior-year period driven by higher spending primarily from the addition of Red Hat, lower gains from divestitures, higher amortization of intangible assets due to the Red Hat acquisition and non-operating retirement-related costs, partially offset by lower workforce rebalancing charges and lower expense from divested businesses. Total operating (non-GAAP) expense and other (income) increased 11.2 percent year to year, driven primarily by the factors above excluding the higher amortization of intangible assets and non-operating retirement-related costs.

The pre-tax income from continuing operations in the second quarter of 2020 was $1.6 billion, compared to $2.8 billion in the second quarter of 2019. The pre-tax margin was 8.7 percent, a decrease of 5.8 points versus the prior-year period. The current year was impacted by Red Hat acquisition-related spending and deferred revenue purchase price adjustment. The continuing operations provision from income taxes in the second quarter of 2020 was $0.2 billion compared to $0.3 billion in the second quarter of 2019. Net income of $1.4 billion decreased 45.5 percent and the net income margin was 7.5 percent, a decrease of 5.5 points year to year.

Operating (non-GAAP) pre-tax income from continuing operations of $2.3 billion decreased 27.0 percent year to year and the operating (non-GAAP) pre-tax margin from continuing operations decreased 3.8 points to 12.8 percent. The operating (non-GAAP) provision for income taxes was $0.4 billion in the second quarter of 2020 compared to $0.3 billion in the second quarter of 2019. Operating (non-GAAP) income from continuing operations of $1.9 billion decreased 31.0 percent with an operating (non-GAAP) income margin from continuing operations of 10.8 percent, down 4.0 points year to year.

Diluted earnings per share from continuing operations of $1.52 in the second quarter of 2020 decreased 45.9 percent and operating (non-GAAP) diluted earnings per share of $2.18 decreased 31.2 percent versus the second quarter of 2019.

We generated $3.6 billion in cash flow provided by operating activities, an increase of $0.6 billion compared to the second quarter of 2019. In the second quarter of 2020, investing activities were a net use of cash of $1.2 billion compared to a source of cash of $4.2 billion in the prior year. The $5.4 billion change year to year was driven by a decrease in cash provided by non-operating finance receivables primarily related to the wind down of the OEM IT commercial financing operations and an increase in cash used for net purchases of marketable securities. Financing activities were a use of cash of $1.6 billion in the second quarter of 2020 compared to a source of cash of $21.0 billion in the prior-year period. The $22.7 billion change year to year was driven by a decrease in net cash sourced from debt transactions, primarily due to issuances in the prior year to fund the Red Hat acquisition.

Given the uncertainty in the environment, and consistent with our direction in the first quarter, we are not providing 2020 expectations. Refer to the Looking Forward section for additional information.

Financial Results Summary —Six Months Ended June 30:

(Dollars and shares in millions except per share amounts) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change*
Revenue	$ 35,694	$ 37,342	(4.4)%**
Gross profit margin	46.6 %	45.7 %	0.9 pts.
Total expense and other (income)	$ 15,101	$ 12,402	21.8 %
Income from continuing operations before income taxes	$ 1,522	$ 4,651	(67.3)%
Provision for/(benefit from) income taxes from continuing operations	$ (1,017)	$ 558	(282.1)%
Income from continuing operations	$ 2,538	$ 4,093	(38.0)%
Income from continuing operations margin	7.1 %	11.0 %	(3.8)pts.
Net income	$ 2,536	$ 4,089	(38.0)%
Earnings per share from continuing operations - assuming dilution	$ 2.83	$ 4.58	(38.2)%
Weighted-average shares outstanding - assuming dilution	895.0	892.4	0.3 %
	At 6/30/2020	**At 12/31/2019**	
Assets	$ 154,200	$ 152,186	1.3 %
Liabilities	$ 133,512	$ 131,202	1.8 %
Equity	$ 20,688	$ 20,985	(1.4)%

* 2020 results were impacted by Red Hat acquisition-related activity.
** (2.9) percent adjusted for currency; (0.9) percent excluding divested businesses and adjusted for currency.

The following table provides the company's operating (non-GAAP) earnings for the first six months of 2020 and 2019.

(Dollars in millions except per share amounts) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change*
Net income as reported	$ 2,536	$ 4,089	(38.0)%
Income/(loss) from discontinued operations, net of tax	(2)	(4)	(48.9)
Income from continuing operations	$ 2,538	$ 4,093	(38.0)%
Non-operating adjustments (net of tax):			
Acquisition-related charges	736	381	93.4
Non-operating retirement-related costs/(income)	472	208	127.2
U.S. tax reform charges	(149)	155	nm
Operating (non-GAAP) earnings**	$ 3,598	$ 4,836	(25.6)%
Diluted operating (non-GAAP) earnings per share**	$ 4.02	$ 5.42	(25.8)%

* 2020 results were impacted by Red Hat acquisition-related activity.
** Refer to page 91 for a more detailed reconciliation of net income to operating earnings and operating earnings per share.
nm - not meaningful

Financial Performance Summary —Six Months Ended June 30:

In the first six months of 2020, we reported $35.7 billion in revenue, $2.5 billion in income from continuing operations and operating (non-GAAP) earnings of $3.6 billion, resulting in diluted earnings per share from continuing operations of $2.83 as reported and $4.02 on an operating (non-GAAP) basis. We generated $8.1 billion in cash from operations, $3.6 billion in free cash flow and delivered shareholder returns of $2.9 billion through dividends.

Total consolidated revenue decreased 4.4 percent as reported (1 percent excluding divested businesses and adjusted for currency). Revenue dynamics were impacted by the global pandemic beginning in March. Cloud & Cognitive

Software increased 4.3 percent as reported (6 percent adjusted for currency). Within this segment, Cloud & Data Platforms grew 30.4 percent (32 percent adjusted for currency) as a result of the Red Hat acquisition and momentum, however, this growth was partially offset by declines in Cognitive Applications and Transaction Processing Platforms. GBS decreased 3.9 percent as reported (3 percent adjusted for currency). Within this segment Consulting was flat as reported but grew 1 percent adjusted for currency with continued strong performance in cloud services. GTS decreased 6.8 percent as reported (5 percent adjusted for currency), with declines in Infrastructure & Cloud Services and Technology Support Services. Systems increased 4.5 percent as reported (5 percent adjusted for currency) driven by growth in IBM Z and Storage Systems.

Total cloud revenue was $11.6 billion in the first six months of 2020 with strong growth of 25 percent as reported, 26 percent adjusted for currency and 29 percent excluding divested businesses and adjusted for currency.

From a geographic perspective, Americas revenue declined 3.9 percent year to year as reported but was flat excluding divested businesses and adjusted for currency. Europe/Middle East/Africa (EMEA) decreased 5.6 percent as reported (1 percent excluding divested businesses and adjusted for currency). Asia Pacific declined 3.7 percent year to year as reported (2 percent excluding divested businesses and adjusted for currency).

Total consolidated gross margin of 46.6 percent increased 0.9 points year to year, reflecting strong margin performance in GBS and Systems and the contribution of Red Hat. Operating (non-GAAP) gross margin of 47.6 percent increased 1.6 points versus the prior year, primarily driven by the same factors.

Total expense and other (income) increased 21.8 percent in the first six months of 2020 versus the prior-year period primarily driven by higher spending due to the addition of Red Hat, lower gains from divestitures, amortization of intangible assets associated with the acquisition of Red Hat, higher workforce rebalancing charges, and non-operating retirement-related costs, partially offset by lower expense from divested businesses. Total operating (non-GAAP) expense and other (income) increased 18.6 percent year to year, driven primarily by the factors above excluding the higher amortization of intangible assets and non-operating retirement-related costs.

The pre-tax income from continuing operations in the first six months of 2020 was $1.5 billion, compared to $4.7 billion in the first six months of 2019. The pre-tax margin was 4.3 percent, a decrease of 8.2 points versus the prior-year period. The current period was impacted by Red Hat acquisition-related spending, lower gains on divestitures and also included higher workforce rebalancing charges. The continuing operations benefit from income taxes in the first six months of 2020 was $1.0 billion compared to a tax provision of $0.6 billion in the first six months of 2019. The current year benefit from income taxes was primarily driven by a net tax benefit in the first quarter of 2020 related to an intra-entity sale of certain of the company's intellectual property and the related impacts. Net income of $2.5 billion decreased 38.0 percent and the net income margin was 7.1 percent, a decrease of 3.8 points year to year.

Operating (non-GAAP) pre-tax income from continuing operations of $3.0 billion decreased 44.4 percent year to year and the operating (non-GAAP) pre-tax margin from continuing operations decreased 6.1 points to 8.4 percent. The operating (non-GAAP) benefit from income taxes was $0.6 billion in the first six months of 2020, compared to a tax provision of $0.6 billion in the first six months of 2019. The current year operating (non-GAAP) benefit from income taxes was primarily driven by the same factor described above. Operating (non-GAAP) income from continuing operations of $3.6 billion decreased 25.6 percent with an operating (non-GAAP) income margin from continuing operations of 10.1 percent, down 2.9 points year to year.

Diluted earnings per share from continuing operations of $2.83 in the first six months of 2020 decreased 38.2 percent and operating (non-GAAP) diluted earnings per share of $4.02 decreased 25.8 percent versus the first six months of 2019.

In the second quarter, we continued to take actions to further enhance our balance sheet and liquidity position. At June 30, 2020, the balance sheet remained strong with the flexibility to support and invest in the business, with a strong

cash position and ample credit available during these uncertain times. Cash and cash equivalents, restricted cash and marketable securities at June 30, 2020 were $14.3 billion, an increase of $5.2 billion from December 31, 2019.

Key drivers in the balance sheet and total cash flows were:

Total assets increased $2.0 billion ($4.1 billion adjusted for currency) from December 31, 2019 driven by:

- An increase in cash and cash equivalents, restricted cash and marketable securities of $5.2 billion; and
- An increase in deferred tax assets of $3.5 billion primarily due to an intra-entity sale of IP in the first quarter; partially offset by
- A decrease in receivables of $5.7 billion primarily as a result of collections of seasonally higher year-end balances and divestiture-related receivables, as well as sales of receivables.

Total liabilities increased $2.3 billion ($3.4 billion adjusted for currency) from December 31, 2019 driven by:

- An increase in total debt of $1.8 billion primarily driven by new debt issuances of $8.6 billion, partially offset by debt maturities and early retirements of $6.4 billion; and
- An increase in other liabilities of $1.1 billion primarily driven by an increase in deferred tax liabilities related to the first-quarter intra-entity IP sale.

Total equity of $20.7 billion decreased $0.3 billion from December 31, 2019 as a result of:

- Dividends of $2.9 billion; partially offset by
- Net income of $2.5 billion.

We generated $8.1 billion in cash flow provided by operating activities, an increase of $0.4 billion compared to the first six months of 2019. This included a number of strategic actions taken to preserve cash and maintain a strong balance sheet and liquidity position. In the first six months of 2020, investing activities were a net use of cash of $2.1 billion compared to a source of cash of $3.3 billion in the prior year. The $5.4 billion change year to year was driven by a decrease in cash provided by non-operating finance receivables primarily related to the wind down of the OEM IT commercial financing operations and an increase in cash used for net purchases of marketable securities and other investments. Financing activities were a use of cash of $1.7 billion in the first six months of 2020 compared to a source of cash of $22.9 billion in the prior year. The $24.6 billion change year to year was primarily driven by a decrease in net cash provided by debt transactions, with a higher level of net additions in the prior year to fund the Red Hat acquisition.

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Second Quarter and First Six Months in Review

Results of Continuing Operations

Segment Details

The following is an analysis of the second quarter and first six months of 2020 versus the second quarter and first six months of 2019 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) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Cloud & Cognitive Software	$ 5,748	$ 5,563 *	3.3 %**	4.6 %
Gross margin	77.1 %	77.7 %*	(0.6)pts.**	
Global Business Services	3,890	4,197 *	(7.3)%	(6.0)%
Gross margin	28.4 %	26.0 %*	2.4 pts.	
Global Technology Services	6,316	6,837	(7.6)%	(5.4)%
Gross margin	34.2 %	34.4 %	(0.3)pts.	
Systems	1,852	1,753	5.7 %	6.3 %
Gross margin	57.8 %	53.5 %	4.3 pts.	
Global Financing	265	351	(24.5)%	(22.7)%
Gross margin	38.6 %	35.0 %	3.6 pts.	
Other	50	460 *	(89.1)%	(88.8)%
Gross margin	(338.2)%	38.8 %*	(377.0)pts.	
Total consolidated revenue	$ 18,123	$ 19,161	(5.4)%***	(3.9)%
Total consolidated gross profit	$ 8,700	$ 9,010	(3.4)%**	
Total consolidated gross margin	48.0 %	47.0 %	1.0 pts.**	
Non-operating adjustments:				
Amortization of acquired intangible assets	187	73	155.2 %	
Operating (non-GAAP) gross profit	$ 8,887	$ 9,083	(2.2)%**	
Operating (non-GAAP) gross margin	49.0 %	47.4 %	1.6 pts.**	

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting and acquisition-related activity.
***(1.9) percent excluding divested businesses and adjusted for currency.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Cloud & Cognitive Software	$ 10,987	$ 10,530 *	4.3 %**	5.6 %
Gross margin	76.3 %	76.7 %*	(0.4)pts.**	
Global Business Services	8,027	8,353 *	(3.9)%	(2.6)%
Gross margin	27.8 %	26.1 %*	1.7 pts.	
Global Technology Services	12,783	13,711	(6.8)%	(4.7)%
Gross margin	34.1 %	34.1 %	0.0 pts.	
Systems	3,220	3,081	4.5 %	5.4 %
Gross margin	54.6 %	50.3 %	4.3 pts.	
Global Financing	564	757	(25.4)%	(23.9)%
Gross margin	39.7 %	34.9 %	4.8 pts.	
Other	113	911 *	(87.6)%	(87.4)%
Gross margin	(291.7)%	34.0 %*	(325.7)pts.	
Total consolidated revenue	$ 35,694	$ 37,342	(4.4)%***	(2.9)%
Total consolidated gross profit	$ 16,622	$ 17,053	(2.5)%**	
Total consolidated gross margin	46.6 %	45.7 %	0.9 pts.**	
Non-operating adjustments:				
Amortization of acquired intangible assets	375	149	151.4 %	
Operating (non-GAAP) gross profit	$ 16,998	$ 17,202	(1.2)%**	
Operating (non-GAAP) gross margin	47.6 %	46.1 %	1.6 pts.**	

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting and acquisition-related activity.
***(0.9) percent excluding divested businesses and adjusted for currency.

Cloud & Cognitive Software

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Cloud & Cognitive Software external revenue:	$ 5,748	$ 5,563 *	3.3 %**	4.6 %
Cloud & Data Platforms	$ 2,797	$ 2,173	28.7 %**	30.3 %
Cognitive Applications	1,246	1,372 *	(9.2)	(8.0)
Transaction Processing Platforms	1,706	2,018	(15.5)	(14.4)

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Cloud & Cognitive Software external revenue:	$ 10,987	$ 10,530 *	4.3 %**	5.6 %
Cloud & Data Platforms	$ 5,333	$ 4,090	30.4 %**	31.9 %
Cognitive Applications	2,428	2,609 *	(6.9)	(5.8)
Transaction Processing Platforms	3,226	3,830	(15.8)	(14.6)

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting.

Cloud & Cognitive Software revenue of $5,748 million increased 3.3 percent as reported (5 percent adjusted for currency) in the second quarter of 2020 compared to the prior year, driven by growth in Cloud & Data Platforms with continued momentum in Red Hat. With the pandemic's economic impacts beginning in March, clients began to shift their focus to their own resiliency efforts, which impacted our software performance. This client focus continued into the second quarter which impacted transactional revenue in the first part of the quarter. Later in the quarter, demand improved for critical priority areas such as hybrid cloud solutions and some AI applications. We had a sequential quarter-to-quarter improvement in software subscription and support renewal rates. Transactional software revenue continued to be adversely impacted, particularly in some of the more troubled industries. For the first six months of the year, Cloud & Cognitive Software revenue of $10,987 million increased 4.3 percent as reported (6 percent adjusted for currency), with strong growth in Cloud & Data Platforms primarily from the contribution of Red Hat.

In the second quarter, Cloud & Data Platforms revenue of $2,797 million increased 28.7 percent as reported (30 percent adjusted for currency) compared to the prior year, reflecting the synergy of bringing IBM and Red Hat together, and our continued momentum in Red Hat in the quarter. We have standardized on Red Hat OpenShift as our hybrid cloud platform and modernized our software portfolio to run on this platform. We had good performance across Red Hat, including improved bookings growth in countries where IBM has helped Red Hat expand go-to-market efforts over the last year. We had further traction in Cloud Paks this quarter as clients embrace a hybrid cloud strategy and increasingly leverage the OpenShift container platform. The number of clients using our container platform continued to grow to over 2,400 and nearly 600 of our IBM Services clients are utilizing Red Hat technology.

Cognitive Applications second-quarter revenue of $1,246 million decreased 9.2 percent as reported (8 percent adjusted for currency) compared to the prior year. In the current economic environment, clients in some of the more impacted industries, such as automotive, electronics and aerospace, deferred transformational purchases or discretionary spending to remain focused on their core operations. Our weather applications were impacted by general weakness in the advertising market.

Transaction Processing Platforms revenue of $1,706 million decreased 15.5 percent as reported (14 percent adjusted for currency) in the second quarter compared to the prior year. Clients' continued focus on operating expenditures versus new capital expenditures impacted transactions this quarter.

Within Cloud & Cognitive Software, cloud revenue of $1.6 billion grew 114 percent as reported (116 percent adjusted for currency) in the second quarter of 2020. For the first six months of 2020, cloud revenue of $3.0 billion grew 100 percent as reported (102 percent adjusted for currency). With Red Hat, we have developed the most secure, open hybrid cloud platform, underpinned by OpenShift, and we have modernized our Cloud Paks software solutions by bringing Red Hat and IBM technology together, providing the leading hybrid cloud platform.

(Dollars in millions) For the three months ended June 30:	2020	2019*	Yr. to Yr. Percent/ Margin Change**
Cloud & Cognitive Software:			
External gross profit	$ 4,432	$ 4,325	2.5 %
External gross profit margin	77.1 %	77.7 %	(0.6)pts.
Pre-tax income	$ 1,708	$ 2,007	(14.9)%
Pre-tax margin	26.3 %	32.5 %	(6.2)pts.

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting and acquisition-related activity.

(Dollars in millions) For the six months ended June 30:	2020	2019*	Yr. to Yr. Percent/ Margin Change**
Cloud & Cognitive Software:			
External gross profit	$ 8,384	$ 8,078	3.8 %
External gross profit margin	76.3 %	76.7 %	(0.4)pts.
Pre-tax income	$ 2,641	$ 3,792	(30.4)%
Pre-tax margin	21.1 %	31.7 %	(10.6)pts.

* Recast to reflect segment changes.
** 2020 results were impacted by Red Hat purchase accounting and acquisition-related activity.

Cloud & Cognitive Software gross profit margin decreased 0.6 points to 77.1 percent in the second quarter of 2020 compared to the prior year, driven primarily by margin declines in software and services, partially offset by portfolio mix including the addition of Red Hat software. For the first six months of 2020, gross profit margin decreased 0.4 points to 76.3 percent, primarily driven by the same factors.

In the second quarter, pre-tax income of $1,708 million decreased 14.9 percent compared to the prior year. The pre-tax margin decreased 6.2 points to 26.3 percent in the second quarter, driven primarily by the purchase accounting impacts from the Red Hat acquisition. For the first six months of the year, pre-tax income of $2,641 million decreased 30.4 percent compared to the prior year and the pre-tax margin decreased 10.6 points to 21.1 percent. The year-to-year margin decline in the first six months of 2020 was primarily driven by Red Hat acquisition-related activity and a higher level of charges for workforce rebalancing actions.

Global Business Services

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Business Services external revenue:	$ 3,890	$ 4,197 *	(7.3)%	(6.0)%
Consulting	$ 1,936	$ 2,020 *	(4.2)%	(3.1)%
Application Management	1,734	1,919	(9.7)	(8.3)
Global Process Services	221	258	(14.1)	(12.4)

* Recast to reflect segment changes.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Business Services external revenue:	$ 8,027	$ 8,353 *	(3.9)%	(2.6)%
Consulting	$ 4,007	$ 4,021 *	(0.3)%	0.8 %
Application Management	3,573	3,827	(6.6)	(5.2)
Global Process Services	447	505	(11.5)	(9.7)

* Recast to reflect segment changes.

Global Business Services revenue of $3,890 million decreased 7.3 percent as reported and 6 percent adjusted for currency in the second quarter of 2020 compared to the prior year. In the second quarter, as the macroeconomic climate worsened, clients shifted their focus to operational stability and cash preservation. These actions delayed both the existing projects and new commitments, particularly those projects deemed discretionary or with a longer time to value.

These delays are reflected in the decline in revenue from backlog, which represents about 80 percent of GBS quarterly revenue, and smaller in-period signings. Offerings such as cloud strategy consulting, application development and modernization continued to grow revenue in the second quarter. These offerings, standardized on Red Hat's OpenShift platform, enable clients in their cloud journeys. For the first six months of the year, Global Business Services revenue of $8,027 million decreased 3.9 percent as reported and 3 percent adjusted for currency. While we are managing through the near-term macroeconomic challenges, GBS's deep industry expertise combined with IBM and Red Hat's innovative technology continue to play a critical role in the acceleration of clients' digital transformations.

In the second quarter, Consulting revenue of $1,936 million declined 4.2 percent as reported and 3 percent adjusted for currency. During the second quarter, given the economic environment, clients continued to deprioritize certain projects, but we had continued strong performance in cloud services. We continued to invest in offerings and capabilities to help advise clients and move their applications to a hybrid cloud environment.

Application Management revenue of $1,734 million declined 9.7 percent as reported and 8 percent adjusted for currency compared to the second quarter of 2019. We had continued growth in offerings that assist clients as they invest in building and managing cloud applications, which was offset by a decline in the more traditional on-premise services.

Global Process Services second-quarter revenue of $221 million decreased 14.1 percent as reported and 12 percent adjusted for currency, reflecting the dynamics of the macroeconomic climate. We had continued growth in certain cognitive process automation offerings which was offset by a decline in traditional business process outsourcing.

Within GBS, cloud revenue of $1.4 billion grew 12 percent as reported (13 percent adjusted for currency) in the second quarter of 2020. For the first six months of the year, cloud revenue of $2.7 billion grew 9 percent as reported (11 percent adjusted for currency).

(Dollars in millions) For the three months ended June 30:	2020	2019*	Yr. to Yr. Percent/ Margin Change
Global Business Services:			
External gross profit	$ 1,107	$ 1,093	1.3 %
External gross profit margin	28.4 %	26.0 %	2.4 pts.
Pre-tax income	$ 362	$ 290	25.1 %
Pre-tax margin	9.2 %	6.8 %	2.4 pts.

* Recast to reflect segment changes.

(Dollars in millions) For the six months ended June 30:	2020	2019*	Yr. to Yr. Percent/ Margin Change
Global Business Services:			
External gross profit	$ 2,231	$ 2,180	2.4 %
External gross profit margin	27.8 %	26.1 %	1.7 pts.
Pre-tax income	$ 633	$ 587	7.8 %
Pre-tax margin	7.8 %	6.9 %	0.9 pts.

* Recast to reflect segment changes.

GBS second-quarter gross profit margin of 28.4 percent grew 2.4 points on a year-to-year basis, primarily driven by the margin expansion in Consulting. To effectively manage the business in the current environment, we leveraged our variable and global delivery resource model, which improved price-margin realization, and optimized utilization. We also had a benefit to gross margin from currency in the second quarter, relatively consistent with recent quarters. At the same time, we continued to invest in building skills and practices through education and hiring.

Pre-tax income of $362 million increased 25.1 percent and pre-tax margin increased 2.4 points to 9.2 percent in the second quarter of 2020 compared to the prior year, primarily driven by the margin expansion in Consulting and a lower level of charges for workforce rebalancing actions in 2020. For the first six months of the year, pre-tax income of $633 million increased 7.8 percent and the pre-tax margin increased 0.9 points to 7.8 percent, primarily driven by the gross profit margin expansion, partially offset by a higher level of charges year to year for workforce rebalancing actions which had 0.7 points of impact on the pre-tax margin.

Global Technology Services

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Technology Services external revenue:	$ 6,316	$ 6,837	(7.6)%	(5.4)%
Infrastructure & Cloud Services	$ 4,813	$ 5,174	(7.0)%	(5.1)%
Technology Support Services	1,503	1,663	(9.6)	(6.4)

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Technology Services external revenue:	$ 12,783	$ 13,711	(6.8)%	(4.7)%
Infrastructure & Cloud Services	$ 9,729	$ 10,383	(6.3)%	(4.5)%
Technology Support Services	3,054	3,328	(8.3)	(5.5)

Global Technology Services revenue of $6,316 million declined 7.6 percent as reported (5 percent adjusted for currency) in the second quarter of 2020 compared to the prior year. Our GTS signings in the second quarter declined 1 percent as reported, but grew 2 percent adjusted for currency. We had strong growth in cloud revenue which was offset by a continued decline in client business volumes. This business has a high mix of recurring revenue streams and there is variability as we provide clients with flexibility in their capacity to deal with volume changes due to their business needs and macroeconomic environment. For the first six months of the year, GTS revenue of $12,783 million declined 6.8 percent as reported (5 percent adjusted for currency) as compared to the prior-year period.

In the second quarter, Infrastructure & Cloud Services revenue of $4,813 million decreased 7.0 percent as reported (5 percent adjusted for currency) compared to the prior-year period. As the pandemic intensified into the second quarter, we experienced lower client-based business volumes reflecting challenges across several industries, including retail, automotive, consumer goods and travel and transportation.

Technology Support Services (TSS) second-quarter revenue of $1,503 million decreased 9.6 percent as reported (6 percent adjusted for currency), primarily driven by a shift away from low-margin businesses and current IBM product cycles.

Within GTS, cloud revenue of $2.4 billion grew 18 percent as reported (20 percent adjusted for currency) in the second quarter of 2020. For the first six months of the year, cloud revenue of $4.7 billion grew 14 percent as reported (16 percent adjusted for currency).

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
Global Technology Services:			
External gross profit	$ 2,158	$ 2,353	(8.3)%
External gross profit margin	34.2 %	34.4 %	(0.3)pts.
Pre-tax income/(loss)	$ 250	$ 235	6.4 %
Pre-tax margin	3.8 %	3.3 %	0.5 pts.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
Global Technology Services:			
External gross profit	$ 4,354	$ 4,670	(6.8)%
External gross profit margin	34.1 %	34.1 %	0.0 pts.
Pre-tax income	$ 72	$ 510	(85.9)%
Pre-tax margin	0.5 %	3.6 %	(3.0)pts.

Global Technology Services gross profit margin decreased 0.3 points to 34.2 percent in the second quarter of 2020 as compared to the prior year, primarily driven by portfolio mix, as the high-value TSS business was impacted by the current IBM product cycles. The benefits from the first-quarter structural actions have not yet been realized.

Pre-tax income of $250 million increased 6.4 percent and pre-tax margin increased 0.5 points to 3.8 percent in the second quarter compared to the prior year, reflecting a lower level of charges from workforce rebalancing actions in the second quarter of 2020. For the first six months of the year, pre-tax income declined to $72 million and pre-tax margin declined 3.0 points to 0.5 percent compared to the same prior-year period, reflecting a higher level of charges for workforce rebalancing actions in 2020, which had 2.0 points of impact on pre-tax margin.

Services Backlog and Signings

(Dollars in billions)	At June 30, 2020	At June 30, 2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total backlog	$ 107.1	$ 111.2	(3.7)%	(0.9)%

The estimated total services backlog at June 30, 2020 was $107.1 billion, a decrease of 3.7 percent as reported (1 percent adjusted for currency).

Total services backlog includes Infrastructure & Cloud Services, Security Services, Consulting, Global Process Services, Application Management and TSS. Total backlog is intended to be a statement of overall work 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. Total services signings can vary over time due to a variety of factors including, but not limited to, the timing of signing a small number of larger contracts, such as in Infrastructure & Cloud Services or Global Process Services. TSS is 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.

Management believes that the estimated values of services backlog and signings disclosed herein provide insight into our potential future revenue, which is used by management as a tool to monitor the performance of the business and viewed as useful decision-making information for investors. The conversion of signings and backlog into revenue may vary based on the types of services and solutions, customer decisions, and as well as other factors, which may include, but are not limited to, macroeconomic environment or external events.

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total signings	$ 8,204	$ 9,687	(15.3)%	(13.7)%

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total signings	$ 17,132	$ 17,324	(1.1)%	0.6 %

In the second quarter, clients continued to delay both existing projects and new commitments as the macroeconomic climate worsened. These delays were reflected in a continued decline in the smaller signings within GBS through May, however, the trajectory improved with a return to modest growth in June. In addition, GBS cloud signings grew at a double-digit rate year to year as clients prioritized their digital transformations.

Within GTS, despite the current environment, clients continued their infrastructure transformations to hybrid multi-cloud environments, which is reflected in the double-digit signings growth in GTS in the first half of 2020 compared to the prior-year period.

Systems

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Systems external revenue:	$ 1,852	$ 1,753	5.7 %	6.3 %
Systems Hardware	$ 1,488	$ 1,328	12.0 %	12.5 %
IBM Z			68.7	68.5
Power Systems			(28.9)	(28.3)
Storage Systems			1.7	2.7
Operating Systems Software	365	425	(14.2)	(13.0)

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Systems external revenue:	$ 3,220	$ 3,081	4.5 %	5.4 %
Systems Hardware	$ 2,484	$ 2,241	10.8 %	11.6 %
IBM Z			65.4	65.8
Power Systems			(30.6)	(29.8)
Storage Systems			8.5	9.5
Operating Systems Software	736	840	(12.4)	(11.2)

Systems revenue of $1,852 million increased 5.7 percent as reported and 6 percent adjusted for currency in the second quarter of 2020 compared to the prior year. Systems Hardware revenue of $1,488 million grew 12.0 percent as reported and 13 percent adjusted for currency, driven by continued strong performance in IBM Z and good growth in Storage Systems, partially offset by a decline in Power Systems. Clients continued to value the new innovation of the z15 mainframe and high-end storage systems. Operating Systems Software revenue of $365 million decreased 14.2 percent as reported and 13 percent adjusted for currency compared to the prior year. For the first six months of 2020, Systems revenue of $3,220 million increased 4.5 percent as reported and 5 percent adjusted for currency compared to the same prior-year period, driven by the same factors as the quarter.

IBM Z revenue grew 68.7 percent as reported and 68 percent adjusted for currency in the second quarter compared to the prior year, reflecting the continued strong performance of the z15 mainframe. The z15 offers enterprises valuable capabilities, including remote management, security and scalability. Clients increasingly turned to IBM Z for resiliency and business continuity to keep their mission-critical workloads operating smoothly. We continue to offer additional hybrid cloud capabilities on the z15 with new offerings released in the quarter.

Power Systems revenue decreased 28.9 percent as reported and 28 percent adjusted for currency year to year. This decline reflects the product cycle, and Power Systems' client base of smaller enterprises which were more severely impacted by the macroeconomic environment.

Storage Systems revenue grew 1.7 percent as reported and 3 percent adjusted for currency, primarily driven by high-end storage systems. These systems provide comprehensive cybersecurity, data availability and resiliency in support of our clients' mission-critical applications.

Within Systems, cloud revenue of $0.8 billion increased 22 percent as reported and adjusted for currency in the second quarter of 2020. For the first six months of the year, cloud revenue of $1.3 billion increased 17 percent as reported (18 percent adjusted for currency).

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
Systems:			
External Systems Hardware gross profit	$ 772	$ 579	33.3 %
External Systems Hardware gross profit margin	51.9 %	43.6 %	8.3 pts.
External Operating Systems Software gross profit	$ 299	$ 359	(16.5)%
External Operating Systems Software gross profit margin	82.0 %	84.3 %	(2.3)pts.
External total gross profit	$ 1,071	$ 937	14.2 %
External total gross profit margin	57.8 %	53.5 %	4.3 pts.
Pre-tax income	$ 248	$ 61	304.8 %
Pre-tax margin	11.8 %	3.2 %	8.7 pts.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
Systems:			
External Systems Hardware gross profit	$ 1,151	$ 843	36.5 %
External Systems Hardware gross profit margin	46.3 %	37.6 %	8.7 pts.
External Operating Systems Software gross profit	$ 607	$ 707	(14.2)%
External Operating Systems Software gross profit margin	82.5 %	84.2 %	(1.8)pts.
External total gross profit	$ 1,758	$ 1,551	13.4 %
External total gross profit margin	54.6 %	50.3 %	4.3 pts.
Pre-tax income/(loss)	$ 31	$ (141)	nm
Pre-tax margin	0.9 %	(4.1)%	5.0 pts.

nm - not meaningful

Systems gross profit margin increased 4.3 points to 57.8 percent in the second quarter of 2020 compared to the prior year, primarily driven by a mix to IBM Z and margin expansion in IBM Z and Storage Systems. For the first six months of 2020, Systems gross profit margin of 54.6 percent increased 4.3 points compared to the prior year, primarily driven by the same factors as the quarter.

Pre-tax income in the second quarter of 2020 was $248 million compared to $61 million in the prior-year period and pre-tax margin of 11.8 percent increased 8.7 points year to year, primarily driven by the portfolio mix, the z15 product cycle and a lower level of charges for workforce rebalancing actions. For the first six months of 2020, Systems had pre-tax income of $31 million compared to a pre-tax loss of $141 million in the prior-year period. Pre-tax margin of 0.9 percent increased 5.0 points year to year. The year-to-year growth was primarily driven by the portfolio mix to IBM Z, partially offset by a higher level of charges for workforce rebalancing actions.

Global Financing

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
External revenue	$ 265	$ 351	(24.5)%
Internal revenue	241	281	(14.3)
Total revenue	$ 506	$ 632	(20.0)%
Pre-tax income	$ 176	$ 239	(26.2)%

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent/ Margin Change
External revenue	$ 564	$ 757	(25.4)%
Internal revenue	452	581	(22.1)
Total revenue	$ 1,017	$ 1,338	(24.0)%
Pre-tax income	$ 370	$ 527	(29.8)%

In the second quarter, Global Financing total revenue of $506 million declined 20.0 percent compared to the prior year. External revenue decreased 24.5 percent (23 percent adjusted for currency), due to a decrease in external financing (down 27.5 percent to $208 million) and external used equipment sales (down 11.3 percent to $57 million). The decline in external financing was primarily due to the company's wind down of OEM IT commercial financing operations in 2019. Internal revenue decreased 14.3 percent, driven by a decrease in internal financing (down 41.1 percent to $54 million) and internal used equipment sales (down 1.3 percent to $186 million). Internal financing was down due to lower average asset balances and yields.

The decrease in total revenue of 24.0 percent in the first six months of 2020 compared to the same period in 2019 was due to a decrease in external revenue of 25.4 percent (24 percent adjusted for currency), driven by a decline in external financing (down 28.9 percent to $443 million) and external used equipment sales (down 9.4 percent to $122 million). The decline in external financing was primarily due to the company's wind down of OEM IT commercial financing operations in 2019. Internal revenue decreased 22.1 percent, driven by a decline in internal financing (down 33.1 percent to $137 million) and internal used equipment sales (down 16.2 percent to $316 million). Internal financing was down due to lower average asset balances and yields.

Global Financing pre-tax income decreased 26.2 percent to $176 million in the second quarter of 2020 compared to the same period in 2019, primarily due to lower gross profit of $68 million. Pre-tax income decreased 29.8 percent to $370 million in the first six months of 2020, compared to the same period in 2019, due to lower gross profit of $183 million, partially offset by a decrease in expense of $26 million. The decline in pre-tax income in both periods was primarily driven by lower financing revenue, partially offset by a decrease in expense, which was in line with the segment's performance.

Global Financing return on equity was 24.0 percent for the three months ended June 30, 2020, compared to 24.9 percent for the three months ended June 30, 2019. The decrease was due to a decline in net income. Return on equity was 26.5 percent for the six months ended June 30, 2020, compared to 19.2 percent for the six months ended June 30, 2019. The increase was driven by a lower average equity balance and an increase in net income, which included additional tax expense in the first quarter of 2019 related to U.S. tax reform. Refer to page 89 for the details of the after-tax income and return on equity calculation.

Geographic Revenue

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

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency	Yr. to Yr. Percent Change Excluding Divested Businesses And Adjusted For Currency
Total Revenue	$ 18,123	$ 19,161	(5.4)%	(3.9)%	(1.9)%
Americas	$ 8,450	$ 8,806	(4.0)%	(2.4)%	(0.1)%
Europe/Middle East/Africa (EMEA)	5,695	6,149	(7.4)	(5.4)	(3.2)
Asia Pacific	3,977	4,205	(5.4)	(4.9)	(3.7)

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency	Yr. to Yr. Percent Change Excluding Divested Businesses And Adjusted For Currency
Total Revenue	$ 35,694	$ 37,342	(4.4)%	(2.9)%	(0.9)%
Americas	$ 16,617	$ 17,299	(3.9)%	(2.5)%	(0.2)%
Europe/Middle East/Africa (EMEA)	11,212	11,876	(5.6)	(3.3)	(1.3)
Asia Pacific	7,865	8,167	(3.7)	(3.0)	(1.8)

Total revenue of $18,123 million decreased 5.4 percent as reported (4 percent adjusted for currency) and decreased 2 percent excluding divested businesses and adjusted for currency in the second quarter compared to the prior-year period.

Americas revenue of $8,450 million decreased 4.0 percent as reported (2 percent adjusted for currency), but was flat excluding divested businesses and adjusted for currency. Within Americas, the U.S. decreased 2.8 percent as reported compared to the prior year. Canada decreased 11.8 percent as reported and 9 percent adjusted for currency. Latin America decreased 6.1 percent as reported, but increased 7 percent adjusted for currency, with Brazil flat as reported and up 21 percent adjusted for currency.

In EMEA, total revenue of $5,695 million decreased 7.4 percent as reported (5 percent adjusted for currency) and decreased 3 percent excluding divested businesses and adjusted for currency. Within EMEA, the UK decreased 21.9 percent as reported (19 percent adjusted for currency) and Germany declined 10.9 percent as reported (9 percent adjusted for currency). Italy decreased 6.7 percent as reported and 5 percent adjusted for currency. France declined 0.8 percent as reported, but grew 1 percent adjusted for currency.

Asia Pacific revenue of $3,977 million decreased 5.4 percent as reported (5 percent adjusted for currency) and decreased 4 percent excluding divested businesses and adjusted for currency. Within Asia Pacific, Japan revenue was flat as reported and decreased 2 percent adjusted for currency compared to the prior year. China declined 25.9 percent as reported and 24 percent adjusted for currency. Australia decreased 8.0 percent as reported (3 percent adjusted for currency) and India decreased 9 percent as reported (1 percent adjusted for currency).

Total revenue of $35,694 million decreased 4.4 percent as reported (3 percent adjusted for currency) and decreased 1 percent excluding divested businesses and adjusted for currency in the first six months of 2020 compared to the prior-year period.

Americas revenue of $16,617 million decreased 3.9 percent as reported (3 percent adjusted for currency), but was flat excluding divested businesses and adjusted for currency. Within Americas, the U.S. decreased 3.0 percent as reported compared to the prior year. Canada decreased 5.6 percent as reported and 3 percent adjusted for currency. Latin

America decreased 9.0 percent as reported, but increased 2 percent adjusted for currency, with Brazil declining 8.0 percent as reported, but growing 8 percent adjusted for currency.

In EMEA, total revenue of $11,212 million decreased 5.6 percent as reported (3 percent adjusted for currency) and decreased 1 percent excluding divested businesses and adjusted for currency. Within EMEA, the UK decreased 17.1 percent as reported (15 percent adjusted for currency) and Germany declined 10.8 percent as reported (9 percent adjusted for currency). Italy decreased 3.7 percent as reported and 1 percent adjusted for currency. France declined 0.8 percent as reported, but grew 1 percent adjusted for currency.

Asia Pacific revenue of $7,865 million decreased 3.7 percent as reported (3 percent adjusted for currency) and decreased 2 percent excluding divested businesses and adjusted for currency. Within Asia Pacific, Japan increased 1.1 percent as reported, but decreased 1 percent adjusted for currency compared to the prior year. China decreased 15.8 percent as reported (14 percent adjusted for currency) and Australia decreased 11.9 percent as reported (6 percent adjusted for currency). India declined 1.8 percent as reported, but grew 4 percent adjusted for currency.

Expense

Total Expense and Other (Income)

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change*
Total consolidated expense and other (income)	$ 7,129	$ 6,242	14.2 %
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (284)	$ (96)	196.3 %
Acquisition-related charges	(1)	(102)	(98.7)
Non-operating retirement-related (costs)/income	(273)	(136)	100.6
Operating (non-GAAP) expense and other (income)	$ 6,570	$ 5,907	11.2 %
Total consolidated expense-to-revenue ratio	39.3 %	32.6 %	6.8 pts.
Operating (non-GAAP) expense-to-revenue ratio	36.3 %	30.8 %	5.4 pts.

* 2020 results were impacted by Red Hat acquisition-related activity.

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change*
Total consolidated expense and other (income)	$ 15,101	$ 12,402	21.8 %
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (569)	$ (194)	194.2 %
Acquisition-related charges	(2)	(141)	(98.8)
Non-operating retirement-related (costs)/income	(538)	(274)	96.3
Operating (non-GAAP) expense and other (income)	$ 13,992	$ 11,793	18.6 %
Total consolidated expense-to-revenue ratio	42.3 %	33.2 %	9.1 pts.
Operating (non-GAAP) expense-to-revenue ratio	39.2 %	31.6 %	7.6 pts.

* 2020 results were impacted by Red Hat acquisition-related activity.

The current-year periods included Red Hat operational spending and amortization of acquired intangible assets associated with the acquisition with no corresponding expense in the prior-year periods. The current-year periods also included higher interest expense associated with the funding of the Red Hat acquisition.

Total expense and other (income) increased 14.2 percent in the second quarter of 2020 versus the prior year primarily driven by higher spending including Red Hat, lower gains from divestitures, higher amortization of acquired intangible assets associated with the Red Hat transaction and higher non-operating retirement-related costs, partially offset by lower workforce rebalancing charges and lower expense from divested businesses. Total operating (non-

GAAP) expense and other (income) increased 11.2 percent year to year, driven primarily by the factors described above excluding the higher amortization of acquired intangible assets and higher non-operating retirement-related costs.

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) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 4,239	$ 4,335	(2.2)%
Advertising and promotional expense	363	421	(13.8)
Workforce rebalancing charges	137	495	(72.4)
Amortization of acquired intangible assets	284	95	197.6
Stock-based compensation	155	93	67.5
Expected credit loss expense	70	17	303.6
Total consolidated selling, general and administrative expense	$ 5,248	$ 5,456	(3.8)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (284)	$ (95)	197.6 %
Acquisition-related charges	(1)	(54)	(97.5)
Operating (non-GAAP) selling, general and administrative expense	$ 4,962	$ 5,307	(6.5)%

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 8,580	$ 8,383	2.3 %
Advertising and promotional expense	791	853	(7.3)
Workforce rebalancing charges	865	514	68.2
Amortization of acquired intangible assets	568	192	195.4
Stock-based compensation	272	167	63.0
Expected credit loss expense	126	37	242.8
Total consolidated selling, general and administrative expense	$ 11,203	$ 10,147	10.4 %
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (568)	$ (192)	195.4 %
Acquisition-related charges	(2)	(81)	(97.9)
Operating (non-GAAP) selling, general and administrative expense	$ 10,633	$ 9,873	7.7 %

Total selling, general and administrative (SG&A) expense decreased 3.8 percent in the second quarter of 2020 versus the prior year driven primarily by the following factors:

- Lower workforce rebalancing charges (7 points);
- The effects of currency (1 point); and
- Lower acquisition-related charges associated with the Red Hat transaction (1 point); partially offset by
- Higher amortization of acquired intangible assets associated with the Red Hat transaction (3 points); and

- Higher spending (2 points) driven by Red Hat expense in the current year with no spending in the prior year (10 points).

Operating (non-GAAP) expense decreased 6.5 percent year to year primarily driven by the same factors excluding the acquisition-related charges and amortization of acquired intangible assets associated with the Red Hat transaction.

SG&A expense increased 10.4 percent in the first six months of 2020 versus the prior year driven primarily by the following factors:

- Higher spending (4 points) driven by Red Hat spending (11 points); and
- Higher amortization of acquired intangible assets associated with the Red Hat transaction (4 points); and
- Higher workforce rebalancing charges (3 points); partially offset by
- The effects of currency (1 point); and
- Lower acquisition-related charges associated with the Red Hat transaction (1 point).

Operating (non-GAAP) expense increased 7.7 percent year to year, primarily driven by the same factors excluding the acquisition-related charges and amortization of acquired intangible assets associated with the Red Hat transaction.

Expected credit loss expense increased $90 million year to year in the first six months of 2020 due to increases in specific and unallocated reserves. The receivables provision coverage was 2.4 percent at June 30, 2020, an increase of 70 basis points from both December 31, 2019 and June 30, 2019. The higher coverage rate at June 30, 2020 also reflects the adoption of the new guidance for credit losses.

Research, Development and Engineering

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Research, development and engineering expense	$ 1,582	$ 1,407	12.5 %
Non-operating adjustment:			
Acquisition-related charges	$ —	$ —	—
Operating (non-GAAP) research, development and engineering expense	$ 1,582	$ 1,407	12.5 %

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Research, development and engineering expense	$ 3,207	$ 2,840	12.9 %
Non-operating adjustment:			
Acquisition-related charges	$ —	$ —	—
Operating (non-GAAP) research, development and engineering expense	$ 3,207	$ 2,840	12.9 %

Research, development and engineering (RD&E) expense was 8.7 percent and 9.0 percent of revenue in the second quarter and first six months of 2020, respectively, compared to 7.3 percent and 7.6 percent in the prior-year periods, respectively.

RD&E expense in the second quarter of 2020 increased 12.5 percent year to year primarily driven by:

- Higher spending (13 points) including Red Hat spending (16 points); partially offset by

- The effects of currency (1 point).

RD&E expense in the first six months of 2020 increased 12.9 percent year to year primarily driven by:

- Higher spending (13 points) including Red Hat spending (16 points); partially offset by
- The effects of currency (1 point).

Intellectual Property and Custom Development Income

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Intellectual Property and Custom Development Income:			
Licensing of intellectual property including royalty-based fees	$ 128	$ 144	(11.1)%
Custom development income	74	62	18.8
Sales/other transfers of intellectual property	1	16	(92.0)
Total	$ 203	$ 222	(8.7)%

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Intellectual Property and Custom Development Income:			
Licensing of intellectual property including royalty-based fees	$ 162	$ 194	(16.6)%
Custom development income	149	113	32.5
Sales/other transfers of intellectual property	8	17	(52.8)
Total	$ 319	$ 323	(1.3)%

Total intellectual property and custom development income decreased 8.7 percent and 1.3 percent year to year in the second quarter and first six months of 2020, respectively. This was primarily driven by a decrease in licensing of intellectual property including royalty-based fees, partially offset by custom development income which grew year to year driven by new agreements in the current-year periods. 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) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ 62	$ 172	(63.8)%
(Gains)/losses on derivative instruments	(92)	(271)	(66.2)
Interest income	(23)	(167)	(86.2)
Net (gains)/losses from securities and investment assets	0	(19)	nm
Retirement-related costs/(income)	273	136	100.6
Other	(43)	(597)	(92.9)
Total consolidated other (income) and expense	$ 179	$ (747)	nm
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (1)	$ (1)	—
Acquisition-related charges	—	120	(100.0)%
Non-operating retirement-related (costs)/income	(273)	(136)	100.6
Operating (non-GAAP) other (income) and expense	$ (95)	$ (764)	(87.5)%

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ (64)	$ (1)	nm
(Gains)/losses on derivative instruments	9	(202)	nm
Interest income	(74)	(238)	(68.8)%
Net (gains)/losses from securities and investment assets	(5)	(23)	(77.9)
Retirement-related costs/(income)	538	274	96.3
Other	(42)	(630)	(93.3)
Total consolidated other (income) and expense	$ 361	$ (820)	nm
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (1)	$ (1)	—
Acquisition-related charges	—	144	(100.0)%
Non-operating retirement-related (costs)/income	(538)	(274)	96.3
Operating (non-GAAP) other (income) and expense	$ (178)	$ (951)	(81.3)%

nm - not meaningful

Total consolidated other (income) and expense was expense of $179 million in the second quarter of 2020 compared to income of $747 million in the prior-year period. The year-to-year change was primarily driven by:

- Lower gains from divestitures reflected in other ($554 million);
- Lower interest income ($144 million) due to lower average cash balances and interest rates in the current year; and
- Higher non-operating retirement-related costs ($137 million). Refer to “Retirement-Related Plans” for additional information.

Operating (non-GAAP) other (income) and expense was $95 million of income in the second quarter of 2020 and decreased $669 million compared to the prior-year period. The year-to-year change was driven primarily by the lower gains from divestitures described above and the effects of currency.

Total consolidated other (income) and expense was expense of $361 million in the first six months of 2020 compared to income of $820 million in the prior year. The year-to-year change was primarily driven by:

- Lower gains from divestitures reflected in other ($514 million);
- Higher non-operating retirement-related costs ($264 million). Refer to "Retirement-Related Plans" for additional information;
- Lower interest income ($164 million) due to lower average cash balances and interest rates in the current year; and
- Lower net exchange gains (including derivative instruments) of $148 million. Our hedging programs help mitigate currency impacts in the Consolidated Income Statement.

Operating (non-GAAP) other (income) and expense was $178 million of income in the first six months of 2020 and decreased $773 million compared the prior-year period. The year-to-year change was driven primarily by the lower gains from divestitures and lower net exchange gains described above.

Interest Expense

(Dollars in millions) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Interest expense	$ 323	$ 348	(7.1)%
Non-operating adjustment:			
Acquisition-related charges	$ —	$ (168)	(100.0)
Operating (non-GAAP) interest expense	$ 323	$ 180	79.9 %

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Interest expense	$ 649	$ 558	16.3 %
Non-operating adjustment:			
Acquisition-related charges	$ —	$ (204)	(100.0)
Operating (non-GAAP) interest expense	$ 649	$ 354	83.3 %

Interest expense decreased $25 million in the second quarter and increased $91 million year to year for the first six months of 2020. Interest expense is presented in cost of financing in the Consolidated Income Statement if the related external borrowings are to support the Global Financing external business. Overall interest expense (excluding capitalized interest) for the second quarter and first six months of 2020 was $441 million and $885 million, respectively, a decrease of $71 million and $16 million versus the comparable prior-year periods. The decreases were primarily driven by lower average interest rates, partially offset by a higher average debt balance in the current year.

Operating (non-GAAP) interest expense increased $144 million and $295 million year to year in the second quarter and first six months of 2020, respectively. The prior-year periods excluded Red Hat pre-closing debt financing costs.

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 Income Statement 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) For the three months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 98	$ 96	1.7 %
Multi-employer plans	7	8	(14.8)
Cost of defined contribution plans	267	253	5.3
Total operating costs/(income)	$ 372	$ 358	3.9 %
Interest cost	$ 546	$ 723	(24.5)%
Expected return on plan assets	(854)	(1,047)	(18.4)
Recognized actuarial losses	559	454	23.2
Amortization of prior service costs/(credits)	0	(3)	nm
Curtailments/settlements	13	3	336.9
Other costs	9	6	57.2
Total non-operating costs/(income)	$ 273	$ 136	100.6 %
Total retirement-related plans — cost	$ 645	$ 494	30.6 %

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 197	$ 193	1.8 %
Multi-employer plans	14	17	(14.0)
Cost of defined contribution plans	532	501	6.2
Total operating costs/(income)	$ 743	$ 711	4.5 %
Interest cost	$ 1,086	$ 1,451	(25.2)%
Expected return on plan assets	(1,706)	(2,097)	(18.6)
Recognized actuarial losses	1,122	911	23.1
Amortization of prior service costs/(credits)	1	(6)	nm
Curtailments/settlements	21	4	444.1
Other costs	14	11	36.1
Total non-operating costs/(income)	$ 538	$ 274	96.3 %
Total retirement-related plans — cost	$ 1,281	$ 985	30.0 %

nm - not meaningful

Total pre-tax retirement-related plan cost increased by $151 million compared to the second quarter of 2019 primarily driven by lower expected return on plan assets ($193 million) and an increase in recognized actuarial losses ($105 million), partially offset by lower interest costs ($177 million). Total cost for the first six months of 2020 increased $296 million versus the first six months of 2019, primarily driven by lower expected return on plan assets ($391 million) and an increase in recognized actuarial losses ($210 million), partially offset by lower interest costs ($365 million).

As described in the "Operating (non-GAAP) Earnings" section, management characterizes certain retirement-related costs as operating and others as non-operating. Utilizing this characterization, operating retirement-related costs in the second quarter of 2020 were $372 million, an increase of $14 million compared to the second quarter of 2019. For the first six months of 2020, operating retirement-related costs were $743 million, an increase of $32 million compared to the prior-year period. Non-operating costs of $273 million in the second quarter of 2020 increased $137 million year to year and for the first six months of 2020 were $538 million, an increase of $264 million compared to the prior-year period. These non-operating cost increases were driven primarily by the same factors as described above.

Taxes

The continuing operations provision for income taxes for the second quarter of 2020 was $209 million, compared to $269 million in the second quarter of 2019. The operating (non-GAAP) provision for income taxes for the second quarter of 2020 was $369 million, compared to $349 million in the second quarter of 2019.

The continuing operations benefit from income taxes for the first six months of 2020 was $1,017 million, compared to a tax provision of $558 million for the first six months of 2019. The operating (non-GAAP) benefit from income taxes for the first six months of 2020 was $592 million, compared to a tax provision of $574 million for the first six months of 2019. The benefit from income taxes for the first six months of 2020 was primarily driven by a net tax benefit in the first quarter related to an intra-entity sale of certain of the company's intellectual property and the related impacts of $939 million and an adjustment to the U.S. tax reform charge due to a foreign tax law change. The operating (non-GAAP) benefit from income taxes was primarily driven by the same factors, except for the adjustment to the U.S. tax reform charge.

IBM's full-year tax provision and effective tax rate are impacted by recurring factors including the geographic mix of income before taxes, state and local taxes, the effects of various global income tax strategies and any discrete tax events, such as the settlement of income tax audits and changes in or new interpretations of tax laws. The GAAP tax provision and 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.

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 June 30, 2020, the company has recorded $709 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 India 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 June 30, 2020 is $8,445 million which can be reduced by $594 million associated with timing adjustments, U.S. tax credits, potential transfer pricing adjustments, and state income taxes. The net amount of $7,851 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 June 30:	2020	2019	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 1.52	$ 2.81	(45.9)%
Basic	$ 1.53	$ 2.82	(45.7)%
Diluted operating (non-GAAP)	$ 2.18	$ 3.17	(31.2)%
Weighted-average shares outstanding: (in millions)			
Assuming dilution	894.9	890.8	0.5 %
Basic	889.4	886.3	0.4 %

For the six months ended June 30:	2020	2019	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 2.83	$ 4.58	(38.2)%
Basic	$ 2.85	$ 4.61	(38.2)%
Diluted operating (non-GAAP)	$ 4.02	$ 5.42	(25.8)%
Weighted-average shares outstanding: (in millions)			
Assuming dilution	895.0	892.4	0.3 %
Basic	888.7	887.9	0.1 %

Actual shares outstanding at June 30, 2020 were 890.6 million. The weighted-average number of common shares outstanding assuming dilution during the second quarter and first six months of 2020 were 4.1 million (0.5 percent) and 2.6 million (0.3 percent) shares higher than the same periods of 2019.

Financial Position

Dynamics

At June 30, 2020, the balance sheet remained strong with flexibility to support the business. We continue to manage the investment portfolio to meet our capital preservation and liquidity objectives. In this unprecedented environment as a result of the COVID-19 pandemic, while we are supporting our clients and improving the flexibility and competitive position of our operations, we are also continuing to take actions to enhance our balance sheet strength and liquidity position. Cash, restricted cash and marketable securities at quarter end were $14,250 million, an increase of $5,241 million since December 31, 2019. We accessed the debt markets in first-half 2020 with $8,586 million of issuances, while reducing $6,428 million of current and 2021 refinancing needs. Total debt of $64,738 million at June 30, 2020 increased $1,838 million from December 31, 2019. Commercial paper was a net decrease of $189 million in the first half of 2020, and a net decrease of $2,404 million in the second quarter of 2020. Within total debt, $21,908 million is Global Financing debt, which is in support of IBM products and services and has a stable credit portfolio.

Our pension plans were well funded at the end of 2019, with worldwide qualified plans funded at 102 percent. Overall pension funded status as of the end of June 2020 was fairly consistent with year-end 2019, and we currently have no change to expected plan contributions in 2020.

In the first six months of 2020, we generated $8,052 million in net cash from operations, compared to $7,700 million in the first six months of 2019. This included a number of strategic actions taken to preserve cash and maintain a strong balance sheet and ample liquidity position. We have consistently generated strong cash flows from operations and continue to have access to additional sources of liquidity through the capital markets and our $15,250 million of unused credit facilities. We do not currently have plans to draw on these facilities, however they are available as back-up liquidity. We have been opportunistic in the capital markets and remain fully committed to a target leverage profile consistent with a mid to high single A credit rating. Refer to “Liquidity and Capital Resources” for additional

information. In summary, we have a strong cash position and ample credit available during these uncertain times to support and invest in our business.

The assets and debt associated with the Global Financing business are a significant part of our financial position. 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 June 30, 2020	At December 31, 2019
Cash and cash equivalents	$ 1,785	$ 1,697
Net investment in sales-type and direct financing leases [1]	5,093	6,224
Equipment under operating leases — external clients [2]	170	238
Client loans	11,869	12,884
Total client financing assets	17,132	19,346
Commercial financing receivables	2,379	3,820
Intercompany financing receivables [3] [4]	3,735	3,870
Total assets	$ 26,523	$ 29,568
Debt	$ 21,908	$ 24,727
Total equity	$ 2,433	$ 2,749

(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 page 5.
(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 June 30, 2020, substantially all client and commercial financing assets were IT related assets, and approximately 58 percent of the total external portfolio was with investment grade clients with no direct exposure to consumers, a decrease of 2 points year to year. This investment grade percentage is based on the credit ratings of the companies in the portfolio and reflect mitigating credit enhancement actions taken by the customer to reduce the risk to IBM.

The company has a long-standing practice of taking mitigation actions, in certain circumstances, to transfer credit risk to third parties. These actions may include credit insurance, financial guarantees, nonrecourse borrowings, transfers of receivables recorded as true sales in accordance with accounting guidance or sales of equipment under operating lease.

In the second quarter of 2020, the company sold $711 million of financing receivables, consisting of lease and loan receivables of $417 million and $294 million, respectively, approximately half of which were scheduled to be due within the next 12 months. The transfer of these receivables qualified as true sales and therefore reduced Global Financing receivables and resulted in a benefit to cash flows from operating activities for the three and six months ended June 30, 2020 (with no impact to free cash flow). The impact to the Consolidated Income Statement, including fees and the net gain associated with the transfer of these receivables was not material.

IBM Working Capital

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Current assets	$ 39,953	$ 38,420
Current liabilities	38,442	37,701
Working capital	$ 1,511	$ 718
Current ratio	1.04:1	1.02:1

Working capital increased $793 million from the year-end 2019 position. The key changes are described below:

Current assets increased $1,534 million ($2,479 million adjusted for currency) due to:

- An increase of $5,241 million ($5,548 million adjusted for currency) in cash, restricted cash and marketable securities; and
- An increase of $640 million ($847 million adjusted for currency) in total inventory, deferred costs and prepaid expenses and other current assets; partially offset by
- A decline in receivables of $4,348 million ($3,916 million adjusted for currency) primarily as a result of collections of higher year-end balances and divestiture-related receivables, as well as sales of receivables.

Current liabilities increased $741 million ($1,353 million adjusted for currency) as a result of:

- An increase in short-term debt of $492 million ($564 million adjusted for currency) due to reclassifications of $5,100 million from long-term debt to reflect upcoming maturities; partially offset by maturities of $4,387 million; and
- An increase in deferred income of $443 million ($689 million adjusted for currency); partially offset by
- A decrease in taxes of $212 million ($112 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, 2020 *	Additions / (Releases) **	Write-offs ***	Other +	June 30, 2020
$ 612	$ 123	$ (48)	$ (21)	$ 665

* Opening balance does not equal the allowance at December 31, 2019 due to the adoption of the guidance on current expected credit losses. Refer to note 2, “Accounting Changes,” for additional information.

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

*** Refer to note A, “Significant Accounting Policies,” in the company’s 2019 Annual Report for additional information regarding allowance for credit loss write-offs.

\+ Primarily represents translation adjustments.

The total IBM receivables provision coverage was 2.4 percent at June 30, 2020, an increase of 60 basis points compared to January 1, 2020. The increase was primarily driven by the overall decline in gross financing receivables and trade receivables from collections from higher year-end volumes as well as sales of receivables and an increase in customer specific provisions. The global pandemic has resulted in some deterioration in customer credit quality and/or bankruptcies which have had impacts to provisions in the first-half 2020. The majority of the write-offs during the six months ended June 30, 2020 related to receivables which had been previously reserved.

Global Financing Receivables and Allowances

The following table presents external Global Financing receivables excluding immaterial miscellaneous receivables.

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Amortized cost/Recorded investment (1)(2)	$ 19,604	$ 22,446
Specific allowance for credit losses	180	177
Unallocated allowance for credit losses	84	45
Total allowance for credit losses	264	221
Net financing receivables	$ 19,340	$ 22,224
Allowance for credit losses coverage	1.3 %	1.0 %

(1) Prior to the January 1, 2020 adoption of the guidance on current expected credit losses, the presentation was recorded investment, subsequent to adoption the presentation is amortized cost. Both presentations include deferred initial direct costs which are eliminated in IBM's consolidated results.

(2) The amortized cost basis of a financial asset represents the original amount of the financing receivable (including residual value) adjusted for unearned income, deferred initial direct costs, cash collected, write-offs and any foreign exchange adjustments. Recorded investment excluded residual value.

Upon the adoption of the guidance on current expected credit losses, the percentage of financing receivables reserved increased from 1.0 percent at December 31, 2019, to 1.1 percent January 1, 2020, primarily driven by a 74.2 percent increase in unallocated reserves. The percentage of financing receivables reserved increased from 1.1 percent at January 1, 2020, to 1.3 percent at June 30, 2020, which included an increase in unallocated reserves of 7.7 percent. Specific reserves increased 1.7 percent from $177 million at December 31, 2019, to $180 million at June 30, 2020.

Roll Forward of Global Financing Receivables Allowance for Credit Losses

(Dollars in millions) January 1, 2020*	Additions / (Releases)**	Write-offs ***	Other +	June 30, 2020
$ 262	$ 35	$ (21)	$ (12)	$ 264

* Opening balance does not equal the allowance at December 31, 2019 due to the adoption of the guidance on current expected credit losses. Refer to note 2, "Accounting Changes," for additional information.

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

*** Refer to note A, "Significant Accounting Policies," in the company's 2019 Annual Report for additional information regarding allowance for credit loss write-offs.

\+ Primarily represents translation adjustments.

Global Financing's expected credit loss expense (including impacts from off-balance sheet commitments which are recorded in other liabilities) was an addition of $28 million for the three months ended June 30, 2020, compared to a release of $9 million for the same period in 2019. The increase was primarily driven by higher specific and unallocated reserves in Americas in the second quarter.

Global Financing's expected credit loss expense (including impacts from off-balance sheet commitments which are recorded in other liabilities) was an addition of $39 million for the six months ended June 30, 2020, compared to a release of $5 million for the same period in 2019. The increase was primarily driven by higher unallocated and specific reserves in Americas and higher unallocated reserves in EMEA in the current year.

Noncurrent Assets and Liabilities

(Dollars in millions)	At June 30, 2020	At December 31, 2019
Noncurrent assets	$ 114,247	$ 113,767
Long-term debt	$ 55,449	$ 54,102
Noncurrent liabilities (excluding debt)	$ 39,621	$ 39,398

Noncurrent assets increased $480 million ($1,583 million adjusted for currency) due to:

- An increase in deferred taxes of $3,507 million ($3,684 adjusted for currency) primarily due to an intra-entity sale of IP in the first quarter; partially offset by
- A decrease in long-term financing receivables of $1,361 million ($1,250 million adjusted for currency) as a result of reductions from seasonally higher year-end balances as well as sales of receivables; and
- A decrease in net intangible assets and goodwill of $1,353 million ($1,087 million adjusted for currency) primarily resulting from intangibles amortization and currency impacts.

Long-term debt increased $1,347 million ($1,230 million adjusted for currency) due to:

- Issuances of $8,356 million; partially offset by
- Reclassifications to short-term debt of $5,100 million to reflect upcoming maturities; and
- Maturities and redemption of $2,041 million of certain outstanding bonds.

Noncurrent liabilities (excluding debt) increased $222 million ($794 million adjusted for currency) due to:

- An increase in other liabilities of $1,140 million ($1,442 million adjusted for currency) primarily driven by an increase in deferred tax liabilities related to the first-quarter intra-equity IP sale; partially offset by
- A decrease in retirement and postretirement benefit obligations of $659 million ($536 million adjusted for currency).

Debt

We continually monitor our funding requirements and execute our strategies 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 June 30, 2020	At December 31, 2019
Total company debt	$ 64,738	$ 62,899
Total Global Financing segment debt	$ 21,908	$ 24,727
Debt to support external clients	18,820	21,487
Debt to support internal clients	3,089	3,239
Non-Global Financing debt	$ 42,829	$ 38,173

Total debt of $64,738 million increased $1,838 million from December 31, 2019, driven by new debt issuances of $8,586 million; partially offset by debt maturities and early retirements of $6,428 million. Commercial paper was a net decrease of $189 million in the first-half 2020, and a net decrease of $2,404 million in the second quarter of 2020.

Non-Global Financing debt of $42,829 million increased $4,657 million from December 31, 2019 and decreased $5,227 million since June 30, 2019.

Global Financing debt of $21,908 million decreased $2,818 million from December 31, 2019, primarily due to lower funding requirements.

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 June 30, 2020.

We measure 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" and in note 4, "Segments." In the Consolidated Income Statement, 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 $297 million from December 31, 2019, primarily due to decreases from dividends paid ($2,890 million), partially offset by increases from net income ($2,536 million).

Cash Flow

Our 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.

(Dollars in millions) **For the six months ended June 30:**	**2020**	**2019**
Net cash provided by/(used in) continuing operations:		
Operating activities	$ 8,052	$ 7,700
Investing activities	(2,138)	3,309
Financing activities	(1,739)	22,894
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(301)	27
Net change in cash, cash equivalents and restricted cash	$ 3,874	$ 33,930

Net cash provided by operating activities increased $352 million as compared to the first six months of 2019 driven primarily by:

- An increase of cash provided by receivables of $1,550 million primarily driven by business volumes, our continued focus on collections as well as sales of receivables, including financing receivables of $711 million; and

- Payroll tax and value-added tax payment deferrals and exemptions of approximately $550 million due to tax relief provided under the U.S. CARES Act and other non-U.S. government assistance programs related to COVID-19; partially offset by

- An increase in interest payments on debt of approximately $400 million;

- An increase in workforce rebalancing payments of $283 million;

- A net increase in cash payments for income taxes of $254 million primarily driven by withholding tax on intercompany dividends in the second quarter; and

- Performance-related declines within net income.

Investing activities were a net use of cash of $2,138 million in the first six months of 2020 compared to a net source of cash of $3,309 million in 2019. The year-to-year change of $5,447 million was driven by:

- A decrease of $3,733 million in cash provided by net non-operating finance receivables primarily driven by the wind down of the OEM IT commercial financing operations; partially offset by

- An increase in cash used for net purchases of marketable securities and other investments of $1,217 million; and

- An increase in cash used for net capital expenditures of $389 million.

Financing activities were a net use of cash of $1,739 million in the first six months of 2020 compared to a net source of cash of $22,894 million in the first six months of 2019. The year-to-year change of $24,633 million was driven by:

- A decrease in net cash provided by debt transactions of $25,754 million driven primarily by a higher level of net additions in the prior year to fund the Red Hat acquisition; partially offset by

- A decrease in cash used for gross common share repurchases of $1,236 million.

Looking Forward

IBM is focused on helping our clients in the two major transformational journeys they are on: hybrid cloud as well as data and AI. To address the cloud opportunity, enterprises need to be able to move and manage data, services and workflows across multiple clouds and on-premises. Clients want to infuse AI into their workflows, automate their IT infrastructure to reduce cost and increase resiliency and secure their IT infrastructure to fend off growing cybersecurity threats. They need to be able to address security concerns, data protection and protocols, availability and cloud management. This is best addressed with a hybrid cloud, open approach. On July 9, 2019, we closed the acquisition of Red Hat, which significantly changed the cloud landscape and will accelerate our high-value business model.

Hybrid cloud is the dominant force driving change in our industry but it is far from universal adoption. There remains a significant opportunity for IBM to capture clients' mission-critical workloads that have not yet moved to the cloud. Hybrid cloud is an interoperable IT environment across on-premise, private and publicly-operated cloud environments, in most cases from multiple vendors. Together, IBM and Red Hat offer the leading hybrid platform built on open source technologies. It starts with Linux, which is the de facto operating system standard and we have a tremendous advantage with RHEL which is the market share leader. Linux, along with containers and Kubernetes, provides the architectural foundation of our hybrid platform and OpenShift is our core product. We have a vast software and middleware portfolio which has been containerized and runs on OpenShift and RHEL. The Cloud Paks we introduced in the second half of 2019 allow our middleware to run in a cloud-native environment and bridge our clients from the past to the future. Our

hybrid cloud platform also includes a set of advanced technologies that enterprises need such as Watson, analytics, encryption and IoT. Our clients can deploy our software anywhere OpenShift runs, as it is infrastructure agnostic, operates across public and private clouds, as well as on our mainframes and power systems platforms. The large ecosystem of partners and global coalition of best of breed independent software vendors we have brought together should accelerate adoption of the platform. Nearly 50 percent of the hybrid cloud opportunity lies in services. An important part of our hybrid cloud platform's value is in the expertise we provide to help clients on their journey to the cloud, through modernization of applications, building cloud-native apps, migrating to the cloud, or managing these applications and public and private cloud infrastructures.

On April 20, 2020, we withdrew our full-year 2020 expectations. At this time, we are not providing full-year 2020 expectations given the continued level of uncertainty around the duration of the COVID-19 health crisis and the potential rate and pace of economic recovery. We maintain confidence in our strategy and our portfolio and while the current environment presents some near-term challenges for our clients, it also provides longer-term opportunities for us as our clients accelerate their transitions to digital environments. We have both a business profile and business model that provide some stability in the current environment and we have recently taken a number of actions that strengthen our operating model currently and for the future.

Looking forward to the second half of 2020, we have a compelling set of offerings and a strong pipeline across software, services and systems. The yield of that pipeline into revenue will be driven by the rate and pace of global economic recovery, which will vary based on industry and markets around the world and influence client spending confidence. Our business has a number of dynamics in the second half. Systems performance is typically reflective of our product cycles, which will have an impact in the second half as the z15 was introduced in the third quarter of 2019. From a software perspective, transaction versus annuity mix varies by quarter and historically we have a lower mix of software transactions in the third quarter and our largest transaction base in the fourth quarter. Depending on recovery of client buying patterns, transactional content could continue to be impacted. With the one-year anniversary of the Red Hat acquisition in July, a significant portion of the deferred revenue purchase accounting adjustment and the impact from acquisition transaction charges will lessen in the second half. From a total revenue perspective, it will also be one year since the close of the second quarter 2019 divestitures which had been a headwind to revenue growth in the first half of 2020. Within services, the savings from the structural actions that we took across our business will start to yield in the second half of 2020, providing better cost competitiveness and margin performance, especially in GTS. We could continue to be impacted by the reduction in client's discretionary projects, in particular in GBS. In this unprecedented environment, we continue to take prudent actions to improve our operating model and accelerate our strategic priorities to emerge from this economic environment stronger and with a business positioned for growth. We remain confident that we have ample free cash flow and liquidity to support our business and return value to shareholders through dividends.

For the period ended June 30, 2020, we assessed certain accounting-related matters that generally require consideration of current information reasonably available to us and utilized forecasted financial data to help assess future impacts to IBM as a result of the COVID-19 pandemic. The accounting matters considered for assessment included but were not limited to, the allowances for credit losses, the carrying values of goodwill and intangible assets and other long-lived assets, our net investments in sales-type or direct financing leases, any significant lease modifications, valuation allowances for tax assets and revenue recognition. Our assessments did not result in any material impacts to our consolidated financial results as of and for the quarter ended June 30, 2020. We will continue to assess these matters in future periods. However, given the inherent uncertainty of the magnitude of future impacts from and/or the duration of the pandemic, there can be no assurance that impacts will not be material to our consolidated financial results in future periods.

Our pension plans are well funded coming into this environment and our expectations for our retirement-related plan contributions remain consistent with year-end 2019. We expect 2020 pre-tax retirement-related plan cost to be approximately $2.7 billion, an increase of approximately $600 million compared to 2019. This estimate reflects current pension plan assumptions at December 31, 2019. Within total retirement-related plan cost, operating retirement-related plan cost is expected to be approximately $1.5 billion, approximately flat versus 2019. Non-operating retirement-related plan cost is expected to be approximately $1.2 billion, an increase of approximately $600 million compared to 2019,

primarily driven by lower income from expected return on assets. Contributions for all retirement-related plans are expected to be approximately $2.3 billion in 2020, an increase of approximately $100 million compared to 2019.

Currency Rate Fluctuations

Changes in the relative values of non-U.S. currencies to the U.S. dollar (USD) affect our financial results and financial position. At June 30, 2020, currency changes resulted in assets and liabilities denominated in local currencies being translated into fewer dollars than at year-end 2019. We use 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, we may use some of the advantage from a weakening U.S. dollar to improve our position competitively, and price more aggressively to win the business, essentially passing on a portion of the currency advantage to our customers. Competition will frequently take the same action. Consequently, we believe that some of the currency-based changes in cost impact the prices charged to clients. We also maintain currency hedging programs for cash management purposes which temporarily mitigate, but do not eliminate, the volatility of currency impacts on our financial results.

We translate revenue, cost and expense in our 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 we utilize to disclose this information does not incorporate any operational actions that management could take to mitigate fluctuating currency rates. Currency movements impacted our year-to-year revenue and earnings per share growth in the first six months of 2020. Based on the currency rate movements in the first six months of 2020, total revenue decreased 4.4 percent as reported and 2.9 percent at constant currency versus the first six months of 2019. On an income from continuing operations before income tax basis, these translation impacts mitigated by the net impact of hedging activities resulted in a theoretical maximum (assuming no pricing or sourcing actions) increase of approximately $160 million in the first six months of 2020 on an as-reported basis and an increase of approximately $150 million on an operating (non-GAAP) basis. The same mathematical exercise resulted in an increase of approximately $160 million in the first six months of 2019 on an as-reported basis and an increase of approximately $140 million on an operating (non-GAAP) basis. We view these amounts as a theoretical maximum impact to our 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 we believe 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, we manage currency risk in these entities by linking prices and contracts to U.S. dollars.

Liquidity and Capital Resources

In our 2019 Annual Report, on pages 57 to 59, there is a discussion of our liquidity including two tables that present three years of data. The table presented on page 58 includes net cash from operating activities, cash and cash equivalents, restricted cash and short-term marketable securities, and the size of our global credit facilities for each of the past three years. For the six months ended, or at, as applicable, June 30, 2020, those amounts are $8.1 billion of net cash from operating activities, $14.3 billion of cash and cash equivalents, restricted cash and short-term marketable securities and $15.3 billion in global credit facilities, respectively. While we have no current plans to draw on these credit facilities, they are available as back-up liquidity.

On July 9, 2019, we closed the acquisition of Red Hat for cash consideration of $34.8 billion. The transaction was funded through a combination of cash on hand and proceeds from debt issuances. In order to reduce this debt and return

to target leverage ratios within a couple of years, the company suspended its share repurchase program at the time of the Red Hat acquisition closing. Refer to note 11, "Borrowings," for additional details of financing this transaction.

The major rating agencies' ratings on our debt securities at June 30, 2020 appear in the following table and remain unchanged.

IBM and IBM Credit LLC ratings:	STANDARD AND POOR'S	MOODY'S INVESTORS SERVICE
Senior long-term debt	A	A2
Commercial paper	A-1	Prime-1

We remain committed to a target leverage profile consistent with a mid to high single A credit rating within a couple of years.

We do not have "ratings trigger" provisions in our 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. Our debt covenants are well within the required levels. Our contractual agreements governing derivative instruments contain standard market clauses which can trigger the termination of the agreement if our credit rating were to fall below investment grade. At June 30, 2020, the fair value of those instruments that were in a liability position was $491 million, before any applicable netting, and this position is subject to fluctuations in fair value period to period based on the level of our outstanding instruments and market conditions. We have no other contractual arrangements that, in the event of a change in credit rating, would result in a material adverse effect on our financial position or liquidity.

In July 2017, the UK's Financial Conduct Authority, which regulates the London Interbank Offered Rate (LIBOR), announced that it intends to phase out LIBOR by the end of 2021. Various central bank committees and working groups continue to discuss replacement of benchmark rates, the process for amending existing LIBOR-based contracts, and the potential economic impacts of different alternatives. The Alternative Reference Rates Committee has identified the Secured Overnight Financing Rate (SOFR) as its preferred alternative rate for USD LIBOR. SOFR is a measure of the cost of borrowing cash overnight, collateralized by U.S. Treasury securities, and is based on directly observable U.S. Treasury-backed repurchase transactions. We are continuing to evaluate the potential impact of the replacement of the LIBOR benchmark interest rate, including risk management, internal operational readiness and monitoring the FASB standard-setting process for additional updates to address financial reporting issues that might arise in connection with transition from LIBOR to a new benchmark rate.

We prepare our Consolidated Statement of Cash Flows in accordance with applicable accounting standards for cash flow presentation on page 7 of this Form 10-Q and highlight causes and events underlying sources and uses of cash in that format on pages 83 and 84. For the purpose of running its business, IBM 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. We define 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 flows. As previously noted, we view Global Financing receivables as a profit-generating investment which we seek to maximize and therefore it is not considered when formulating guidance for free cash flow. As a result, we do not estimate a GAAP Net Cash from Operations expectation metric.

The following is management's view of cash flows for the first six months of 2020 and 2019 prepared in a manner consistent with the description above.

(Dollars in millions) For the six months ended June 30:	2020	2019
Net cash from operating activities per GAAP	$ 8,052	$ 7,700
Less: change in Global Financing receivables	2,971	2,577
Net cash from operating activities, excluding Global Financing receivables	$ 5,081	$ 5,123
Capital expenditures, net	(1,434)	(1,045)
Free cash flow	$ 3,647	$ 4,078
Acquisitions	(19)	(43)
Divestitures	757	888
Share repurchase	—	(1,236)
Common stock repurchases for tax withholdings	(211)	(152)
Dividends	(2,890)	(2,833)
Non-Global Financing debt	3,958	33,399
Other (includes Global Financing net receivables and Global Financing debt)	(1)	84
Change in cash, cash equivalents, restricted cash and short-term marketable securities	$ 5,241	$ 34,186

In the first six months of 2020, we generated free cash flow of $3.6 billion, a decrease of $0.4 billion versus the prior year. In the first six months of 2020, we also continued to return value to shareholders with $2.9 billion in dividends.

Events that could temporarily change the historical cash flow dynamics discussed previously and in our 2019 Annual Report include significant changes in operating results, material changes in geographic sources of cash, unexpected adverse impacts from litigation, future pension funding requirements, 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 13, "Contingencies," in this Form 10-Q. With respect to pension funding, we expect to make legally mandated pension plan contributions to certain non-U.S. defined benefit plans of approximately $300 million in 2020. Contributions related to all retirement-related plans are expected to be approximately $2.3 billion in 2020. 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. We are 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 2020, we are not legally required to make any contributions to the U.S. defined benefit pension plans.

Our cash flows are sufficient to fund our current operations and obligations, including investing and financing activities such as dividends and debt service. When additional requirements arise, we have several liquidity options available. These options may include the ability to borrow additional funds at reasonable interest rates and utilizing our committed global credit facilities. With our share repurchase program suspended since the close of the Red Hat acquisition, our overall shareholder payout remains at a comfortable level and we remain fully committed to our dividend.

Global Financing Return on Equity Calculation

(Dollars in millions)	For Three Months Ended June 30, 2020	For Three Months Ended June 30, 2019	For Six Months Ended June 30, 2020	For Six Months Ended June 30, 2019
Numerator				
Global Financing after-tax income*	$ 147	$ 188	$ 339	$ 304
Annualized after-tax income (1)	$ 588	$ 754	$ 677	$ 608
Denominator				
Average Global Financing equity (2)**	$ 2,453	$ 3,028	$ 2,551	$ 3,175
Global Financing return on equity (1)/(2)	24.0 %	24.9 %	26.5 %	19.2 %

* 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 and three quarters, for the three months ended June 30, and for the six months ended June 30, respectively.

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 for the company's rationale for presenting operating earnings information.

(Dollars in millions except per share amounts) For the three months ended June 30, 2020:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Operating (non-GAAP)
Gross profit	$ 8,700	$ 187	$ —	$ —	$ 8,887
Gross profit margin	48.0 %	1.0 pts.	— pts.	— pts.	49.0 %
S,G&A	$ 5,248	$ (285)	$ —	$ —	$ 4,962
R,D&E	1,582	—	—	—	1,582
Other (income) and expense	179	(1)	(273)	—	(95)
Interest expense	323	—	—	—	323
Total expense and other (income)	7,129	(286)	(273)	—	6,570
Pre-tax income from continuing operations	1,571	473	273	—	2,318
Pre-tax margin from continuing operations	8.7 %	2.6 pts.	1.5 pts.	— pts.	12.8 %
Provision for income taxes*	$ 209	$ 108	$ 52	$ —	$ 369
Effective tax rate	13.3 %	1.9 pts.	0.7 pts.	— pts.	15.9 %
Income from continuing operations	$ 1,362	$ 365	$ 222	$ —	$ 1,949
Income margin from continuing operations	7.5 %	2.0 pts.	1.2 pts.	— pts.	10.8 %
Diluted earnings per share from continuing operations	$ 1.52	$ 0.41	$ 0.25	$ —	$ 2.18

* 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.

(Dollars in millions except per share amounts) For the three months ended June 30, 2019:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Operating (non-GAAP)
Gross profit	$ 9,010	$ 73	$ —	$ —	$ 9,083
Gross profit margin	47.0 %	0.4 pts.	— pts.	— pts.	47.4 %
S,G&A	$ 5,456	$ (149)	$ —	$ —	$ 5,307
R,D&E	1,407	—	—	—	1,407
Other (income) and expense	(747)	119	(136)	—	(764)
Interest expense	348	(168)	—	—	180
Total expense and other (income)	6,242	(198)	(136)	—	5,907
Pre-tax income from continuing operations	2,768	272	136	—	3,176
Pre-tax margin from continuing operations	14.4 %	1.4 pts.	0.7 pts.	— pts.	16.6 %
Provision for income taxes*	$ 269	$ 55	$ 40	$ (14)	$ 349
Effective tax rate	9.7 %	0.9 pts.	0.8 pts.	(0.4)pts.	11.0 %
Income from continuing operations	$ 2,499	$ 217	$ 97	$ 14	$ 2,827
Income margin from continuing operations	13.0 %	1.1 pts.	0.5 pts.	0.1 pts.	14.8 %
Diluted earnings per share from continuing operations	$ 2.81	$ 0.24	$ 0.11	$ 0.01	$ 3.17

* 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.

(Dollars in millions except per share amounts) For the six months ended June 30, 2020:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Operating (non-GAAP)
Gross profit	$ 16,622	$ 375	$ —	$ —	$ 16,998
Gross profit margin	46.6 %	1.1 pts.	— pts.	— pts.	47.6 %
S,G&A	$ 11,203	$ (570)	$ —	$ —	$ 10,633
R,D&E	3,207	—	—	—	3,207
Other (income) and expense	361	(1)	(538)	—	(178)
Interest expense	649	—	—	—	649
Total expense and other (income)	15,101	(571)	(538)	—	13,992
Pre-tax income from continuing operations	1,522	946	538	—	3,006
Pre-tax margin from continuing operations	4.3 %	2.7 pts.	1.5 pts.	— pts.	8.4 %
Provision for (benefit from) income taxes*	$ (1,017)	$ 210	$ 65	$ 149	$ (592)
Effective tax rate	(66.8)%	28.0 pts.	14.1 pts.	5.0 pts.	(19.7)%
Income from continuing operations	$ 2,538	$ 736	$ 472	$ (149)	$ 3,598
Income margin from continuing operations	7.1 %	2.1 pts.	1.3 pts.	(0.4)pts.	10.1 %
Diluted earnings per share from continuing operations	$ 2.83	$ 0.83	$ 0.53	$ (0.17)	$ 4.02

* 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.

(Dollars in millions except per share amounts) For the six months ended June 30, 2019:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Operating (non-GAAP)
Gross profit	$ 17,053	$ 149	$ —	$ —	$ 17,202
Gross profit margin	45.7 %	0.4 pts.	— pts.	— pts.	46.1 %
S,G&A	$ 10,147	$ (273)	$ —	$ —	$ 9,873
R,D&E	2,840	—	—	—	2,840
Other (income) and expense	(820)	142	(274)	—	(951)
Interest expense	558	(204)	—	—	354
Total expense and other (income)	12,402	(335)	(274)	—	11,793
Pre-tax income from continuing operations	4,651	484	274	—	5,409
Pre-tax margin from continuing operations	12.5 %	1.3 pts.	0.7 pts.	— pts.	14.5 %
Provision for income taxes*	$ 558	$ 104	$ 66	$ (155)	$ 574
Effective tax rate	12.0 %	0.8 pts.	0.6 pts.	(2.9)pts.	10.6 %
Income from continuing operations	$ 4,093	$ 381	$ 208	$ 155	$ 4,836
Income margin from continuing operations	11.0 %	1.0 pts.	0.6 pts.	0.4 pts.	13.0 %
Diluted earnings per share from continuing operations	$ 4.58	$ 0.44	$ 0.23	$ 0.17	$ 5.42

* 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.

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, health and other conditions; adverse effects from environmental matters, tax matters and the company's pension plans; ineffective internal controls; the company's use of accounting estimates; impairment of the company's goodwill or amortizable intangible assets; 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 or in materials incorporated therein by reference. Any forward-looking statement in this Form 10-Q speaks only as of the date on which it is made. Except as required by law, 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 13, "Contingencies," in 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 second quarter of 2020.

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*
April 1, 2020 - April 30, 2020	—	$ —	—	$ 2,007,611,768
May 1, 2020 - May 31, 2020	—	$ —	—	$ 2,007,611,768
June 1, 2020 - June 30, 2020	—	$ —	—	$ 2,007,611,768
Total	—	$ —	—	

* 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.

The company suspended its share repurchase program at the time of the Red Hat closing. At June 30, 2020 there was approximately $2.0 billion in authorized funds remaining for purchases under this program.

Item 6. Exhibits

Exhibit Number	
10.1	Terms and Conditions of IBM LTPP Equity Awards, effective June 1, 2020.
10.2	Amendment No. 10 to the IBM Excess 401(k) Plus Plan, a compensatory plan, dated as of April 13, 2020.
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 – the instance document does not appear on the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File – the cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

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: July 28, 2020

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

Exhibit 31.1

CERTIFICATION 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

I, Arvind Krishna, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Business Machines Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 28, 2020

/s/ Arvind Krishna

Arvind Krishna
Chief Executive Officer

Exhibit 31.2

CERTIFICATION 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

I, James J. Kavanaugh, certify that:

1. I have reviewed this quarterly report on Form 10-Q of International Business Machines Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

    a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: July 28, 2020

/s/ James J. Kavanaugh

James J. Kavanaugh
Senior Vice President and Chief Financial Officer

Exhibit 32.1

INTERNATIONAL BUSINESS MACHINES CORPORATION

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of International Business Machines Corporation (the "Company") on Form 10-Q for the period ending June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Arvind Krishna, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Arvind Krishna

Arvind Krishna
Chief Executive Officer
July 28, 2020

A signed original of this written statement required by Section 906 has been provided to IBM and will be retained by IBM and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

INTERNATIONAL BUSINESS MACHINES CORPORATION

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of International Business Machines Corporation (the "Company") on Form 10-Q for the period ending June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, James J. Kavanaugh, Senior Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ James J. Kavanaugh

James J. Kavanaugh
Senior Vice President and Chief Financial Officer
July 28, 2020

A signed original of this written statement required by Section 906 has been provided to IBM and will be retained by IBM and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBITS OMITTED FROM THIS DOCUMENT

Terms and Conditions of IBM LTPP Equity Awards, effective June 1, 2020.

Amendment No. 10 of the IBM Excess 401(k) Plus Plan, a compensatory plan, dated as of April 13, 2020.

Copies of these exhibits may be obtained without charge from Computershare Trust Company, N.A., P.O. Box 505005, Louisville, Kentucky 40233-5005.