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, 2022

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(s)**	**Name of each exchange on which registered**
Capital stock, par value $.20 per share	IBM	New York Stock Exchange NYSE Chicago
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
0.875% Notes due 2030	IBM 30	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
1.250% Notes due 2034	IBM 34	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 903,180,353 shares of common stock outstanding at June 30, 2022.

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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, 2022	Three Months Ended June 30, 2021*	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021*
Revenue:				
Services	$ 7,640	$ 7,201	$ 15,343	$ 14,297
Sales	7,748	6,808 **	14,087	12,687 **
Financing	147	209 **	303	420 **
Total revenue	15,535	14,218	29,732	27,405
Cost:				
Services	5,399	4,720	10,747	9,364
Sales	1,750	1,499 **	3,165	2,878 **
Financing	96	146 **	194	283 **
Total cost	7,246	6,366	14,107	12,526
Gross profit	8,290	7,852	15,625	14,879
Expense and other (income):				
Selling, general and administrative	4,855	4,849	9,452	9,536
Research, development and engineering	1,673	1,641	3,352	3,257
Intellectual property and custom development income	(176)	(133)	(297)	(278)
Other (income) and expense	(81)	302	166	647
Interest expense	297	281	607	561
Total expense and other (income)	6,568	6,940	13,280	13,724
Income from continuing operations before income taxes	1,722	912	2,345	1,155
Provision for/(benefit from) income taxes	257	101	218	(58)
Income from continuing operations	$ 1,465	$ 810	$ 2,127	$ 1,213
Income/(loss) from discontinued operations, net of tax	(73)	515	(2)	1,067
Net income	$ 1,392	$ 1,325	$ 2,125	$ 2,280
Earnings/(loss) per share of common stock:				
Assuming dilution:				
Continuing operations	$ 1.61	$ 0.90	$ 2.34	$ 1.34
Discontinued operations	(0.08)	0.57	0.00	1.18
Total	$ 1.53	$ 1.47	$ 2.34	$ 2.52
Basic:				
Continuing operations	$ 1.62	$ 0.91	$ 2.36	$ 1.36
Discontinued operations	(0.08)	0.57	0.00	1.19
Total	$ 1.54	$ 1.48	$ 2.36	$ 2.55
Weighted-average number of common shares outstanding: (millions)				
Assuming dilution	910.7	904.2	910.0	903.0
Basic	901.5	895.0	900.4	894.3

* Reclassified to reflect discontinued operations presentation.
** Reclassified to conform to current year presentation.

(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, 2022	Three Months Ended June 30, 2021*	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021*
Net income	$ 1,392	$ 1,325	$ 2,125	$ 2,280
Other comprehensive income/(loss), before tax:				
Foreign currency translation adjustments	213	28	655	577
Net changes related to available-for-sale securities:				
Unrealized gains/(losses) arising during the period	0	0	(1)	0
Reclassification of (gains)/losses to net income	—	—	—	—
Total net changes related to available-for-sale securities	0	0	(1)	0
Unrealized gains/(losses) on cash flow hedges:				
Unrealized gains/(losses) arising during the period	200	(34)	260	153
Reclassification of (gains)/losses to net income	16	90	16	251
Total unrealized gains/(losses) on cash flow hedges	217	56	276	404
Retirement-related benefit plans:				
Prior service costs/(credits)	—	0	(5)	0
Net (losses)/gains arising during the period	1	2	10	22
Curtailments and settlements	11	16	19	34
Amortization of prior service (credits)/costs	6	1	13	4
Amortization of net (gains)/losses	450	643	917	1,291
Total retirement-related benefit plans	468	661	954	1,350
Other comprehensive income/(loss), before tax	897	745	1,885	2,330
Income tax (expense)/benefit related to items of other comprehensive income	(534)	(140)	(819)	(645)
Other comprehensive income/(loss), net of tax	363	605	1,066	1,685
Total comprehensive income	$ 1,755	$ 1,930	$ 3,191	$ 3,965

* Amounts presented have not been recast to exclude discontinued operations.

(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, 2022	At December 31, 2021
Assets:		
Current assets:		
Cash and cash equivalents	$ 7,034	$ 6,650
Restricted cash	220	307
Marketable securities	524	600
Notes and accounts receivable — trade (net of allowances of $213 in 2022 and $218 in 2021)	5,867	6,754
Short-term financing receivables:		
Held for investment (net of allowances of $150 in 2022 and $176 in 2021)	6,619	7,221
Held for sale	614	793
Other accounts receivable (net of allowances of $35 in 2022 and $24 in 2021)	909	1,002
Inventory, at lower of average cost or net realizable value:		
Finished goods	184	208
Work in process and raw materials	1,499	1,442
Total inventory	1,684	1,649
Deferred costs	1,010	1,097
Prepaid expenses and other current assets	3,414	3,466
Total current assets	27,896	29,539
Property, plant and equipment	19,079	20,085
Less: Accumulated depreciation	13,804	14,390
Property, plant and equipment — net	5,275	5,694
Operating right-of-use assets — net	2,848	3,222
Long-term financing receivables (net of allowances of $22 in 2022 and $25 in 2021)	5,316	5,425
Prepaid pension assets	9,930	9,850
Deferred costs	865	924
Deferred taxes	7,073	7,370
Goodwill	55,039	55,643
Intangible assets — net	11,571	12,511
Investments and sundry assets	1,689	1,823
Total assets	$ 127,503	$ 132,001

(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 amounts)	At June 30, 2022	At December 31, 2021
Liabilities:		
Current liabilities:		
Taxes	$ 1,742	$ 2,289
Short-term debt	5,981	6,787
Accounts payable	3,707	3,955
Compensation and benefits	3,327	3,204
Deferred income	12,522	12,518
Operating lease liabilities	884	974
Other accrued expenses and liabilities	3,682	3,892
Total current liabilities	31,844	33,619
Long-term debt	44,328	44,917
Retirement and nonpension postretirement benefit obligations	13,118	14,435
Deferred income	3,069	3,577
Operating lease liabilities	2,182	2,462
Other liabilities	13,486	13,996
Total liabilities	108,026	113,005
Equity:		
IBM stockholders' equity:		
Common stock, par value $0.20 per share, and additional paid-in capital Shares authorized: 4,687,500,000 Shares issued: 2022 - 2,254,538,572 2021 - 2,248,577,848	57,802	57,319
Retained earnings	153,298	154,209
Treasury stock - at cost Shares: 2022 - 1,351,358,219 2021 - 1,350,509,249	(169,522)	(169,392)
Accumulated other comprehensive income/(loss)	(22,169)	(23,234)
Total IBM stockholders' equity	19,409	18,901
Noncontrolling interests	67	95
Total equity	19,476	18,996
Total liabilities and equity	$ 127,503	$ 132,001

(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, 2022	2021
Cash flows from operating activities:		
Net income	$ 2,125	$ 2,280
Adjustments to reconcile net income to cash provided by operating activities		
Depreciation	1,251	2,102
Amortization of intangibles	1,251	1,250
Stock-based compensation	488	457
Net (gain)/loss on asset sales and other	(100)	(144)
Changes in operating assets and liabilities, net of acquisitions/divestitures	(446)	1,594
Net cash provided by operating activities	4,569	7,539
Cash flows from investing activities:		
Payments for property, plant and equipment	(620)	(1,054)
Proceeds from disposition of property, plant and equipment	90	215
Investment in software	(341)	(379)
Acquisition of businesses, net of cash acquired	(958)	(2,866)
Divestitures of businesses, net of cash transferred	1,268	(25)
Non-operating finance receivables — net	0	16
Purchases of marketable securities and other investments	(2,336)	(1,890)
Proceeds from disposition of marketable securities and other investments	1,711	1,312
Net cash provided by/(used in) investing activities	(1,186)	(4,671)
Cash flows from financing activities:		
Proceeds from new debt	4,402	243
Payments to settle debt	(3,959)	(5,974)
Short-term borrowings/(repayments) less than 90 days — net	(9)	(68)
Common stock repurchases for tax withholdings	(315)	(234)
Financing — other	25	44
Cash dividends paid	(2,963)	(2,924)
Net cash provided by/(used in) financing activities	(2,819)	(8,914)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(267)	(65)
Net change in cash, cash equivalents and restricted cash	297	(6,110)
Cash, cash equivalents and restricted cash at January 1	6,957	13,675
Cash, cash equivalents and restricted cash at June 30	$ 7,254	$ 7,565

Cash flows are presented on an IBM consolidated basis. Refer to note 3, "Separation of Kyndryl," for additional information related to cash flows from Kyndryl discontinued operations.

(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, 2022	$ 57,603	$ 153,401	$ (169,422)	$ (22,532)	$ 19,050	$ 62	$ 19,112
Net income plus other comprehensive income/(loss):							
Net income		1,392			1,392		1,392
Other comprehensive income/(loss)				363	363		363
Total comprehensive income/(loss)					$ 1,755		$ 1,755
Cash dividends paid — common stock ($1.65 per share)		(1,488)			(1,488)		(1,488)
Common stock issued under employee plans (4,398,589 shares)	199				199		199
Purchases (1,723,774 shares) and sales (1,070,214 shares) of treasury stock under employee plans — net		(7)	(100)		(107)		(107)
Changes in noncontrolling interests						6	6
Equity – June 30, 2022	$ 57,802	$ 153,298	$ (169,522)	$ (22,169)	$ 19,409	$ 67	$ 19,476

(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, 2021	$ 56,788	$ 162,218	$ (169,360)	$ (28,257)	$ 21,389	$ 124	$ 21,513
Net income plus other comprehensive income/(loss):							
Net income		1,325			1,325		1,325
Other comprehensive income/(loss)				605	605		605
Total comprehensive income/(loss)					$ 1,930		$ 1,930
Cash dividends paid — common stock ($1.64 per share)		(1,467)			(1,467)		(1,467)
Common stock issued under employee plans (2,967,655 shares)	124				124		124
Purchases (1,334,081 shares) and sales (1,163,671 shares) of treasury stock under employee plans — net		11	(44)		(33)		(33)
Changes in noncontrolling interests						1	1
Equity - June 30, 2021	$ 56,912	$ 162,086	$ (169,404)	$ (27,652)	$ 21,942	$ 125	$ 22,067

(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, 2022	$ 57,319	$ 154,209	$ (169,392)	$ (23,234)	$ 18,901	$ 95	$ 18,996
Net income plus other comprehensive income/(loss):							
Net income		2,125			2,125		2,125
Other comprehensive income/(loss)				1,066	1,066		1,066
Total comprehensive income/(loss)					$ 3,191		$ 3,191
Cash dividends paid — common stock ($3.29 per share)		(2,963)			(2,963)		(2,963)
Common stock issued under employee plans (5,960,724 shares)	420				420		420
Purchases (2,319,484 shares) and sales (1,470,514 shares) of treasury stock under employee plans — net		(11)	(130)		(141)		(141)
Other equity	63	(63)			0		0
Changes in noncontrolling interests						(27)	(27)
Equity - June 30, 2022	$ 57,802	$ 153,298	$ (169,522)	$ (22,169)	$ 19,409	$ 67	$ 19,476

(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, 2021	$ 56,556	$ 162,717	$ (169,339)	$ (29,337)	$ 20,597	$ 129	$ 20,727
Net income plus other comprehensive income/(loss):							
Net income		2,280			2,280		2,280
Other comprehensive income/(loss)				1,685	1,685		1,685
Total comprehensive income/(loss)					$ 3,965		$ 3,965
Cash dividends paid — common stock ($3.27 per share)		(2,924)			(2,924)		(2,924)
Common stock issued under employee plans (4,013,839 shares)	355				355		355
Purchases (1,673,587 shares) and sales (1,326,397 shares) of treasury stock under employee plans — net		13	(65)		(51)		(51)
Changes in noncontrolling interests						(4)	(4)
Equity - June 30, 2021	$ 56,912	$ 162,086	$ (169,404)	$ (27,652)	$ 21,942	$ 125	$ 22,067

(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.

On November 3, 2021, the company completed the separation of its managed infrastructure services unit into a new public company with the distribution of 80.1 percent of the outstanding common stock of Kyndryl Holdings, Inc. (Kyndryl) to IBM stockholders on a pro rata basis. To effect the separation, IBM stockholders received one share of Kyndryl common stock for every five shares of IBM common stock held at the close of business on October 25, 2021, the record date for the distribution. The company retained 19.9 percent of the shares of Kyndryl common stock immediately following the separation with the intent to dispose of such shares within twelve months after the distribution. The company accounts for the retained Kyndryl common stock as a fair value equity investment included within prepaid expenses and other current assets in the Consolidated Balance Sheet with subsequent fair value changes included in other (income) and expense in the Consolidated Income Statement. On May 23, 2022, the company transferred 22,301,536 (22.3 million) shares of Kyndryl common stock, equal to 9.95 percent or half of the company's 19.9 percent retained interest, to a third-party financial institution pursuant to an exchange agreement. Refer to note 8, "Financial Assets & Liabilities," for additional information.

The accounting requirements for reporting the separation of Kyndryl as a discontinued operation were met when the separation was completed. Accordingly, the historical results of Kyndryl are presented as discontinued operations and, as such, have been excluded from continuing operations and segment results for all periods presented. Refer to note 3, "Separation of Kyndryl," for additional information.

In the first quarter of 2022, the company realigned its management structure to reflect the planned divestiture of its healthcare software assets which was completed in the second quarter of 2022. This change impacted the company's Software segment and Other–divested businesses category. In the fourth quarter of 2021, immediately prior to the separation of Kyndryl, the company made a number of changes to its organizational structure and management system. These changes impacted the company's reportable segments but did not impact the Consolidated Financial Statements. Refer to note 5, "Segments," for additional information on the company's reportable segments. The segments are reported on a comparable basis for all periods.

For the three and six months ended June 30, 2022, the company reported a provision for income taxes of $257 million and $218 million, respectively, and its effective tax rate was 14.9 percent and 9.3 percent, respectively. The company reported a tax benefit in the first quarter of 2022 primarily due to the impacts of foreign tax credit regulations, geographical mix of income, incentives and changes in unrecognized tax benefits. For the three and six months ended June 30, 2021, the company reported a provision for income taxes of $101 million and a benefit from income taxes of $58 million, respectively, and its effective tax rate was 11.1 percent and (5.0) percent, respectively. The company reported a tax benefit in the first quarter of 2021 which was primarily driven by the resolution of certain tax audits.

Noncontrolling interest amounts of $5.5 million and $4.2 million, net of tax, for the three months ended June 30, 2022 and 2021, respectively, and $10.5 million and $9.1 million, net of tax, for the six months ended June 30, 2022 and 2021, 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 2021 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. This is annotated where applicable. In addition, in the first quarter of 2022, an adjustment of $63 million was recorded between common stock and retained earnings related to the issuance of treasury stock in connection with certain previously issued stock-based compensation awards and is reflected in the Consolidated Balance Sheet and Consolidated Statement of Equity at June 30, 2022.

2. Accounting Changes:

New Standards to be Implemented

Disclosures about Government Assistance

Standard/Description–Issuance date: November 2021. This guidance requires an entity to provide certain annual disclosures about government assistance received and accounted for by applying a grant or contribution accounting model by analogy.

Effective Date and Adoption Considerations–The guidance is effective for annual disclosures beginning in 2022 and early adoption was permitted. The company will adopt the guidance as of the effective date.

Effect on Financial Statements or Other Significant Matters–As the guidance is a change to disclosures only, the company does not expect it to have a material impact in the consolidated financial results.

Troubled Debt Restructurings and Vintage Disclosures

Standard/Description–Issuance date: March 2022. This eliminates the accounting guidance for troubled debt restructurings and requires an entity to apply the general loan modification guidance to all loan modifications, including those made to customers experiencing financial difficulty, to determine whether the modification results in a new loan or a continuation of an existing loan. The guidance also requires presenting current period gross write-offs by year of origination for financing receivables and net investment in leases.

Effective Date and Adoption Considerations–The amendment is effective January 1, 2023 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

Lessors–Certain Leases with Variable Lease Payments

Standard/Description–Issuance date: July 2021. This guidance modifies a lessor's accounting for certain leases with variable lease payments that resulted in the recognition of a day-one loss even if the lessor expected the arrangement to be profitable overall. The amendment requires these types of lease contracts to be classified as operating leases which eliminates any recognition of a day-one loss.

Effective Date and Adoption Considerations–The amendment was effective January 1, 2022 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.

Revenue Contracts with Customers Acquired in a Business Combination

Standard/Description–Issuance date: October 2021. This guidance requires that an acquirer recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with revenue guidance, as if it had originated the contracts. Deferred revenue acquired in a business combination is no longer required to be measured at its fair value, but rather will generally be recognized at the same basis as the acquiree.

Effective Date and Adoption Considerations–The amendment is effective January 1, 2023 and early adoption is permitted including adoption in an interim period. The company adopted the guidance as of October 1, 2021 using the retrospective transition method whereby the new guidance was applied to all business combinations that occurred on or after January 1, 2021.

Effect on Financial Statements or Other Significant Matters–The guidance did not have a material impact in the consolidated financial results. The impact of the guidance in IBM's future financial results will be dependent on the nature and size of its acquisitions.

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 was effective January 1, 2021 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.

3. Separation of Kyndryl:

On November 3, 2021, the company completed the separation of its managed infrastructure services unit into a new public company with the distribution of 80.1 percent of the outstanding shares of Kyndryl to IBM stockholders on a pro rata basis. The company retained 19.9 percent of the shares of Kyndryl common stock. On May 23, 2022, the company transferred 22.3 million shares, equal to 9.95 percent or half of the company's 19.9 percent retained interest, to a third-party financial institution pursuant to an exchange agreement. Refer to note 8, "Financial Assets & Liabilities," for additional information.

The historical results of Kyndryl have been presented as discontinued operations and, as such, have been excluded from continuing operations and segment results for all periods presented. The company's presentation of discontinued operations excludes general corporate overhead costs which were historically allocated to Kyndryl, consistent with the company's management system, that did not meet the requirements to be presented in discontinued operations in 2021. Such allocations include labor and non-labor expenses related to IBM's corporate support functions (e.g., finance, accounting, tax, treasury, IT, HR, legal, among others) that historically provided support to Kyndryl and transferred to Kyndryl at separation. In addition, discontinued operations excludes the historical intercompany purchases and sales between IBM and Kyndryl that were eliminated in consolidation.

IBM will provide transition services to Kyndryl predominantly consisting of information technology services for a period no longer than two years after the separation. The impact of these transition services on the company's Consolidated Financial Statements for the three and six months ended June 30, 2022 was not material.

IBM and Kyndryl entered into various commercial agreements pursuant to which Kyndryl will purchase hardware, software and services from IBM and under which IBM will receive hosting and information infrastructure services from Kyndryl. As part of the separation, IBM has also committed to provide upgraded hardware at no cost to Kyndryl over a two-year period after the separation. IBM recorded an estimate of its obligation under the agreement in other accrued expenses and liabilities in the Consolidated Balance Sheet.

The following table presents the major categories of income/(loss) from discontinued operations, net of tax:

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021*	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021*
Revenue	$ (11)	$ 4,527	$ 7	$ 9,070
Cost of sales	(4)	3,375	17	6,741
Selling, general and administrative expense	73	485	66	972
RD&E and Other (income) and expense	0	26	(69)	55
Income/(loss) from discontinued operations before income taxes	$ (80)	$ 641	$ (7)	$ 1,302
Provision for/(benefit from) income taxes	(7)	126	(5)	235
Income/(loss) from discontinued operations, net of tax	$ (73)	$ 515	$ (2)	$ 1,067

* Excludes intercompany transactions between IBM and Kyndryl and general corporate overhead costs transferred to Kyndryl as discussed above.

Loss from discontinued operations, net of tax, for the three months ended June 30, 2022 primarily reflects the net impact of changes in separation-related estimates and the settlement of assets and liabilities in accordance with the separation and distribution agreement. Loss from discontinued operations, net of tax, for the six months ended June 30, 2022 reflects the same drivers as above and also includes a joint venture historically managed by Kyndryl, which did not transfer at separation due to the transfer being subject to regulatory approval. Upon receiving regulatory approval in the first quarter of 2022, the company sold its majority shares in the joint venture to Kyndryl, resulting in a pre-tax gain on sale of $68 million.

Separation costs of $2 million and $146 million incurred during the three months ended June 30, 2022 and 2021, respectively, and $5 million and $196 million incurred during the six months ended June 30, 2022 and 2021, respectively, are included in income/(loss) from discontinued operations, net of tax, in the Consolidated Income Statement. These charges primarily relate to transaction and third-party support costs, business separation and applicable employee retention fees, pension settlement charges and related tax charges.

The following table presents selected financial information related to cash flows from discontinued operations:

(Dollars in millions)	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Net cash provided by/(used in) operating activities	$ —	$ 1,465 *
Net cash provided by/(used in) investing activities	48	(321)

* Excludes intercompany transactions between IBM and Kyndryl and general corporate overhead costs transferred to Kyndryl as discussed above.

4. Revenue Recognition:

Disaggregation of Revenue

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

Revenue by Major Products/Service Offerings

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021*	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021*
Hybrid Platform & Solutions	$ 4,390	$ 4,208	$ 8,470	$ 8,008
Transaction Processing	1,776	1,587	3,468	2,925
Total Software	$ 6,166	$ 5,795	$ 11,938	$ 10,933
Business Transformation	2,227	2,049	4,482	4,002
Application Operations	1,653	1,514	3,272	2,989
Technology Consulting	928	814	1,884	1,649
Total Consulting	$ 4,809	$ 4,378	$ 9,637	$ 8,641
Hybrid Infrastructure	2,760	2,059	4,461	3,841
Infrastructure Support	1,474	1,501	2,993	3,012
Total Infrastructure	$ 4,235	$ 3,560	$ 7,453	$ 6,853
Financing**	146	209	300	417
Other	180	277	404	561
Total revenue	$ 15,535	$ 14,218	$ 29,732	$ 27,405

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

Hybrid Cloud Revenue by Segment

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021*	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021*
Software	$ 2,288	$ 2,015	$ 4,418	$ 3,760
Consulting	2,286	1,901	4,421	3,623
Infrastructure	1,220	981	1,892	1,818
Other	69	82	141	169
Total	$ 5,863	$ 4,979	$ 10,872	$ 9,369

* Recast to reflect segment changes.

Revenue by Geography

(Dollars in millions)	Three Months Ended June 30, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Americas	$ 8,142	$ 7,122	$ 15,198	$ 13,599
Europe/Middle East/Africa	4,526	4,314	8,757	8,242
Asia Pacific	2,868	2,782	5,778	5,563
Total	$ 15,535	$ 14,218	$ 29,732	$ 27,405

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, 2022, the aggregate amount of the transaction price allocated to RPO related to customer contracts that are unsatisfied or partially unsatisfied was $55 billion. Approximately 71 percent of the amount is expected to be recognized as revenue in the subsequent two years, approximately 26 percent in the subsequent three to five years and the balance thereafter.

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

For the three and six months ended June 30, 2022, revenue was reduced by $24 million and $28 million, respectively, for performance obligations satisfied (or partially satisfied) in previous periods mainly due to changes in estimates on contracts with cost-to-cost measures of progress.

Reconciliation of Contract Balances

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

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Notes and accounts receivable — trade (net of allowances of $213 in 2022 and $218 in 2021)	$ 5,867	$ 6,754
Contract assets*	531	471
Deferred income (current)	12,522	12,518
Deferred income (noncurrent)	3,069	3,577

* 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, 2022 that was included within the deferred income balance at March 31, 2022 and December 31, 2021 was $4.4 billion and $6.8 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 expected credit losses for the six months ended June 30, 2022 and the year ended December 31, 2021:

(Dollars in millions) January 1, 2022	Additions / (Releases)	Write-offs	Foreign currency and other	June 30, 2022
$ 218	$ 30	$ (22)	$ (13)	$ 213

January 1, 2021	Additions / (Releases)	Write-offs	Foreign currency and other	December 31, 2021
$ 260	$ (15)	$ (28)	$ 1	$ 218

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

5. Segments:

In January 2022, IBM announced the divestiture of its healthcare software assets which closed in the second quarter of 2022. Refer to note 6, "Acquisitions & Divestitures," for additional information. The company re-aligned its management structure to manage these assets outside of the Software segment prior to the divestiture. Beginning in the first quarter of 2022, the financial results of these assets are presented in Other–divested businesses. In the fourth quarter of 2021, immediately prior to the separation of Kyndryl, the company made a number of changes to its organizational structure and management system to align the company's operating model to its platform-centric approach to hybrid cloud and AI. With these changes, the company revised its reportable segments, but did not impact its Consolidated Financial Statements.

The following tables reflect the results of continuing operations of the company's segments consistent with the management and measurement system utilized within the company, and the prior-year periods have been recast to reflect the company's segment changes in the first quarter of 2022 and the fourth quarter of 2021 described above. Performance measurement is based on pre-tax income from continuing operations. These results are used by the chief operating decision maker, both in evaluating the performance of, and in allocating resources to, each of the segments.

SEGMENT INFORMATION

(Dollars in millions)	Software	Consulting	Infrastructure	Financing	Total Segments
For the three months ended June 30, 2022:					
Revenue	$ 6,166	$ 4,809	$ 4,235	$ 146	$ 15,355
Pre-tax income from continuing operations	$ 1,375	$ 343	$ 757	$ 102	$ 2,577
Revenue year-to-year change	6.4 %	9.8 %	19.0 %	(29.9)%	10.1 %
Pre-tax income year-to-year change	29.9 %	26.9 %	54.8 %	(22.4)%	32.2 %
Pre-tax income margin	22.3 %	7.1 %	17.9 %	69.7 %	16.8 %
For the three months ended June 30, 2021*:					
Revenue	$ 5,795	$ 4,378	$ 3,560	$ 209	$ 13,941
Pre-tax income from continuing operations	$ 1,059	$ 270	$ 489	$ 131	$ 1,949
Pre-tax income margin	18.3 %	6.2 %	13.7 %	63.0 %	14.0 %

Reconciliations to IBM as Reported:

(Dollars in millions) For the three months ended June 30:	2022	2021*
Revenue:		
Total reportable segments	$ 15,355	$ 13,941
Other–divested businesses	162	197
Other revenue	18	80
Total consolidated revenue	$ 15,535	$ 14,218
Pre-tax income from continuing operations:		
Total reportable segments	$ 2,577	$ 1,949
Amortization of acquired intangible assets	(458)	(456)
Acquisition-related (charges)/income	(2)	(18)
Non-operating retirement-related (costs)/income	(192)	(317)
Kyndryl-related impacts**	(145)	—
Eliminations of internal transactions	(4)	5
Other–divested businesses	160 +	(50)
Unallocated corporate amounts and other	(215)	(202)
Total pre-tax income from continuing operations	$ 1,722	$ 912

* Recast to conform to current year presentation.
** Refer to note 8, “Financial Assets & Liabilities,” for additional information.
\+ Includes a gain from the sale of the company’s healthcare software assets. Refer to note 6, “Acquisitions & Divestitures.”

SEGMENT INFORMATION

(Dollars in millions)	Software	Consulting	Infrastructure	Financing	Total Segments
For the six months ended June 30, 2022:					
Revenue	$ 11,938	$ 9,637	$ 7,453	$ 300	$ 29,328
Pre-tax income from continuing operations	$ 2,509	$ 691	$ 956	$ 186	$ 4,342
Revenue year-to-year change	9.2 %	11.5 %	8.8 %	(28.0)%	9.3 %
Pre-tax income year-to-year change	46.2 %	26.3 %	22.5 %	(18.9)%	32.6 %
Pre-tax income margin	21.0 %	7.2 %	12.8 %	62.0 %	14.8 %
For the six months ended June 30, 2021*:					
Revenue	$ 10,933	$ 8,641	$ 6,853	$ 417	$ 26,843
Pre-tax income from continuing operations	$ 1,717	$ 547	$ 780	$ 229	$ 3,274
Pre-tax income margin	15.7 %	6.3 %	11.4 %	55.0 %	12.2 %

Reconciliations to IBM as Reported:

(Dollars in millions) For the six months ended June 30:	2022	2021*
Revenue:		
Total reportable segments	$ 29,328	$ 26,843
Other–divested businesses	316	394
Other revenue	88	167
Total consolidated revenue	$ 29,732	$ 27,405
Pre-tax income from continuing operations:		
Total reportable segments	$ 4,342	$ 3,274
Amortization of acquired intangible assets	(919)	(903)
Acquisition-related charges	(9)	(34)
Non-operating retirement-related (costs)/income	(394)	(649)
Kyndryl-related impacts**	(367)	—
Eliminations of internal transactions	(15)	(4)
Other–divested businesses	109 +	(65)
Unallocated corporate amounts	(403)	(464)
Total pre-tax income from continuing operations	$ 2,345	$ 1,155

* Recast to conform to current year presentation.

** Refer to note 8, "Financial Assets & Liabilities," for additional information.

\+ Includes a gain from the sale of the company's healthcare software assets. Refer to note 6, "Acquisitions & Divestitures."

6. Acquisitions & Divestitures:

Acquisitions

Purchase price consideration for all acquisitions was paid primarily in cash. All acquisitions, except as 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, 2022, the company completed five acquisitions at an aggregate cost of $1,101 million. Each acquisition is expected to enhance the company's portfolio of products and services capabilities and further advance IBM's hybrid cloud and AI strategy.

Acquisition	Segment	Description of Acquired Business
First Quarter		
Envizi	Software	Data and analytics software provider for environmental performance management
Sentaca	Consulting	Telco consulting services and solutions provider specializing in automation, cloud migration, and future networks for telecommunication providers
Neudesic	Consulting	Application development and cloud computing services company
Second Quarter		
Randori	Software	Leading attack surface management (ASM) and cybersecurity provider
Databand.ai	Software	Proactive data observability platform that isolates data errors and issues to alert relevant stakeholders

At June 30, 2022, the remaining cash to be remitted by the company related to certain first and second quarter acquisitions was $147 million, most of which is expected to be paid by the second quarter of 2023.

The following table reflects the purchase price related to these acquisitions and the resulting purchase price allocations as of June 30, 2022.

(Dollars in millions)	Amortization Life (in years)	Total Acquisitions
Current assets		$ 60
Property, plant and equipment/noncurrent assets		3
Intangible assets:		
Goodwill	N/A	903
Client relationships	7	151
Completed technology	4-7	87
Trademarks	2-3	8
Total assets acquired		$ 1,210
Current liabilities		59
Noncurrent liabilities		50
Total liabilities assumed		$ 110
Total purchase price		$ 1,101

N/A – not applicable

The goodwill generated is primarily attributable to the assembled workforce of the acquired businesses and the increased synergies expected to be achieved from the integration of the acquired businesses into the company's various integrated solutions and services, neither of which qualifies as an amortizable intangible asset.

The overall weighted-average useful life of the identified amortizable intangible assets acquired was 6.7 years. Goodwill of $461 million and $442 million was assigned to the Consulting and Software segments, respectively. It is expected that none of the goodwill will be deductible for tax purposes.

The 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 valuation of the assets acquired and liabilities assumed is subject to revision. If additional information becomes available, the company may further revise the purchase price allocation as soon as practical, but no later than one year from the acquisition date; however, material changes are not expected.

Divestitures

Healthcare Software Assets — In January 2022, IBM and Francisco Partners (Francisco) signed a definitive agreement in which Francisco would acquire IBM's healthcare software assets reported within Other–divested businesses (Other) for $1,065 million. Refer to note 5, "Segments," for additional information. The assets include Health Insights, MarketScan, Clinical Development, Social Program Management, Micromedex, and imaging software offerings. In addition, IBM is providing Francisco with transition services including IT and other services. The closing completed for the U.S. and Canada on June 30, 2022. The company expects subsequent closings for the remaining countries to be completed by the first quarter of 2023.

On June 30, 2022, the company received a cash payment of $1,065 million and recognized a $232 million pre-tax gain on sale in other (income) and expense in the Consolidated Income Statement. The cash proceeds from the sale were included primarily in cash from investing activities in the Consolidated Statement of Cash Flows. Any pre-tax gains related to the subsequent wave closings are not expected to be material. The total gain on sale may change in the future due to changes in transaction estimates, however, such changes are not expected to be material.

Other Divestitures — In the first quarter of 2022, the Infrastructure segment completed one divestiture. The financial terms related to this transaction were not material.

7. 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, 2022 and 2021.

(Dollars in millions except per share amounts) For the three months ended June 30:	2022	2021
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	901,470,793	895,043,024
Add — Incremental shares under stock-based compensation plans	7,518,749	7,431,661
Add — Incremental shares associated with contingently issuable shares	1,760,192	1,758,754
Number of shares on which diluted earnings per share is calculated	910,749,734	904,233,439
Income from continuing operations	$ 1,465	$ 810
Income/(loss) from discontinued operations, net of tax	(73)	515
Net income on which basic earnings per share is calculated	$ 1,392	$ 1,325
Income from continuing operations	$ 1,465	$ 810
Net income applicable to contingently issuable shares	—	—
Income from continuing operations on which diluted earnings per share is calculated	$ 1,465	$ 810
Income/(loss) from discontinued operations, net of tax, on which diluted earnings per share is calculated	(73)	515
Net income on which diluted earnings per share is calculated	$ 1,392	$ 1,325
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 1.61	$ 0.90
Discontinued operations	(0.08)	0.57
Total	$ 1.53	$ 1.47
Basic		
Continuing operations	$ 1.62	$ 0.91
Discontinued operations	(0.08)	0.57
Total	$ 1.54	$ 1.48

Stock options to purchase 788,500 shares and 375,990 shares were outstanding as of June 30, 2022 and 2021, respectively, but were not included in the computation of diluted earnings per share because the exercise price of the options during the respective period was greater than the average market price of the common shares, and therefore, the effect would have been antidilutive.

(Dollars in millions except per share amounts) For the six months ended June 30:	2022	2021
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	900,393,410	894,336,970
Add — Incremental shares under stock-based compensation plans	7,946,998	7,027,051
Add — Incremental shares associated with contingently issuable shares	1,647,528	1,625,732
Number of shares on which diluted earnings per share is calculated	909,987,935	902,989,752
Income from continuing operations	$ 2,127	$ 1,213
Income/(loss) from discontinued operations, net of tax	(2)	1,067
Net income on which basic earnings per share is calculated	$ 2,125	$ 2,280
Income from continuing operations	$ 2,127	$ 1,213
Net income applicable to contingently issuable shares	—	—
Income from continuing operations on which diluted earnings per share is calculated	$ 2,127	$ 1,213
Income/(loss) from discontinued operations, net of tax, on which diluted earnings per share is calculated	(2)	1,067
Net income on which diluted earnings per share is calculated	$ 2,125	$ 2,280
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 2.34	$ 1.34
Discontinued operations	0.00	1.18
Total	$ 2.34	$ 2.52
Basic		
Continuing operations	$ 2.36	$ 1.36
Discontinued operations	0.00	1.19
Total	$ 2.36	$ 2.55

Stock options to purchase 975,911 shares and 943,438 shares (average of first and second quarter share amounts) were outstanding as of June 30, 2022 and 2021, respectively, but were not included in the computation of diluted earnings per share because the exercise price of the options during the respective period was greater than the average market price of the common shares, and therefore, the effect would have been antidilutive.

8. 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.

The company's standard practice is to hold all of its debt security investments classified as available-for-sale until maturity. No impairments for credit losses and no material non-credit impairments were recorded for the three and six months ended June 30, 2022 and 2021, respectively.

Certain non-financial assets such as property, plant and equipment, operating right-of-use assets, land, goodwill and intangible assets are also subject to nonrecurring fair value measurements if they are deemed to be impaired. The impairment models used for non-financial assets depend on the type of asset. There were no material impairments of non-financial assets for the three and six months ended June 30, 2022 and 2021, 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, 2022 and December 31, 2021.

(Dollars in millions)	Fair Value Hierarchy Level	At June 30, 2022 Assets (8)	At June 30, 2022 Liabilities (9)	At December 31, 2021 Assets (8)	At December 31, 2021 Liabilities (9)
Cash equivalents: (1)					
Time deposits and certificates of deposit (2)	2	$ 2,602	$ N/A	$ 1,903	$ N/A
Money market funds	1	933	N/A	263	N/A
U.S. government securities (2)	2	—	N/A	599	N/A
Total cash equivalents		$ 3,535	$ N/A	$ 2,766	$ N/A
Equity investments (3)	1	—	N/A	0	N/A
Kyndryl common stock (4)	1	436	N/A	807	N/A
Secured borrowing (4)	2	N/A	218	N/A	—
Debt securities-current (2)(5)	2	524	N/A	600	N/A
Debt securities-noncurrent (2)(6)	2,3	31	N/A	37	N/A
Derivatives designated as hedging instruments:					
Interest rate contracts	2	2	82	12	—
Foreign exchange contracts	2	717	348	359	117
Derivatives not designated as hedging instruments:					
Foreign exchange contracts	2	11	26	21	42
Equity contracts (7)	1,2	5	95	6	4
Total		$ 5,261	$ 769	$ 4,608	$ 162

(1) Included within cash and cash equivalents in the Consolidated Balance Sheet.
(2) Available-for-sale debt securities with carrying values that approximate fair value.
(3) Included within investments and sundry assets in the Consolidated Balance Sheet.
(4) Refer to "Kyndryl Common Stock" below for additional information.
(5) U.S. treasury bills that are reported within marketable securities in the Consolidated Balance Sheet.
(6) Includes corporate and government debt securities that are reported within investments and sundry assets in the Consolidated Balance Sheet.
(7) Level 1 includes immaterial amounts related to equity futures contracts.
(8) 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, 2022 were $723 million and $11 million, respectively, and at December 31, 2021 were $358 million and $40 million, respectively.
(9) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Balance Sheet at June 30, 2022 were $266 million and $285 million, respectively, and at December 31, 2021 were $60 million and $103 million, respectively.

N/A – not applicable

Kyndryl Common Stock

On November 3, 2021, IBM completed the separation of Kyndryl and retained 19.9 percent of the shares of Kyndryl common stock with the intent to dispose of the shares within twelve months of the separation.

On May 18, 2022, the company borrowed an aggregate principal amount of $357 million under a short-term credit facility with a third-party financial institution, the proceeds of which will be used to repay certain of the company's existing indebtedness. On May 23, 2022, the company completed a debt-for-equity exchange where 22.3 million shares of Kyndryl common stock, equal to 9.95 percent or half of the company's 19.9 percent retained interest (the Shares), were exchanged at a strike price of $13.95 per share to extinguish $311 million of the company's indebtedness under the short-term credit facility (the Exchange). The remaining portion of the short-term credit facility was repaid with $46 million of cash.

In connection with the Exchange, the company entered into a cash-settled swap with the lender of the short-term credit facility as the counterparty that maintained IBM's continued economic exposure in the Shares. Upon settlement of

the swap, which will occur no later than November 2, 2022, IBM will either receive or pay an amount derived from the difference between the volume-weighted average price (VWAP) of the Kyndryl shares over the outstanding term of the swap and the strike price of $13.95 per share. As a result, the most significant input into the valuation of the swap is the price of Kyndryl shares. The fair value of the swap at June 30, 2022 was $88 million and is included within other accrued expenses and liabilities in the Consolidated Balance Sheet. For the three and six months ended June 30, 2022, an unrealized loss of $88 million was recorded in other (income) and expense in the Consolidated Income Statement.

As a result of the swap, the transfer of the Shares pursuant to the Exchange does not qualify as a true sale, and therefore the Shares remain on the company's Consolidated Balance Sheet at June 30, 2022. Relatedly, the portion of the company's indebtedness under the short-term credit facility that was extinguished pursuant to the Exchange has been classified as a secured borrowing within short-term debt in the Consolidated Balance Sheet. The company has elected to record the debt at fair value based on changes in the value of the Shares underlying the debt. The fair value of the debt was $218 million at June 30, 2022. In electing the fair value option, the company recognizes changes in fair value of the debt in other (income) and expense, which amounted to $93 million for the three and six months ended June 30, 2022. The contractual principal balance of the debt was $311 million at June 30, 2022. Both the Shares and the debt are expected to be entirely derecognized from the company's Consolidated Balance Sheet upon settlement of the swap, which will occur no later than November 2, 2022.

The 19.9 percent retained interest in the Kyndryl shares is accounted for at fair value which amounted to $436 million and $807 million at June 30, 2022 and December 31, 2021, respectively, and is included within prepaid expenses and other current assets in the Consolidated Balance Sheet. An unrealized loss of $56 million and $278 million, net of adjustment for the mark-to-market on the related debt as described above was recorded in other (income) and expense in the Consolidated Income Statement for the three and six months ended June 30, 2022, respectively.

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, 2022 and December 31, 2021, 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 $44,328 million and $44,917 million, and the estimated fair value was $42,143 million and $49,465 million at June 30, 2022 and December 31, 2021, 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.

9. 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 Infrastructure products and are for terms ranging generally from two to six years. Commercial financing receivables, which consist of both held-for-investment and held-for-sale 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.

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

	Client Financing Receivables		Commercial Financing Receivables		
(Dollars in millions) At June 30, 2022:	Client Loan and Installment Payment Receivables (Loans)	Investment in Sales-Type and Direct Financing Leases	Held for Investment	Held for Sale*	Total
Financing receivables, gross	$ 8,343	$ 3,851	$ 177	$ 614	$ 12,985
Unearned income	(341)	(305)	—	—	(646)
Unguaranteed residual value	—	383	—	—	383
Amortized cost	$ 8,002	$ 3,929	$ 177	$ 614	$ 12,721
Allowance for credit losses	(110)	(56)	(6)	—	(172)
Total financing receivables, net	$ 7,891	$ 3,872	$ 171	$ 614	$ 12,549
Current portion	$ 5,010	$ 1,438	$ 171	$ 614	$ 7,233
Noncurrent portion	$ 2,881	$ 2,435	$ —	$ —	$ 5,316

	Client Financing Receivables		Commercial Financing Receivables		
(Dollars in millions) At December 31, 2021:	Client Loan and Installment Payment Receivables (Loans)	Investment in Sales-Type and Direct Financing Leases	Held for Investment	Held for Sale*	Total
Financing receivables, gross	$ 9,303	$ 3,336	$ 450	$ 793	$ 13,881
Unearned income	(353)	(223)	—	—	(576)
Unguaranteed residual value	—	335	—	—	335
Amortized cost	$ 8,949	$ 3,448	$ 450	$ 793	$ 13,640
Allowance for credit losses	(131)	(64)	(6)	—	(201)
Total financing receivables, net	$ 8,818	$ 3,384	$ 444	$ 793	$ 13,439
Current portion	$ 5,371	$ 1,406	$ 444	$ 793	$ 8,014
Noncurrent portion	$ 3,447	$ 1,978	$ —	$ —	$ 5,425

* The carrying value of the receivables classified as held for sale approximates fair value.

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. Sale of receivables arrangements are also utilized in the normal course of business as part of the company's cash and liquidity management.

Financing receivables pledged as collateral for nonrecourse borrowings were $313 million and $408 million at June 30, 2022 and December 31, 2021, respectively. These borrowings are included in note 12, "Borrowings."

Transfer of Financial Assets

The company enters into agreements with third-party financial institutions to sell certain of its client financing receivables, including both loan and lease receivables, for cash proceeds. Throughout 2021, sales of client financing receivables were utilized as part of the company's cash and liquidity management as well as for credit mitigation. In the first half of 2022, sales of client financing receivables were largely focused on credit mitigation. In addition, the company has an existing agreement with a third-party investor to sell IBM short-term commercial financing receivables on a revolving basis. The company has expanded this agreement to other countries and geographies since commencement in the U.S. and Canada in 2020.

The following table presents the total amount of client and commercial financing receivables transferred:

(Dollars in millions) **For the six months ended June 30:**	**2022**	**2021**
Client financing receivables		
Lease receivables	$ 15	$ 732
Loan receivables	2	1,359
Total client financing receivables transferred	$ 17	$ 2,091
Commercial financing receivables		
Receivables transferred during the period	$ 3,914	$ 2,621
Receivables uncollected at end of period*	$ 815	$ 821

* Of the total amount of commercial financing receivables sold and derecognized from the Consolidated Balance Sheet, the amounts presented remained uncollected from business partners as of June 30, 2022 and 2021.

The transfer of these receivables qualified as true sales and therefore reduced financing receivables. The cash proceeds from the sales are included in cash flows from operating activities and the impacts to the Consolidated Income Statement, including fees and net gain or loss associated with the transfers of these receivables for the six months ended June 30, 2022 and 2021 were not material.

Financing Receivables by Portfolio Segment

The following tables present the amortized cost basis for client financing receivables at June 30, 2022 and December 31, 2021, further segmented by three classes: Americas, Europe/Middle East/Africa (EMEA) and Asia Pacific. 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.

(Dollars in millions) At June 30, 2022:	Americas	EMEA	Asia Pacific	Total
Amortized cost	$ 7,092	$ 3,173	$ 1,666	$ 11,930
Allowance for credit losses:				
Beginning balance at January 1, 2022	$ 111	$ 61	$ 23	$ 195
Write-offs	$ (16)	$ (1)	$ (2)	$ (18)
Recoveries	1	0	4	5
Additions/(releases)	(2)	(3)	(5)	(10)
Other*	2	(5)	(1)	(5)
Ending balance at June 30, 2022	$ 96	$ 51	$ 19	$ 166

(Dollars in millions) At December 31, 2021:	Americas	EMEA	Asia Pacific	Total
Amortized cost	$ 6,573	$ 3,793	$ 2,031	$ 12,397
Allowance for credit losses:				
Beginning balance at January 1, 2021	$ 141	$ 77	$ 37	$ 255
Write-offs	$ (8)	$ (2)	$ (7)	$ (17)
Recoveries	0	0	1	1
Additions/(releases)	(19)	(11)	(7)	(38)
Other*	(3)	(3)	0	(7)
Ending balance at December 31, 2021	$ 111	$ 61	$ 23	$ 195

* Primarily represents translation adjustments.

When determining the allowances, financing receivables are evaluated either on an individual or a collective basis. For the company's policy on determining allowances for credit losses, refer to note A, "Significant Accounting Policies," in the company's 2021 Annual Report. Any changes to economic models that occurred after the balance sheet date will be reflected in future periods.

Past Due Financing Receivables

The company summarizes information about the amortized cost basis for client financing receivables, including amortized cost aged over 90 days and still accruing, billed invoices aged over 90 days and still accruing, and amortized cost not accruing.

(Dollars in millions) At June 30, 2022:	Total Amortized Cost	Amortized Cost > 90 Days*	Amortized Cost > 90 Days and Accruing*	Billed Invoices > 90 Days and Accruing	Amortized Cost Not Accruing**
Americas	$ 7,092	$ 216	$ 141	$ 11	$ 76
EMEA	3,173	85	4	1	83
Asia Pacific	1,666	23	5	2	18
Total client financing receivables	$ 11,930	$ 324	$ 150	$ 15	$ 177

(Dollars in millions) At December 31, 2021:	Total Amortized Cost	Amortized Cost > 90 Days*	Amortized Cost > 90 Days and Accruing*	Billed Invoices > 90 Days and Accruing	Amortized Cost Not Accruing**
Americas	$ 6,573	$ 188	$ 100	$ 6	$ 90
EMEA	3,793	99	7	2	95
Asia Pacific	2,031	25	5	2	20
Total client financing receivables	$ 12,397	$ 312	$ 112	$ 10	$ 205

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

** Of the amortized cost not accruing, there was a related allowance of $129 million and $153 million at June 30, 2022 and December 31, 2021, respectively. Financing income recognized on these receivables was immaterial for the three and six months ended June 30, 2022, 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 for client financing receivables by credit quality indicator at June 30, 2022 and December 31, 2021, respectively. Receivables with a credit quality indicator ranging from Aaa to Baa3 are considered investment grade. All others are considered non-investment grade. The credit quality indicators reflect mitigating credit enhancement actions taken by customers which reduce the risk to IBM.

(Dollars in millions)	Americas		EMEA		Asia Pacific	
At June 30, 2022:	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D
Vintage year:						
2022	$ 1,987	$ 799	$ 614	$ 431	$ 393	$ 86
2021	1,750	584	645	349	290	108
2020	761	306	337	221	268	60
2019	382	151	190	166	190	30
2018	186	72	86	51	141	35
2017 and prior	61	52	19	65	44	22
Total	$ 5,128	$ 1,964	$ 1,891	$ 1,282	$ 1,326	$ 340

(Dollars in millions)	Americas		EMEA		Asia Pacific	
At December 31, 2021:	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D
Vintage year:						
2021	$ 2,556	$ 1,147	$ 1,181	$ 778	$ 565	$ 226
2020	1,013	392	506	342	381	86
2019	544	236	287	291	297	51
2018	338	117	189	85	211	64
2017	108	50	15	52	74	17
2016 and prior	20	53	21	46	38	20
Total	$ 4,579	$ 1,994	$ 2,198	$ 1,595	$ 1,567	$ 464

Troubled Debt Restructurings

The company did not have any significant troubled debt restructurings during the six months ended June 30, 2022 or for the year ended December 31, 2021.

10. 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,	
	2022	2021	2022	2021
Lease income — sales-type and direct financing leases:				
Sales-type lease selling price	$ 735	$ 390	$ 789	$ 751
Less: Carrying value of underlying assets*	(120)	(100)	(139)	(157)
Gross profit	$ 615	$ 290	$ 651	$ 594
Interest income on lease receivables	45	47	90	98
Total sales-type and direct financing lease income	$ 660	$ 337	$ 741	$ 692
Lease income — operating leases	27	47	56	98
Variable lease income	28	22	56	79
Total lease income	$ 715	$ 406	$ 853	$ 869

* Excludes unguaranteed residual value.

Sales-type lease revenue was $735 million and $789 million for the three and six months ended June 30, 2022, respectively, compared to $390 million and $751 million for the three and six months ended June 30, 2021, respectively. The increases in both the three and six month periods were predominantly due to the zSystems product cycle dynamics.

11. Intangible Assets Including Goodwill:

Intangible Assets

The following tables present the company's intangible asset balances by major asset class:

(Dollars in millions)	At June 30, 2022 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class:			
Capitalized software	$ 1,705	$ (692)	$ 1,013
Client relationships	8,187	(2,591)	5,596
Completed technology	5,562	(2,113)	3,449
Patents/trademarks	2,117	(610)	1,507
Other**	32	(25)	6
Total	$ 17,604	$ (6,032)	$ 11,571

(Dollars in millions)	At December 31, 2021 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class:			
Capitalized software	$ 1,696	$ (751)	$ 945
Client relationships	9,021	(2,889)	6,132
Completed technology	6,074	(2,259)	3,815
Patents/trademarks	2,196	(586)	1,610
Other**	44	(35)	9
Total	$ 19,031	$ (6,520)	$ 12,511

* Amounts as of June 30, 2022 and December 31, 2021 included a decrease in net intangible asset balances of $235 million and $221 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 $940 million during the first six months of 2022, primarily due to intangible asset amortization, partially offset by additions of acquired intangibles and capitalized software. The aggregate intangible asset amortization expense was $625 million and $1,251 million for the second quarter and first six months of 2022, respectively, compared to $625 million and $1,239 million for the second quarter and first six months of 2021, respectively. In the first six months of 2022, the company retired $501 million of fully amortized intangible assets, impacting both the gross carrying amount and accumulated amortization by this amount. The company also derecognized intangible assets with a gross carrying amount of $1,312 million and $1,149 million of accumulated amortization as part of the divestiture of its healthcare software assets on June 30, 2022.

The future amortization expense relating to intangible assets currently recorded in the Consolidated Balance Sheet was estimated to be the following at June 30, 2022:

(Dollars in millions)	Capitalized Software	Acquired Intangibles	Total
Remainder of 2022	$ 304	$ 832	$ 1,136
2023	431	1,490	1,922
2024	245	1,473	1,718
2025	32	1,455	1,487
2026	0	1,438	1,438
Thereafter	0	3,871	3,871

Goodwill

The changes in the goodwill balances by segment for the six months ended June 30, 2022 and for the year ended December 31, 2021 were as follows:

(Dollars in millions) Segment	Balance 1/1/2022	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation and Other Adjustments*	Balance 6/30/2022
Software	$ 43,966	$ 442	$ (108)	$ —	$ (674)	$ 43,626
Consulting	6,797	461	(13)	—	(200)	7,044
Infrastructure	4,396	—	—	(1)	(27)	4,368
Other**	484	—	—	(484)	—	—
Total	$ 55,643	$ 903	$ (121)	$ (485)	$ (901)	$ 55,039

* Primarily driven by foreign currency translation.

** The company derecognized $484 million of goodwill related to the divestiture of its healthcare software assets. Refer to note 6, "Acquisitions & Divestitures," for additional information.

(Dollars in millions) Segment	Balance 1/1/2021	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation and Other Adjustments*	Balance 12/31/2021
Software**	$ 42,665	$ 1,836	$ 23	$ (13)	$ (545)	$ 43,966
Consulting	6,145	713	(21)	—	(40)	6,797
Infrastructure	4,436	—	0	—	(39)	4,396
Other**	520	—	—	(37)	1	484
Total	$ 53,765	$ 2,549	$ 2	$ (50)	$ (623)	$ 55,643

* Primarily driven by foreign currency translation.

** Recast to conform to current year presentation.

There were no goodwill impairment losses recorded during the first six months of 2022 or full-year 2021 and the company has no accumulated impairment losses. Purchase price adjustments recorded in the first six months of 2022 and full-year 2021 were related to acquisitions that were still subject to the measurement period that ends at the earlier of 12 months from the acquisition date or when information becomes available. Net purchase price adjustments recorded in the first six months of 2022 primarily relate to deferred tax assets and liabilities associated with the Turbonomic acquisition.

12. Borrowings:

Short-Term Debt

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Short-term loans	$ 230	$ 22
Long-term debt — current maturities	5,752	6,764
Total	$ 5,981	$ 6,787

Included within short-term debt in the company's Consolidated Balance Sheet at June 30, 2022 is $218 million of secured borrowings recorded at fair value from the short-term credit facility and the Exchange as described in note 8, "Financial Assets & Liabilities."

The weighted-average interest rate for short-term loans excluding the aforementioned secured borrowings was 1.9 percent and 6.7 percent at June 30, 2022 and December 31, 2021, respectively.

Long-Term Debt

Pre-Swap Borrowing

(Dollars in millions)	Maturities	Balance 6/30/2022	Balance 12/31/2021
U.S. dollar debt (weighted-average interest rate at June 30, 2022):*			
2.4%	2022	$ 1,904	$ 5,673
3.4%	2023	1,552	1,573
3.3%	2024	5,013	5,016
7.0%	2025	605	608
3.3%	2026	4,352	4,356
2.8%	2027	2,871	2,221
6.5%	2028	313	313
3.5%	2029	3,250	3,250
2.0%	2030	1,350	1,350
4.4%	2032	1,100	600
8.0%	2038	83	83
4.5%	2039	2,745	2,745
2.9%	2040	650	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	750
3.4%	2052	650	—
7.1%	2096	316	316
		$ 32,288	$ 34,290
Other currencies (weighted-average interest rate at June 30, 2022, in parentheses):*			
Euro (1.1%)	2023–2040	$ 16,718	$ 15,903
Pound sterling (2.6%)	2022	364	406
Japanese yen (0.3%)	2022–2026	1,070	1,263
Other (15.7%)	2022–2025	315	378
		$ 50,755	$ 52,240
Finance lease obligations (2.0%)	2022–2030	108	99
		$ 50,863	$ 52,339
Less: net unamortized discount		837	839
Less: net unamortized debt issuance costs		134	130
Add: fair value adjustment**		187	311
		$ 50,079	$ 51,681
Less: current maturities		5,752	6,764
Total		$ 44,328	$ 44,917

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

** The portion of the company's fixed-rate debt obligations that is hedged is 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 quarter of 2022, the company issued $2.3 billion of Euro fixed-rate notes in tranches with maturities ranging from 8 to 12 years and coupons ranging from 0.875 to 1.25 percent, and $1.8 billion of U.S. dollar fixed-rate notes with maturities ranging from 5 to 30 years and coupons ranging from 2.20 to 3.43 percent.

Pre-swap annual contractual obligations of long-term debt outstanding at June 30, 2022, were as follows:

(Dollars in millions)	Total
Remainder of 2022	$ 2,778
2023	4,607
2024	6,262
2025	3,745
2026	4,664
Thereafter	28,807
Total	$ 50,863

Interest on Debt

(Dollars in millions) For the six months ended June 30:	2022	2021
Cost of financing	$ 165	$ 210
Interest expense	607	561
Interest capitalized	2	2
Total interest paid and accrued	$ 775	$ 774

Lines of Credit

On June 30, 2022, the company amended its existing $2.5 billion Three-Year Credit Agreement and $7.5 billion Five-Year Credit Agreement (the Credit Agreements) to extend the maturity dates to June 20, 2025 and June 22, 2027, respectively, and to replace the London Interbank Offered Rate (LIBOR) interest rate provisions with customary provisions based on the Secured Overnight Financing Rate (SOFR). The Credit Agreements permit the company and its subsidiary borrowers to borrow up to $10 billion on a revolving basis. At June 30, 2022, there were no borrowings by the company, or its subsidiaries, under these credit facilities.

13. Commitments:

The company's extended lines of credit to third-party entities include unused amounts of $1.3 billion and $1.7 billion at June 30, 2022 and December 31, 2021, 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 $2.7 billion and $3.2 billion at June 30, 2022 and December 31, 2021, respectively. The company collectively evaluates the allowance for these arrangements using a provision methodology consistent with the portfolio of the commitments. Refer to note A, "Significant Accounting Policies," in the company's 2021 Annual Report 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, 2022.

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 indemnification provisions typically 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, 2022 and December 31, 2021 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)	2022	2021
Balance at January 1	$ 77	$ 83
Current period accruals	39	36
Accrual adjustments to reflect actual experience	(1)	(2)
Charges incurred	(41)	(45)
Balance at June 30	$ 74	$ 73

Extended Warranty Liability

(Dollars in millions)	2022	2021
Balance at January 1	$ 350	$ 425
Revenue deferred for new extended warranty contracts	84	50
Amortization of deferred revenue	(83)	(104)
Other*	(12)	(5)
Balance at June 30	$ 339	$ 367
Current portion	$ 172	$ 184
Noncurrent portion	$ 167	$ 183

* Other primarily consists of foreign currency translation adjustments.

14. Contingencies:

As a company with a substantial employee population and with clients in more than 175 countries, IBM is involved, either as plaintiff or defendant, in a variety of ongoing claims, demands, suits, investigations, tax matters and proceedings that arise from time to time in the ordinary course of its business. The company is a leader in the information technology industry and, as such, has been and will continue to be subject to claims challenging its IP rights and associated products and offerings, including claims of copyright and patent infringement and violations of trade secrets and other IP rights. In addition, the company enforces its own IP against infringement, through license negotiations, lawsuits or otherwise. Further, given the rapidly evolving external landscape of cybersecurity, privacy and data protection laws, regulations and threat actors, the company and its clients have been and will continue to be subject to actions or proceedings in various jurisdictions. 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, 2022 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.

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. In February 2021, the Technology & Construction Court in London rejected the majority of CISGIL's claims and ruled in IBM's favor on its counterclaim. The court's decision required IBM to pay approximately $20 million in damages, plus interest and litigation costs. In April 2022, the Court of Appeal awarded CISGIL additional damages of approximately $89 million, plus interest and litigation costs. IBM filed an application for permission to appeal with the UK Supreme Court.

On June 8, 2021, IBM sued GlobalFoundries U.S. Inc. (GF) in New York State Supreme Court for claims including fraud and breach of contract relating to a long-term strategic relationship between IBM and GF for researching, developing, and manufacturing advanced semiconductor chips for IBM. GF walked away from its obligations and IBM is now suing to recover amounts paid to GF, and other compensatory and punitive damages, totaling more than $1.5 billion. On September 14, 2021, the court ruled on GF's motion to dismiss. On April 7, 2022, the Appellate Division unanimously reversed the lower court's dismissal of IBM's fraud claim. IBM's claims for breaches of contract, promissory estoppel, and fraud are proceeding.

On April 5, 2022, a putative securities law class action was commenced in the United States District Court for the Southern District of New York alleging that during the period from April 4, 2017 through October 20, 2021, certain strategic imperatives revenues were misclassified. The company, two current IBM senior executives, and two former IBM senior executives are named as defendants. On June 23, 2022, the court entered an order appointing Iron Workers Local 580 Joint Funds as lead plaintiff. On March 25, 2022, the Board of Directors received a shareholder demand letter making similar allegations and demanding that the company's Board of Directors take action to assert the company's rights. A special committee of independent directors has been formed to investigate the issues raised in the letter.

On June 2, 2022, a putative class action lawsuit was filed in the United States District Court for the Southern District of New York alleging that the IBM Pension Plan miscalculated certain joint and survivor annuity pension benefits by using outdated actuarial tables in violation of the Employee Retirement Income Security Act of 1974. IBM, the Plan Administrator Committee, and the IBM Pension Plan are named as defendants.

As disclosed in the Kyndryl Form 10 and subsequent Kyndryl public filings, in 2017 BMC Software, Inc. (BMC) filed suit against IBM in the United States District Court for the Southern District of Texas in a dispute involving IBM's former managed infrastructure services business. On May 30, 2022, the trial court awarded BMC $718 million in direct damages and $718 million in punitive damages, plus interest and fees. The judgment will be appealed. IBM does not believe it has any material exposure relating to this litigation. No material liability or related indemnification asset has been recorded by IBM.

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 $400 million. The company believes it will prevail on these matters and that this amount is not a meaningful indicator of liability.

15. Equity Activity:

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the three months ended June 30, 2022:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 213	$ (347)	$ (134)
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ 0	$ 0	$ 0
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ 0	$ 0	$ 0
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ 200	$ (53)	$ 147
Reclassification of (gains)/losses to:			
Cost of services	(13)	3	(10)
Cost of sales	(23)	7	(17)
Cost of financing	6	(2)	5
SG&A expense	(14)	4	(10)
Other (income) and expense	38	(10)	29
Interest expense	22	(6)	16
Total unrealized gains/(losses) on cash flow hedges	$ 217	$ (56)	$ 161
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ —	$ 0	$ 0
Net (losses)/gains arising during the period	1	(3)	(2)
Curtailments and settlements	11	(3)	8
Amortization of prior service (credits)/costs	6	(2)	5
Amortization of net (gains)/losses	450	(125)	325
Total retirement-related benefit plans	$ 468	$ (132)	$ 336
Other comprehensive income/(loss)	$ 897	$ (534)	$ 363

* These accumulated other comprehensive income (AOCI) components are included in the computation of net periodic pension cost. Refer to note 18, "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, 2021:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 28	$ 44	$ 72
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ 0	$ 0	$ 0
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ 0	$ 0	$ 0
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ (34)	$ 9	$ (26)
Reclassification of (gains)/losses to:			
Cost of services	(7)	2	(5)
Cost of sales	10	(3)	8
Cost of financing	6	(1)	4
SG&A expense	16	(4)	12
Other (income) and expense	49	(12)	37
Interest expense	16	(4)	12
Total unrealized gains/(losses) on cash flow hedges	$ 56	$ (14)	$ 42
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ 0	$ 0	$ 0
Net (losses)/gains arising during the period	2	10	11
Curtailments and settlements	16	(5)	11
Amortization of prior service (credits)/costs	1	1	1
Amortization of net (gains)/losses	643	(175)	467
Total retirement-related benefit plans	$ 661	$ (170)	$ 491
Other comprehensive income/(loss)	$ 745	$ (140)	$ 605

* These AOCI components are included in the computation of net periodic pension cost. Refer to note 18, “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, 2022:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 655	$ (483)	$ 172
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (1)	$ 0	$ 0
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ (1)	$ 0	$ 0
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ 260	$ (69)	$ 191
Reclassification of (gains)/losses to:			
Cost of services	(28)	7	(21)
Cost of sales	(35)	10	(25)
Cost of financing	12	(3)	9
SG&A expense	(20)	5	(14)
Other (income) and expense	45	(11)	34
Interest expense	43	(11)	32
Total unrealized gains/(losses) on cash flow hedges	$ 276	$ (71)	$ 205
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ (5)	$ 5	$ 0
Net (losses)/gains arising during the period	10	(7)	3
Curtailments and settlements	19	(5)	14
Amortization of prior service (credits)/costs	13	(3)	10
Amortization of net (gains)/losses	917	(256)	662
Total retirement-related benefit plans	$ 954	$ (266)	$ 689
Other comprehensive income/(loss)	$ 1,885	$ (819)	$ 1,066

* These AOCI components are included in the computation of net periodic pension cost. Refer to note 18, “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, 2021:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 577	$ (184)	$ 393
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ 0	$ 0	$ 0
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ 0	$ 0	$ 0
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ 153	$ (39)	$ 114
Reclassification of (gains)/losses to:			
Cost of services	(21)	5	(16)
Cost of sales	32	(8)	24
Cost of financing	12	(3)	9
SG&A expense	31	(8)	23
Other (income) and expense	165	(41)	123
Interest expense	31	(8)	24
Total unrealized gains/(losses) on cash flow hedges	$ 404	$ (102)	$ 301
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ 0	$ 0	$ 0
Net (losses)/gains arising during the period	22	4	25
Curtailments and settlements	34	(10)	23
Amortization of prior service (credits)/costs	4	0	4
Amortization of net (gains)/losses	1,291	(352)	938
Total retirement-related benefit plans	$ 1,350	$ (359)	$ 991
Other comprehensive income/(loss)	$ 2,330	$ (645)	$ 1,685

* These AOCI components are included in the computation of net periodic pension cost. Refer to note 18, "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, 2022	$ (18)	$ (3,362)	$ (19,854)	$ (1)	$ (23,234)
Other comprehensive income before reclassifications	191	172	3	0	366
Amount reclassified from accumulated other comprehensive income	14	—	686	—	699
Total change for the period	$ 205	$ 172	$ 689	$ 0	$ 1,066
June 30, 2022	$ 187	$ (3,189)	$ (19,165)	$ (1)	$ (22,169)

* 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, 2021	$ (456)	$ (4,665)	$ (24,216)	$ 0	$ (29,337)
Other comprehensive income before reclassifications	114	393	25	0	532
Amount reclassified from accumulated other comprehensive income	187	—	966	—	1,153
Total change for the period	$ 301	$ 393	$ 991	$ 0	$ 1,685
June 30, 2021	$ (155)	$ (4,271)	$ (23,225)	$ (1)	$ (27,652)

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

16. 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. At June 30, 2022 and December 31, 2021, the amount recognized in other accounts receivables for the right to reclaim cash collateral was $52 million and $2 million, respectively. At June 30, 2022 and December 31, 2021, the amount recognized in accounts payable for the obligation to return cash collateral was $14 million and $38 million, respectively. The company restricts the use of cash collateral received to rehypothecation, and therefore reports it in restricted cash in the Consolidated Balance Sheet. At June 30, 2022 and December 31, 2021, the amount rehypothecated was $12 million and $2 million, respectively. Additionally, if derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Balance Sheet at June 30, 2022 and December 31, 2021, the total derivative asset and liability positions each would have been reduced by $187 million and $60 million, respectively.

On May 19, 2022, in connection with the disposition of 22.3 million shares of Kyndryl common stock, the company entered into a cash-settled swap with the lender of the short-term credit facility as the counterparty that maintained IBM's continued economic exposure in those shares pursuant to the Exchange. Refer to note 8, "Financial Assets & Liabilities," for additional information. The notional value of the swap is $311 million. Upon settlement of the swap, no later than November 2, 2022, IBM will receive or pay an amount derived from the difference between the VWAP of the Kyndryl shares over the outstanding term of the swap and the strike price as of May 19, 2022. The fair value of the swap at June 30, 2022 was $88 million and is included within other accrued expenses and liabilities in the Consolidated Balance Sheet. For the three and six months ended June 30, 2022, an unrealized loss of $88 million was recorded in other (income) and expense in the Consolidated Income Statement.

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, 2022 and December 31, 2021, the total notional amount of the company's interest-rate swaps was $4.4 billion and $0.4 billion, respectively. The weighted-average remaining maturity of these instruments at June 30, 2022 and December 31, 2021 was approximately 5.4 years and 1.2 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, 2022 and December 31, 2021.

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. There were no instruments outstanding at June 30, 2022 and December 31, 2021.

In connection with cash flow hedges of forecasted interest payments related to the company's borrowings, the company recorded net losses (before taxes) of $148 million and $157 million at June 30, 2022 and December 31, 2021, respectively, in AOCI. The company estimates that $18 million of the deferred net losses (before taxes) on derivatives in AOCI at June 30, 2022 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, 2022 and December 31, 2021, the carrying value of debt designated as hedging instruments was $14.0 billion and $14.1 billion, respectively. The company also uses cross-currency swaps and foreign exchange forward contracts for this risk management purpose. At June 30, 2022 and December 31, 2021, the total notional amount of derivative instruments designated as net investment hedges was $4.7 billion and $6.8 billion, respectively. At both June 30, 2022 and December 31, 2021, the weighted-average remaining maturity of these instruments was approximately 0.1 year.

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. At June 30, 2022, the maximum remaining length of time over which the company hedged its exposure is approximately two years. At June 30, 2022 and December 31, 2021, the total notional amount of forward contracts designated as cash flow hedges of forecasted royalty and cost transactions was $8.2 billion and $7.2 billion, respectively. At both June 30, 2022 and December 31, 2021, the weighted-average remaining maturity of these instruments was approximately 0.6 years.

At June 30, 2022 and December 31, 2021, in connection with cash flow hedges of anticipated royalties and cost transactions, the company recorded net gains (before taxes) of $537 million and $315 million, respectively, in AOCI. The company estimates that $471 million of deferred net gains (before taxes) on derivatives in AOCI at June 30, 2022 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, 2022, the maximum length of time remaining over which the company hedged its exposure is approximately six years. At June 30, 2022 and December 31, 2021, the total notional amount of cross-currency swaps designated as cash flow hedges of foreign currency denominated debt was $3.0 billion and $2.0 billion, respectively.

At June 30, 2022 and December 31, 2021, in connection with cash flow hedges of foreign currency denominated borrowings, the company recorded net losses (before taxes) of $128 million and $174 million, respectively, in AOCI. The company estimates that $31 million of deferred net gains (before taxes) on derivatives in AOCI at June 30, 2022 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, 2022 and December 31, 2021, the total notional amount of derivative instruments in economic hedges of foreign currency exposure was $5.6 billion and $6.8 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, 2022 and December 31, 2021, the total notional amount of derivative instruments in economic hedges of these compensation obligations was $1.1 billion and $1.4 billion, respectively.

Cumulative Basis Adjustments for Fair Value Hedges

At June 30, 2022 and December 31, 2021, the following amounts were recorded in the Consolidated Balance Sheet related to cumulative basis adjustments for fair value hedges:

(Dollars in millions)	June 30, 2022	December 31, 2021
Short-term debt:		
Carrying amount of the hedged item	$ (224)	$ (227)
Cumulative hedging adjustments included in the carrying amount — assets/(liabilities)*	1	(2)
Long-term debt:		
Carrying amount of the hedged item	$ (4,366)	$ (508)
Cumulative hedging adjustments included in the carrying amount — assets/(liabilities)*	(188)	(309)

* Includes ($276) million and ($302) million of hedging adjustments on discontinued hedging relationships at June 30, 2022 and December 31, 2021, 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:	2022	2021	2022	2021
Cost of services	$ 5,399	$ 4,720	$ 13	$ 7
Cost of sales	1,750	1,499 *	23	(10)
Cost of financing	96	146 *	1	0
SG&A expense	4,855	4,849	(152)	67
Other (income) and expense	(81)	302	(439)	(79)
Interest expense	297	281	3	(1)

* Reclassified to conform to current year 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 2022	Recognized on Derivatives 2021	Attributable to Risk Being Hedged (2) 2022	Attributable to Risk Being Hedged (2) 2021
Derivative instruments in fair value hedges (1):					
Interest rate contracts	Cost of financing	$ (17)	$ 0	$ 23	$ 4
	Interest expense	(61)	0	81	11
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	(313)	(30)	N/A	N/A
Equity contracts	SG&A expense	(166)	83	N/A	N/A
	Other (income) and expense	(88)	—	N/A	N/A
Total		$ (645)	$ 54	$ 104	$ 15

(Dollars in millions) For the three months ended June 30:	Gain (Loss) Recognized in Consolidated Income Statement and Other Comprehensive Income: Recognized in OCI 2022	Recognized in OCI 2021	Consolidated Income Statement Line Item	Reclassified from AOCI 2022	Reclassified from AOCI 2021	Amounts Excluded from Effectiveness Testing (3) 2022	Amounts Excluded from Effectiveness Testing (3) 2021
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ —	Cost of financing	$ (1)	$ (1)	$ —	$ —
			Interest expense	(3)	(3)	—	—
Foreign exchange contracts	200	(34)	Cost of services	13	7	—	—
			Cost of sales	23	(10)	—	—
			Cost of financing	(5)	(5)	—	—
			SG&A expense	14	(16)	—	—
			Other (income) and expense	(38)	(49)	—	—
			Interest expense	(19)	(12)	—	—
Instruments in net investment hedges (4):							
Foreign exchange contracts	1,379	(177)	Cost of financing	—	—	1	1
			Interest expense	—	—	5	4
Total	$ 1,579	$ (211)		$ (16)	$ (90)	$ 6	$ 5

(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 with the amounts recognized in OCI providing an offset to the translation of foreign subsidiaries.

N/A - not applicable

(Dollars in millions) For the six months ended June 30:	Total 2022	Total 2021	Gains/(Losses) of Total Hedge Activity 2022	Gains/(Losses) of Total Hedge Activity 2021
Cost of services	$ 10,747	$ 9,364	$ 28	$ 21
Cost of sales	3,165	2,878 *	35	(32)
Cost of financing	194	283 *	(1)	2
SG&A expense	9,452	9,536	(223)	101
Other (income) and expense	166	647	(541)	(239)
Interest expense	607	561	(3)	4

* Reclassified to conform to current year 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 2022	Recognized on Derivatives 2021	Attributable to Risk Being Hedged (2) 2022	Attributable to Risk Being Hedged (2) 2021
Derivative instruments in fair value hedges (1):					
Interest rate contracts	Cost of financing	$ (18)	$ 0	$ 26	$ 11
	Interest expense	(65)	(1)	97	29
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	(409)	(74)	N/A	N/A
Equity contracts	SG&A expense	(243)	133	N/A	N/A
	Other (income) and expense	(88)	—	N/A	N/A
Total		$ (821)	$ 57	$ 123	$ 40

(Dollars in millions) For the six months ended June 30:	Gain (Loss) Recognized in Consolidated Income Statement and Other Comprehensive Income: Recognized in OCI 2022	Recognized in OCI 2021	Consolidated Income Statement Line Item	Reclassified from AOCI 2022	Reclassified from AOCI 2021	Amounts Excluded from Effectiveness Testing (3) 2022	Amounts Excluded from Effectiveness Testing (3) 2021
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ —	Cost of financing	$ (2)	$ (2)	$ —	$ —
			Interest expense	(7)	(6)	—	—
Foreign exchange contracts	260	153	Cost of services	28	21	—	—
			Cost of sales	35	(32)	—	—
			Cost of financing	(10)	(9)	—	—
			SG&A expense	20	(31)	—	—
			Other (income) and expense	(45)	(165)	—	—
			Interest expense	(36)	(25)	—	—
Instruments in net investment hedges (4):							
Foreign exchange contracts	1,920	730	Cost of financing	—	—	2	3
			Interest expense	—	—	7	8
Total	$ 2,180	$ 883		$ (16)	$ (251)	$ 9	$ 11

(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 with the amounts recognized in OCI providing an offset to the translation of foreign subsidiaries.

N/A - not applicable

For the three and six months ended June 30, 2022 and 2021, 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.

17. Stock-Based Compensation:

Stock-based compensation cost for stock awards and stock options 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, 2022	Three Months Ended June 30, 2021	Six Months Ended June 30, 2022	Six Months Ended June 30, 2021
Cost	$ 43	$ 35	$ 84	$ 68
Selling, general and administrative	153	141	289	256
Research, development and engineering	58	50	115	99
Pre-tax stock-based compensation cost	$ 254	$ 225	$ 488	$ 423
Income tax benefits	(82)	(64)	(139)	(112)
Total net stock-based compensation cost	$ 172	$ 162	$ 348	$ 311

Effective April 1, 2022, the company increased the discount for eligible participants under its Employees Stock Purchase Plan (ESPP) from 5 percent to 15 percent off the average market price on the date of purchase. With this change, the ESPP is considered compensatory under the accounting requirements for stock-based compensation.

Pre-tax stock-based compensation cost for the three months ended June 30, 2022 increased $29 million compared to the corresponding period in the prior year, including increases in ESPP ($14 million), performance share units ($8 million), stock options ($5 million) and restricted stock units ($2 million). The increases primarily relate to the ESPP being considered compensatory and a change in the timing of the company's executive grant cycle in 2022.

Pre-tax stock-based compensation cost for the six months ended June 30, 2022 increased $64 million compared to the corresponding period in the prior year, including increases in restricted stock units ($29 million), ESPP ($14 million), performance share units ($10 million) and stock options ($10 million). The increases are driven by the same factors described above.

Total unrecognized compensation cost related to non-vested awards at June 30, 2022 was $1.4 billion and is expected to be recognized over a weighted-average period of approximately 2.5 years.

Capitalized stock-based compensation cost was not material at June 30, 2022 and 2021.

18. Retirement-Related Benefits:

The company offers defined benefit (DB) 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:	2022	2021	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Defined benefit and contribution pension plans — cost	$ 456	$ 600	(24.0)%
Nonpension postretirement plans — cost	33	44	(25.0)
Total	$ 489	$ 644	(24.1)%

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Defined benefit and contribution pension plans — cost	$ 934	$ 1,219	(23.4)%
Nonpension postretirement plans — cost	66	88	(25.0)
Total	$ 1,000	$ 1,307	(23.5)%

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 2022	U.S. Plans 2021	Non-U.S. Plans 2022	Non-U.S. Plans 2021
Service cost	$ —	$ —	$ 59	$ 68
Interest cost*	302	277	131	108
Expected return on plan assets*	(475)	(451)	(259)	(279)
Amortization of prior service costs/(credits)*	2	4	3	(5)
Recognized actuarial losses*	179	249	260	352
Curtailments and settlements*	—	—	11	16
Multi-employer plans	—	—	3	5
Other costs/(credits)*	—	—	6	3
Total net periodic pension (income)/cost of defined benefit plans	$ 8	$ 80	$ 215	$ 268
Cost of defined contribution plans	141	151	92	101
Total defined benefit and contribution pension plans cost recognized in the Consolidated Income Statement	$ 149	$ 231	$ 307	$ 369

(Dollars in millions) For the six months ended June 30:	U.S. Plans 2022	U.S. Plans 2021	Non-U.S. Plans 2022	Non-U.S. Plans 2021
Service cost	$ —	$ —	$ 123	$ 133
Interest cost*	603	555	270	216
Expected return on plan assets*	(950)	(901)	(532)	(559)
Amortization of prior service costs/(credits)*	4	8	7	(7)
Recognized actuarial losses*	359	498	537	708
Curtailments and settlements*	—	—	19	34
Multi-employer plans	—	—	7	11
Other costs/(credits)*	—	—	15	15
Total net periodic pension (income)/cost of defined benefit plans	$ 15	$ 160	$ 446	$ 551
Cost of defined contribution plans	282	302	190	206
Total defined benefit and contribution pension plans cost recognized in the Consolidated Income Statement	$ 298	$ 462	$ 636	$ 757

* 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)	U.S. Plan		Non-U.S. Plans	
For the three months ended June 30:	2022	2021	2022	2021
Service cost	$ 1	$ 2	$ 1	$ 1
Interest cost*	18	16	9	8
Expected return on plan assets*	—	—	(1)	(1)
Amortization of prior service costs/(credits)*	1	1	0	0
Recognized actuarial losses*	2	13	1	4
Curtailments and settlements*	—	—	—	0
Total nonpension postretirement plans cost recognized in the Consolidated Income Statement	$ 23	$ 32	$ 10	$ 13

(Dollars in millions)	U.S. Plan		Non-U.S. Plans	
For the six months ended June 30:	2022	2021	2022	2021
Service cost	$ 2	$ 4	$ 2	$ 2
Interest cost*	37	32	18	16
Expected return on plan assets*	—	—	(1)	(2)
Amortization of prior service costs/(credits)*	2	2	0	0
Recognized actuarial losses*	4	26	2	8
Curtailments and settlements*	—	—	—	0
Total nonpension postretirement plans cost recognized in the Consolidated Income Statement	$ 46	$ 64	$ 20	$ 25

* 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 2022 from the amounts disclosed in the 2021 Annual Report.

The table below includes contributions to the following plans:

(Dollars in millions)	Plan Contributions	
For the six months ended June 30:	2022	2021
U.S. and non-U.S. nonpension postretirement benefit plans	$ 202	$ 191
Non-U.S. DB and multi-employer plans*	43	42
Total plan contributions	$ 245	$ 233

* Amounts reported net of refunds.

During the six months ended June 30, 2022 and 2021, the company contributed $182 million and $235 million of U.S. Treasury Securities, respectively, to the non-U.S. DB plans and nonpension postretirement benefit plans. Additionally, during the six months ended June 30, 2022 and 2021, the company contributed $261 million and $249 million in U.S. Treasury securities, respectively, to the Active Medical Trust. Contributions made with U.S. Treasury securities are considered a non-cash transaction.

19. Subsequent Events:

On July 20, 2022, the company issued $3.25 billion of fixed-rate notes in tranches with maturities ranging from 3 to 30 years and coupons ranging from 4.00 to 4.90 percent.

On July 25, 2022, the company announced that the Board of Directors approved a quarterly dividend of $1.65 per common share. The dividend is payable September 10, 2022 to shareholders of record on August 10, 2022.

Item 2.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION FOR THE THREE AND SIX MONTHS ENDED JUNE 30, 2022

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:	2022	2021	Yr. to Yr. Percent/ Margin Change
Revenue	$ 15,535	$ 14,218	9.3 %*
Gross profit margin	53.4 %	55.2 %	(1.9)pts.
Total expense and other (income)	$ 6,568	$ 6,940	(5.4)%
Income from continuing operations before income taxes	$ 1,722	$ 912	88.8 %
Provision for income taxes from continuing operations	$ 257	$ 101	153.2 %
Income from continuing operations	$ 1,465	$ 810	80.8 %
Income from continuing operations margin	9.4 %	5.7 %	3.7 pts.
Income/(loss) from discontinued operations, net of tax	$ (73)	$ 515	nm
Net income	$ 1,392	$ 1,325	5.1 %
Earnings per share from continuing operations - assuming dilution	$ 1.61	$ 0.90	78.9 %
Consolidated earnings per share - assuming dilution	$ 1.53	$ 1.47	4.1 %
Weighted-average shares outstanding - assuming dilution	910.7	904.2	0.7 %

* 15.6 percent adjusted for currency.
nm - not meaningful

Organization of Information:

On November 3, 2021, we completed the separation of our managed infrastructure services unit into a new public company with the distribution of 80.1 percent of the outstanding common stock of Kyndryl Holdings, Inc. (Kyndryl) to IBM stockholders on a pro rata basis. To affect the separation, IBM stockholders received one share of Kyndryl common stock for every five shares of IBM common stock held at the close of business on October 25, 2021, the record date for the distribution. IBM retained 19.9 percent of the shares of Kyndryl common stock immediately following the separation with the intent to dispose of such shares within twelve months after the distribution. The company accounts for the retained Kyndryl common stock as a fair value investment included within prepaid expenses and other current assets in the Consolidated Balance Sheet with subsequent fair value changes included in other (income) and expense in the Consolidated Income Statement. On May 23, 2022, the company transferred 22,301,536 (22.3 million) shares of Kyndryl common stock, equal to 9.95 percent or half of the company's 19.9 percent retained interest, to a third-party financial institution pursuant to an exchange agreement. Refer to note 8, "Financial Assets & Liabilities," for additional information.

The accounting requirements for reporting the separation of Kyndryl as a discontinued operation were met when the separation was completed. Accordingly, the historical results of Kyndryl are presented as discontinued operations and, as such, have been excluded from continuing operations and segment results for all periods presented. Consolidated diluted earnings per share includes the results of discontinued operations. Refer to note 3, "Separation of Kyndryl," for additional information.

In the first quarter of 2022, the company realigned its management structure to reflect the planned divestiture of its healthcare software assets which was completed in the second quarter of 2022. This change impacted the company's Software segment and Other–divested businesses category. In the fourth quarter of 2021, immediately prior to the separation of Kyndryl, the company made a number of changes to its organizational structure and management system.

These changes impacted the company's reportable segments but did not impact the Consolidated Financial Statements. Refer to note 5, "Segments," for additional information on the company's reportable segments. The segments are reported on a comparable basis for all periods.

To provide useful decision-making information for management and shareholders, the company defines and measures hybrid cloud revenue as end-to-end cloud capabilities within hybrid cloud environments, which includes technology (software and hardware), services and solutions to enable clients to implement cloud solutions across public, private and multi-clouds. The definition of hybrid cloud revenue is consistent with the prior methodology for cloud revenue historically presented. This spans across IBM's Consulting, Software and Infrastructure segments. Examples include (but are not limited to) Red Hat Enterprise Linux (RHEL), Red Hat OpenShift, Cloud Paks, as-a-service offerings, service engagements related to cloud deployment of technology and applications, and infrastructure used in cloud deployments.

Within the 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. This is annotated where applicable.

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 we refer to growth rates at constant currency or adjust 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 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.

Operating (non-GAAP) Earnings:

In an effort to provide better transparency into the operational results of the business, supplementally, management 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, certain impacts from the Kyndryl separation 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 and any changes to regulations, laws, audit adjustments, etc. that affect the recorded one-time charge. Management also characterizes direct and incremental charges incurred related to the Kyndryl separation as non-operating given their unique and non-recurring nature. These charges primarily relate to any net unrealized gains or losses on the Kyndryl common stock and the related cash-settled swap with a third-party financial institution, which are recorded in other (income) and expense in the Consolidated Income Statement. The Kyndryl shares were retained by the company immediately following the separation, with the intent to dispose of such shares within twelve months after the distribution. 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. We include 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. In addition, these non-GAAP measures provide a perspective consistent with areas of interest we routinely receive from investors and analysts. Our reportable segment financial results reflect pre-tax operating earnings from continuing operations, consistent with our management and measurement system.

The following table provides the company's operating (non-GAAP) earnings for the second quarter of 2022 and 2021.

(Dollars in millions except per share amounts) **For the three months ended June 30:**	**2022**	**2021**	**Yr. to Yr. Percent Change**
Net income as reported	$ 1,392	$ 1,325	5.1 %
Income/(loss) from discontinued operations, net of tax	(73)	515	nm
Income from continuing operations	$ 1,465	$ 810	80.8 %
Non-operating adjustments (net of tax):			
Acquisition-related charges	$ 345	$ 368	(6.2)%
Non-operating retirement-related costs/(income)	146	264	(44.8)
U.S. tax reform impacts	4	14	(70.4)
Kyndryl-related impacts	145	—	nm
Operating (non-GAAP) earnings*	$ 2,105	$ 1,456	44.6 %
Diluted operating (non-GAAP) earnings per share*	$ 2.31	$ 1.61	43.5 %

* Refer to page 91 for a more detailed reconciliation of net income to operating earnings and operating earnings per share.
nm - not meaningful

Macroeconomic Environment:

The geopolitical situation in Eastern Europe intensified in February 2022, with Russia's invasion of Ukraine. The safety and security of our employees and their families in the impacted regions has been our primary focus. We have provided our employees with relocation assistance, financial support and other forms of direct engagement and IBM employees from around the world have mobilized and participated in multiple volunteer initiatives, showcasing the best of IBM values and culture.

The Russian war in Ukraine resulted in the U.S., UK, and the European Union member governments, among others, placing economic sanctions on numerous Russian entities, specific Russian-controlled entities, as well as Belarus. In March 2022, IBM announced the suspension of its business activities in Russia. As the uncertainty about the long-term ramifications of the war grew, in May 2022, IBM made the decision to carry out an orderly wind-down of its Russian operations. For the period ended June 30, 2022, we assessed certain accounting-related matters that generally require consideration of current information reasonably available to us and forecasted financial data in the context of unknown future impacts to IBM as a result of the wind-down. These assessments resulted in certain immaterial asset and restructuring charges for the quarter ended June 30, 2022. These charges, together with the year-to-year lost business due to the wind-down, impacted our pre-tax income by approximately $100 million for the three months ended June 30,

2022. The long-term impacts of the Russian war in Ukraine remain uncertain; however, we do not expect a significant impact on the company's future results of operations or financial position. For full year 2021, Russia, Ukraine and Belarus made up less than one percent of the company's full year revenue. While the revenue impact is not expected to be material to total consolidated IBM revenue for the full year 2022, the business in Russia has historically been high margin and therefore, will continue to be a headwind to our profit and cash flows.

In the third year of the COVID-19 pandemic, our priority continues to be the health of IBM employees, our clients, business partners and community. The pandemic has reinforced the need for clients to modernize their businesses to succeed in this new normal, with hybrid cloud and AI at the core of their digital transformations. The spending environment continues to be strong, and we remain focused on providing the technology and consulting services that our clients need to accelerate their digital organizations and emerge from the pandemic even stronger.

Financial Performance Summary — Three Months Ended June 30:

In the second quarter of 2022, we reported $15.5 billion in revenue, income from continuing operations of $1.5 billion and operating (non-GAAP) earnings of $2.1 billion. Diluted earnings per share from continuing operations was $1.61 as reported and $2.31 on an operating (non-GAAP) basis. On a consolidated basis, we generated $1.3 billion in cash from operations and $2.1 billion in free cash flow. We delivered shareholder returns of $1.5 billion in dividends. These results reflect the investments, portfolio actions and operational changes we have made to execute our hybrid cloud and AI strategy and the strong demand for our solutions. Our balance sheet continues to provide us with the flexibility to support our business needs.

Total revenue grew 9.3 percent as reported and 16 percent adjusted for currency compared to the prior-year period. This includes incremental sales to Kyndryl which contributed approximately 5 points to the revenue growth. Software delivered revenue growth of 6.4 percent as reported and 12 percent adjusted for currency, including approximately 7 points of growth from incremental sales to Kyndryl. Within Software, Hybrid Platform & Solutions increased 4.3 percent as reported and 9 percent adjusted for currency, with incremental sales to Kyndryl contributing approximately 1.5 points of this growth. There was solid performance across all business areas, led by continued strong double-digit growth in Red Hat. Transaction Processing grew 11.9 percent as reported and 19 percent adjusted for currency, including approximately 22 points of growth from incremental Kyndryl sales. Consulting revenue increased 9.8 percent as reported and 18 percent adjusted for currency, with strong growth across all three business lines and geographies. Infrastructure revenue increased 19.0 percent year to year as reported and 25 percent adjusted for currency reflecting the solid execution around our new z16 program. The Infrastructure revenue performance also includes approximately 7 points of growth from incremental sales to Kyndryl. Across the segments, total hybrid cloud revenue of $5.9 billion in the second quarter of 2022 grew 18 percent as reported and 24 percent adjusted for currency. Over the trailing 12 months, total hybrid cloud revenue was $21.7 billion, up 16 percent as reported (19 percent adjusted for currency) year to year.

From a geographic perspective, Americas revenue grew 14.3 percent year to year as reported (15 percent adjusted for currency). Europe/Middle East/Africa (EMEA) increased 4.9 percent (17 percent adjusted for currency). Asia Pacific grew 3.1 percent (15 percent adjusted for currency).

Gross margin of 53.4 percent decreased 1.9 points year to year, however, gross profit dollars grew compared to the prior-year period driven by strong revenue performance in our high-value businesses. Overall, gross margin was impacted by escalating labor and component costs. These higher costs are being addressed through our pricing, however, it will take some time for these actions to be reflected in our margin profile. Operating (non-GAAP) gross margin of 54.5 percent decreased 2.0 points compared to the prior year for similar reasons.

Total expense and other (income) decreased 5.4 percent in the second quarter of 2022 versus the prior-year period primarily driven by the effects of currency, a gain from the divestiture of our healthcare software assets, lower non-operating retirement-related costs and benefits from the actions taken to streamline operations and simplify our go-to-market model. This was partially offset by impacts related to the Kyndryl retained shares and higher spending reflecting our continuing investment in innovation, talent and our ecosystem. Total operating (non-GAAP) expense and other

(income) decreased 6.0 percent year to year, driven primarily by the factors described above excluding the lower non-operating retirement-related costs and the impacts related to the Kyndryl retained shares.

Pre-tax income from continuing operations of $1.7 billion increased 88.8 percent and pre-tax margin was 11.1 percent, an increase of 4.7 points versus the second quarter of 2021. Our pre-tax income includes a gain from the sale of our healthcare software assets of $232 million, which was partially offset by charges from stranded costs associated with the divestiture and losses related to the health business of approximately $75 million. In addition, the orderly wind-down of our Russian operations also had an impact on our pre-tax income in the current-year period. The continuing operations provision for income taxes in the second quarter of 2022 was $257 million compared to $101 million in the second quarter of 2021. The current-year and prior-year tax provisions were driven by many factors including the impacts of the geographical mix of income, incentives and changes in unrecognized tax benefits. Net income from continuing operations of $1.5 billion increased 80.8 percent and the net income from continuing operations margin was 9.4 percent, up 3.7 points year to year.

Operating (non-GAAP) pre-tax income from continuing operations of $2.5 billion increased 47.9 percent and the operating (non-GAAP) pre-tax margin from continuing operations increased 4.2 points to 16.2 percent. The operating (non-GAAP) income tax provision for the second quarter of 2022 was $413 million, compared to $246 million in the second quarter of 2021. The current-year and prior-year tax provisions were driven by the same factors described above. Operating (non-GAAP) income from continuing operations of $2.1 billion increased 44.6 percent and the operating (non-GAAP) income margin from continuing operations of 13.5 percent was up 3.3 points year to year.

Diluted earnings per share from continuing operations was $1.61 in the second quarter of 2022 compared to $0.90 in the prior year, an increase of 78.9 percent and operating (non-GAAP) diluted earnings per share of $2.31 increased 43.5 percent versus the prior-year period.

Consolidated diluted earnings per share in the second quarter of 2022 was $1.53 compared to $1.47 in the prior-year period. This includes a year-to-year reduction of $0.65 from discontinued operations due to the separation of Kyndryl.

Our cash flows from operating, investing and financing activities, as reflected in the Consolidated Statement of Cash Flows, include the cash flows of discontinued operations. On a consolidated basis, cash provided by operating activities was $1.3 billion in the second quarter of 2022, a decrease of $1.3 billion compared to the second quarter of 2021, primarily driven by a decrease in cash provided by financing receivables. Investing activities were a net source of cash of $0.2 billion in the current quarter, compared to a net use of cash of $2.7 billion in the prior-year period, with the year-to-year change primarily driven by a decrease in net cash used in acquisitions and an increase in cash provided by divestitures. Net cash used in financing activities of $4.2 billion in the second quarter of 2022 increased $1.1 billion compared to the prior-year period.

Financial Results Summary —Six Months Ended June 30:

(Dollars and shares in millions except per share amounts) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent/ Margin Change
Revenue	$ 29,732	$ 27,405	8.5 %*
Gross profit margin	52.6 %	54.3 %	(1.7)pts.
Total expense and other (income)	$ 13,280	$ 13,724	(3.2)%
Income from continuing operations before income taxes	$ 2,345	$ 1,155	103.0 %
Provision for/(benefit from) income taxes from continuing operations	$ 218	$ (58)	nm
Income from continuing operations	$ 2,127	$ 1,213	75.3 %
Income from continuing operations margin	7.2 %	4.4 %	2.7 pts.
Income/(loss) from discontinued operations, net of tax	$ (2)	$ 1,067	nm
Net income	$ 2,125	$ 2,280	(6.8)%
Earnings per share from continuing operations - assuming dilution	$ 2.34	$ 1.34	74.6 %
Consolidated earnings per share - assuming dilution	$ 2.34	$ 2.52	(7.1)%
Weighted-average shares outstanding - assuming dilution	910.0	903.0	0.8 %
	At 6/30/2022	At 12/31/2021	
Assets	$ 127,503	$ 132,001	(3.4)%
Liabilities	$ 108,026	$ 113,005	(4.4)%
Equity	$ 19,476	$ 18,996	2.5 %

* 13.3 percent adjusted for currency.
nm - not meaningful

The following table provides the company's operating (non-GAAP) earnings for the first six months of 2022 and 2021.

(Dollars in millions except per share amounts) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Net income as reported	$ 2,125	$ 2,280	(6.8)%
Income/(loss) from discontinued operations, net of tax	(2)	1,067	nm
Income from continuing operations	$ 2,127	$ 1,213	75.3 %
Non-operating adjustments (net of tax):			
Acquisition-related charges	$ 704	$ 699	0.8 %
Non-operating retirement-related costs/(income)	290	563	(48.5)
U.S. tax reform impacts	(112)	(6)	nm
Kyndryl-related impacts	367	—	nm
Operating (non-GAAP) earnings*	$ 3,376	$ 2,469	36.7 %
Diluted operating (non-GAAP) earnings per share*	$ 3.71	$ 2.73	35.9 %

* Refer to page 92 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 2022, we reported $29.7 billion in revenue, income from continuing operations of $2.1 billion and operating (non-GAAP) earnings of $3.4 billion. Diluted earnings per share from continuing operations was $2.34 as reported and $3.71 on an operating (non-GAAP) basis. On a consolidated basis, we generated $4.6 billion in cash from operations and $3.3 billion in free cash flow. We delivered shareholder returns of $3.0 billion in dividends.

Total revenue grew 8.5 percent as reported and 13 percent adjusted for currency compared to the prior-year period. This includes incremental sales to Kyndryl which contributed 5 points to the revenue growth. Software delivered revenue growth of 9.2 percent as reported and 13 percent adjusted for currency, with growth in both Hybrid Platform & Solutions and Transaction Processing. The Software revenue performance includes approximately 8 points of growth from incremental sales to Kyndryl. Consulting revenue increased 11.5 percent as reported and 18 percent adjusted for currency, with growth across all three business areas. Infrastructure revenue increased 8.8 percent year to year as reported and 13 percent adjusted for currency, with approximately 8 points of growth from incremental sales to Kyndryl.

From a geographic perspective, Americas revenue grew 11.8 percent year to year as reported (12 percent adjusted for currency). EMEA increased 6.3 percent (16 percent adjusted for currency). Asia Pacific grew 3.9 percent (13 percent adjusted for currency).

Gross margin of 52.6 percent decreased 1.7 points year to year, however, gross profit dollars grew compared to the prior-year period. Overall, gross margin was impacted by the significant investments we are making to drive our hybrid cloud and AI strategy and by higher labor and component costs. Operating (non-GAAP) gross margin of 53.8 percent decreased 1.8 points versus the prior year for similar reasons.

Total expense and other (income) decreased 3.2 percent in the first six months of 2022 versus the prior-year period primarily driven by the effects of currency, a gain from the divestiture of our healthcare software assets, lower non-operating retirement-related costs, benefits from the actions taken to streamline operations and simplify our go-to-market model and lower spending for shared services transferred to Kyndryl. This was partially offset by impacts related to the Kyndryl retained shares and higher spending reflecting our continuing investment in innovation, our ecosystem and talent. Total operating (non-GAAP) expense and other (income) decreased 4.3 percent year to year, driven primarily by the factors described above excluding the lower non-operating retirement-related costs and the impacts related to the Kyndryl retained shares.

Pre-tax income from continuing operations of $2.3 billion increased 103.0 percent and pre-tax margin was 7.9 percent, an increase of 3.7 points versus the first six months of 2021. The continuing operations provision for income taxes in the first six months of 2022 was $218 million, compared to a benefit from income taxes of $58 million in the first six months of 2021. The increase in the continuing operations tax provision in the first six months of 2022 compared to the prior year was primarily driven by tax impacts from the resolution of certain tax audits in the first quarter of 2021. Net income from continuing operations of $2.1 billion increased 75.3 percent and the net income from continuing operations margin was 7.2 percent, up 2.7 points year to year.

Operating (non-GAAP) pre-tax income from continuing operations of $4.0 billion increased 47.2 percent and the operating (non-GAAP) pre-tax margin from continuing operations increased 3.6 points to 13.6 percent. The operating (non-GAAP) provision for income taxes was $657 million in the first six months of 2022, compared to $272 million in the first six months of 2021. The increase in the operating (non-GAAP) income tax provision in the first six months of 2022 compared to the prior year was primarily driven by the same factor described above. Operating (non-GAAP) income from continuing operations of $3.4 billion increased 36.7 percent and the operating (non-GAAP) income margin from continuing operations of 11.4 percent was up 2.3 points year to year.

Diluted earnings per share from continuing operations was $2.34 in the first six months of 2022 compared to $1.34 in the prior year, an increase of 74.6 percent and operating (non-GAAP) diluted earnings per share of $3.71 increased 35.9 percent versus the prior-year period.

Consolidated diluted earnings per share in the first six months of 2022 was $2.34 compared to $2.52 in the prior-year period. This includes a year-to-year reduction of $1.18 from discontinued operations due to the separation of Kyndryl.

Our balance sheet at June 30, 2022 continues to provide us with the flexibility to support the business. Cash and cash equivalents, restricted cash and marketable securities at June 30, 2022 were $7.8 billion, an increase of $0.2 billion from December 31, 2021. Total debt of $50.3 billion at June 30, 2022 decreased $1.4 billion primarily driven by currency impacts.

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

Total assets decreased $4.5 billion ($1.0 billion adjusted for currency) from December 31, 2021 driven by:

- A decrease in receivables of $1.9 billion ($1.0 billion adjusted for currency) primarily due to collections of higher year-end balances;
- A decrease in goodwill and net intangible assets of $1.5 billion ($0.4 billion adjusted for currency) primarily driven by currency impacts, intangibles amortization and derecognition of goodwill and intangible assets of $0.6 billion related to the divestiture of our healthcare software assets; and
- A decrease in net property, plant and equipment and operating right-of-use assets of $0.8 billion ($0.5 billion adjusted for currency); partially offset by
- An increase in cash and cash equivalents, restricted cash and marketable securities of $0.2 billion ($0.6 billion adjusted for currency).

Total liabilities decreased $5.0 billion ($0.6 billion adjusted for currency) from December 31, 2021 driven by:

- A decrease in total debt of $1.4 billion ($0.1 billion adjusted for currency) primarily driven by maturities and currency impacts, partially offset by issuances;
- A decrease in retirement and nonpension postretirement benefit obligations of $1.3 billion ($0.6 billion adjusted for currency); and
- A decrease in taxes payable of $0.5 billion ($0.4 billion adjusted for currency) primarily due to indirect tax payments.

Total equity of $19.5 billion increased $0.5 billion from December 31, 2021 as a result of:

- Net income of $2.1 billion;
- A decrease in accumulated other comprehensive losses of $1.1 billion driven by retirement-related benefit plans, cash flow hedges and foreign currency translation adjustments; and
- Common stock of $0.4 billion; partially offset by
- Dividends paid of $3.0 billion.

Our cash flows from operating, investing and financing activities, as reflected in the Consolidated Statement of Cash Flows, include the cash flows of discontinued operations. On a consolidated basis, cash provided by operating activities was $4.6 billion in the first six months of 2022, a decrease of $3.0 billion compared to the first six months of 2021, primarily driven by a decrease in cash provided by financing receivables. Net cash used in investing activities of $1.2 billion decreased $3.5 billion compared to the prior-year period. Financing activities were a net use of cash of $2.8 billion in the first six months of 2022 compared to $8.9 billion in the first six months of 2021.

Second Quarter and First Six Months in Review

Results of Continuing Operations

As discussed in the "Organization of Information" section, with the completion of the separation on November 3, 2021, results of Kyndryl are reported as discontinued operations. Prior periods have been reclassified to conform to this presentation in the Management Discussion to allow for a meaningful comparison of continuing operations.

Segment Details

The following tables present each reportable segment's revenue and gross margin results, followed by an analysis of the second quarter and first six months of 2022 versus the second quarter and first six months of 2021 reportable segments results. Prior-year results have been recast to conform with the changes as described in the "Organization of Information" section.

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Software	$ 6,166	$ 5,795	6.4 %	11.6 %
Gross margin	79.2 %	79.7 %	(0.5)pts.	
Consulting	4,809	4,378	9.8 %	17.8 %
Gross margin	24.2 %	27.6 %	(3.4)pts.	
Infrastructure	4,235	3,560	19.0 %	25.4 %
Gross margin	53.8 %	57.1 %	(3.3)pts.	
Financing	146	209	(29.9)%	(26.6)%
Gross margin	35.3 %	29.9 %	5.3 pts.	
Other	180	277	(34.9)%	(31.1)%
Gross margin	(49.3)%	(25.2)%	(24.1)pts.	
Total revenue	$ 15,535	$ 14,218	9.3 %	15.6 %
Total gross profit	$ 8,290	$ 7,852	5.6 %	
Total gross margin	53.4 %	55.2 %	(1.9)pts.	
Non-operating adjustments:				
Amortization of acquired intangible assets	180	179	0.6 %	
Operating (non-GAAP) gross profit	$ 8,470	$ 8,031	5.5 %	
Operating (non-GAAP) gross margin	54.5 %	56.5 %	(2.0)pts.	

* Recast to reflect segment changes.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Software	$ 11,938	$ 10,933	9.2 %	13.4 %
Gross margin	79.0 %	78.8 %	0.3 pts.	
Consulting	9,637	8,641	11.5 %	17.6 %
Gross margin	24.3 %	27.7 %	(3.5)pts.	
Infrastructure	7,453	6,853	8.8 %	13.4 %
Gross margin	52.4 %	56.7 %	(4.4)pts.	
Financing	300	417	(28.0)%	(25.5)%
Gross margin	36.5 %	32.7 %	3.8 pts.	
Other	404	561	(28.0)%	(25.0)%
Gross margin	(40.2)%	(27.4)%	(12.8)pts.	
Total revenue	$ 29,732	$ 27,405	8.5 %	13.3 %
Total gross profit	$ 15,625	$ 14,879	5.0 %	
Total gross margin	52.6 %	54.3 %	(1.7)pts.	
Non-operating adjustments:				
Amortization of acquired intangible assets	361	353	2.3 %	
Operating (non-GAAP) gross profit	$ 15,986	$ 15,232	5.0 %	
Operating (non-GAAP) gross margin	53.8 %	55.6 %	(1.8)pts.	

* Recast to reflect segment changes.

Software

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Software revenue:	$ 6,166	$ 5,795	6.4 %	11.6 %
Hybrid Platform & Solutions	$ 4,390	$ 4,208	4.3 %	9.0 %
Red Hat			11.9	16.9
Automation			3.6	8.4
Data & AI			0.4	4.5
Security			0.0	5.0
Transaction Processing	1,776	1,587	11.9	18.7

* Recast to reflect segment changes.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Software revenue:	$ 11,938	$ 10,933	9.2 %	13.4 %
Hybrid Platform & Solutions	$ 8,470	$ 8,008	5.8 %	9.5 %
Red Hat			14.9	18.9
Automation			3.3	7.0
Data & AI			1.2	4.4
Security			2.5	6.5
Transaction Processing	3,468	2,925	18.6	24.1

* Recast to reflect segment changes.

Software revenue of $6,166 million increased 6.4 percent as reported (12 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period. This includes incremental sales to Kyndryl which contributed approximately 7 points to the revenue growth. Software subscription and support renewal rates continued to grow this quarter, contributing to our solid and growing recurring revenue base. Within Software, over the trailing 12 months, hybrid cloud revenue of $9,044 million grew 20 percent as reported (23 percent adjusted for currency) year to year, driven by growth in our hybrid cloud and AI capabilities.

Hybrid Platform & Solutions revenue of $4,390 million increased 4.3 percent as reported (9 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period. Incremental sales to Kyndryl contributed approximately 1.5 points to the revenue growth. We had solid performance across all business areas. Red Hat revenue grew 11.9 percent as reported (17 percent adjusted for currency) in the second quarter of 2022, reflecting new adoption and expansion of RHEL and OpenShift. Automation revenue grew 3.6 percent as reported (8 percent adjusted for currency), reflecting solid performance in AIOps and Management and Integration, which demonstrates the importance of automation in the IT journeys of our clients. We had strength in offerings, such as Turbonomic and Instana for observability, Cloud Pak for Watson AIOps, and our modern integration platform, Cloud Pak for Integration. Data & AI revenue increased 0.4 percent as reported (4 percent adjusted for currency), led by demand for Data Fabric, Data Management, and Asset & Supply Chain Management solutions. Security revenue was flat as reported, but grew 5 percent adjusted for currency, driven by growth in Threat Management and Identity, as enterprises continue to adopt a zero-trust security strategy and implement additional identity controls.

For the second quarter of 2022, Hybrid Platform & Solutions grew annual recurring revenue (ARR) by 8 percent compared to the prior-year period. ARR is a key performance metric management uses to assess the health and growth trajectory of our Hybrid Platform & Solutions business within the Software segment. ARR is calculated by estimating the current quarter's recurring, committed value for certain types of active contracts as of the period-end date and then multiplying that value by four. This value is based on each arrangement's contract value and start date, mitigating fluctuations during the contract term, and includes the following consumption models: (1) software subscription agreements, including committed term licenses, (2) as-a-service arrangements such as SaaS and PaaS, (3) maintenance and support contracts, and (4) security managed services contracts. ARR should be viewed independently of revenue as this performance metric and its inputs may not represent the amount of revenue recognized in the period and therefore is not intended to represent current period revenue or revenue that will be recognized in future periods. ARR is calculated at estimated constant currency.

Transaction Processing revenue of $1,776 million increased 11.9 percent as reported (19 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period. Incremental sales to Kyndryl contributed approximately 22 points to the revenue growth. We continued to have strong renewal rates for this mission-critical software.

For the first six months of 2022, Software revenue of $11,938 million increased 9.2 percent as reported (13 percent adjusted for currency) compared to the same period in 2021. Incremental sales to Kyndryl contributed approximately 8 points to the revenue growth. We had growth in Hybrid Platform & Solutions and Transaction Processing during the first six months of 2022, with all of the Transaction Processing revenue growth driven by sales to Kyndryl.

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Software:			
Gross profit	$ 4,884	$ 4,617	5.8 %
Gross profit margin	79.2 %	79.7 %	(0.5)pts.
Pre-tax income	$ 1,375	$ 1,059	29.9 %
Pre-tax margin	22.3 %	18.3 %	4.0 pts.

* Recast to reflect segment changes.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Software:			
Gross profit	$ 9,434	$ 8,612	9.5 %
Gross profit margin	79.0 %	78.8 %	0.3 pts.
Pre-tax income	$ 2,509	$ 1,717	46.2 %
Pre-tax margin	21.0 %	15.7 %	5.3 pts.

* Recast to reflect segment changes.

Software gross profit margin decreased 0.5 points to 79.2 percent in the second quarter of 2022 compared to the prior-year period, driven primarily by profit margin declines in software and services. For the first six months of 2022, gross profit margin increased 0.3 points to 79.0 percent, driven primarily by a mix to software, partially offset by a margin decline in services.

In the second quarter, pre-tax income of $1,375 million increased 29.9 percent and pre-tax margin of 22.3 percent increased 4.0 points compared to the prior year. We continued to expand our pre-tax margin given the solid revenue growth and new Kyndryl commercial relationship. For the first six months of 2022, pre-tax income of $2,509 million increased 46.2 percent and pre-tax margin increased 5.3 points to 21.0 percent compared to the prior-year period, driven by the year-to-year increase in gross profit contribution reflecting our solid revenue growth.

Consulting

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Consulting revenue:	$ 4,809	$ 4,378	9.8 %	17.8 %
Business Transformation	$ 2,227	$ 2,049	8.7 %	16.1 %
Technology Consulting	928	814	14.0	22.6
Application Operations	1,653	1,514	9.2	17.4

* Recast to reflect segment change.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Consulting revenue:	$ 9,637	$ 8,641	11.5 %	17.6 %
Business Transformation	$ 4,482	$ 4,002	12.0 %	17.7 %
Technology Consulting	1,884	1,649	14.2	20.7
Application Operations	3,272	2,989	9.5	15.8

* Recast to reflect segment change.

Consulting revenue of $4,809 million grew 9.8 percent as reported (18 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period, with strong revenue growth across all business areas and geographies. We maintained a solid book-to-bill ratio of 1.1 on a trailing twelve-month basis, as clients continued to choose to co-create with IBM, trusting our deep industry expertise. The expansion of our skills, capabilities, and ecosystems are enabling us to capture demand as we drive adoption of our hybrid cloud platform and help clients with their digital transformations. Within Consulting, over the trailing 12 months, hybrid cloud revenue of $8,650 million grew 28 percent as reported (32 percent adjusted for currency) year to year. The momentum behind our Red Hat practice remains strong, as we nearly doubled our Red Hat consulting revenue in the second quarter and continued to have solid growth in Red Hat consulting signings. Our strategic partnerships also contributed to our performance in the second quarter, with solid double-digit revenue growth from these partnerships, led by Azure, AWS, SAP and Salesforce.

In the second quarter of 2022, Business Transformation revenue of $2,227 million increased 8.7 percent as reported (16 percent adjusted for currency) on a year-to-year basis, as clients looked to IBM to help them transform critical workflows at scale. This growth was led by our offerings focused on customer experience transformation, data transformation and our SAP practices.

Technology Consulting revenue of $928 million increased 14.0 percent as reported (23 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period, led by our cloud modernization and cloud application development offerings, as well as on-prem modernization, which also contributed to the strong revenue performance in the quarter.

Application Operations revenue of $1,653 million increased 9.2 percent as reported (17 percent adjusted for currency) compared to the second quarter of 2021, with solid growth across our cloud offerings, partially offset by declines in on-prem offerings. We are providing the cloud platform and application management services our clients require to run their hybrid cloud environments.

For the first six months of 2022, Consulting revenue of $9,637 million increased 11.5 percent as reported (18 percent adjusted for currency) reflecting strong year-to-year growth across all three business areas.

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Consulting:			
Gross profit	$ 1,163	$ 1,209	(3.8)%
Gross profit margin	24.2 %	27.6 %	(3.4)pts.
Pre-tax income	$ 343	$ 270	26.9 %
Pre-tax margin	7.1 %	6.2 %	1.0 pts.

* Recast to reflect segment change.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Consulting:			
Gross profit	$ 2,339	$ 2,396	(2.4)%
Gross profit margin	24.3 %	27.7 %	(3.5)pts.
Pre-tax income	$ 691	$ 547	26.3 %
Pre-tax margin	7.2 %	6.3 %	0.8 pts.

* Recast to reflect segment change.

Consulting gross profit margin of 24.2 percent decreased 3.4 points in the second quarter of 2022 compared to the same period in 2021, reflecting the significant investments we have been making to capture demand and fuel our revenue growth. We continued to invest in our partner ecosystem, scale acquisitions and add skills. Our Consulting business is most impacted by the inflationary labor market and increasing labor costs to acquire new talent and increase capacity. We are starting to capture these higher costs in our pricing, however, given the timing between contract signing and revenue recognition, it takes time to realize the impacts in our margin performance. For the first six months of 2022, Consulting gross profit margin of 24.3 percent decreased 3.5 points compared to the prior-year period, reflecting the same dynamics described above.

Pre-tax income of $343 million increased 26.9 percent and pre-tax margin of 7.1 percent increased 1.0 points in the second quarter of 2022 compared to the prior-year period as a result of the actions we have taken to streamline our operations and go-to-market structure. For the first six months of 2022, pre-tax income of $691 million increased 26.3 percent and pre-tax margin of 7.2 percent increased 0.8 points compared to the prior-year period, reflecting the benefits of the actions described above.

Consulting Signings and Book-to-Bill

(Dollars in millions) For the three months ended June 30:	2022	2021	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Consulting signings	$ 4,654	$ 4,655	0.0 %	7.4 %

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Consulting signings	$ 9,791	$ 8,451	15.9 %	22.4 %

Signings are management's initial estimate of the value of a client's commitment under a services contract within IBM Consulting. 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.

Contract extensions and increases in scope are treated as signings only to the extent of the incremental new value. Total 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. Signings associated with an acquisition will be recognized on a prospective basis.

Management believes the estimated values of signings disclosed provide an indication of our forward-looking revenue. Signings are used to monitor the performance of the business and viewed as useful information for management and shareholders. The conversion of signings into revenue may vary based on the types of services and solutions,

contract duration, customer decisions, and other factors, which may include, but are not limited to, the macroeconomic environment.

Book-to-bill represents the ratio of IBM Consulting signings to its revenue over the same period. The metric is a useful indicator of the demand of our business over time. This definition should be read in conjunction with the signings definition noted above.

Infrastructure

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Infrastructure revenue:	$ 4,235	$ 3,560	19.0 %	25.4 %
Hybrid Infrastructure	$ 2,760	$ 2,059	34.1 %	40.7 %
zSystems			69.1	76.9
Distributed Infrastructure			11.5	17.4
Infrastructure Support	1,474	1,501	(1.8)	4.5

* Recast to reflect segment change.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Infrastructure revenue:	$ 7,453	$ 6,853	8.8 %	13.4 %
Hybrid Infrastructure	$ 4,461	$ 3,841	16.1 %	20.7 %
zSystems			27.6	32.4
Distributed Infrastructure			8.6	13.0
Infrastructure Support	2,993	3,012	(0.7)	4.1

* Recast to reflect segment change.

Infrastructure revenue of $4,235 million increased 19.0 percent as reported (25 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period. This includes incremental sales to Kyndryl which contributed approximately 7 points to the revenue growth. The revenue growth in the quarter was driven primarily by strong client acceptance of the new IBM z16 mainframe and aligned storage systems. Within Infrastructure, over the trailing 12 months, hybrid cloud revenue of $3,719 million decreased 7 percent as reported (5 percent adjusted for currency) year to year, driven primarily by product cycle dynamics.

Hybrid Infrastructure revenue of $2,760 million increased 34.1 percent as reported (41 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period. Incremental sales to Kyndryl contributed approximately 7 points to the revenue growth. Within Hybrid Infrastructure, zSystems revenue grew 69.1 percent as reported (77 percent adjusted for currency) on a year-to-year basis, reflecting solid execution around our z16 program, building on the momentum from the z15 program. The z16 brings the power of embedded AI at scale, cyber-resilient security and cloud-native development for hybrid cloud to our clients. We saw growth in new workloads, such as Linux, and demand for the z16 AI capabilities including real-time fraud detection that leverages the on-chip AI accelerator. Clients are investing in the zSystems platform as an essential part of their hybrid cloud infrastructure. Distributed Infrastructure revenue grew 11.5 percent as reported (17 percent adjusted for currency), led by Storage, including high-end storage which is tied to the z16, and distributed storage. Power revenue declined year to year as reported, but grew adjusted for currency, driven primarily by growth in high-end Power10, partially offset by declines in the low-end and midrange systems. Recently, we announced the expansion of our Power10 server platform designed to deliver flexible and secured infrastructure for hybrid cloud environments.

Infrastructure Support revenue of $1,474 million decreased 1.8 percent as reported, but grew 5 percent adjusted for currency in the second quarter of 2022 compared to the prior-year period. This includes incremental sales to Kyndryl which contributed approximately 8 points of revenue growth for the quarter.

For the first six months of 2022, Infrastructure revenue of $7,453 million increased 8.8 percent as reported (13 percent adjusted for currency) compared to the prior-year period. Incremental sales to Kyndryl contributed approximately 8 points of revenue growth in the first six months of 2022.

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Infrastructure:			
Gross profit	$ 2,280	$ 2,033	12.1 %
Gross profit margin	53.8 %	57.1 %	(3.3)pts.
Pre-tax income	$ 757	$ 489	54.8 %
Pre-tax margin	17.9 %	13.7 %	4.1 pts.

* Recast to reflect segment change.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent/ Margin Change
Infrastructure:			
Gross profit	$ 3,905	$ 3,889	0.4 %
Gross profit margin	52.4 %	56.7 %	(4.4)pts.
Pre-tax income	$ 956	$ 780	22.5 %
Pre-tax margin	12.8 %	11.4 %	1.4 pts.

* Recast to reflect segment change.

Infrastructure gross profit margin decreased 3.3 points to 53.8 percent in the second quarter of 2022 compared to the prior-year period, driven primarily by profit margin declines and product mix across Hybrid Infrastructure and Infrastructure Support. For the first six months of 2022, gross profit margin decreased 4.4 points to 52.4 percent compared to the prior-year period, driven by the same factors as the second quarter.

In the second quarter of 2022, Infrastructure pre-tax income of $757 million increased 54.8 percent and pre-tax margin increased 4.1 points to 17.9 percent compared to the prior-year period, reflecting mix benefits from the growth in zSystems, partially offset by the impact of increased component costs and supplier premiums. For the first six months of 2022, Infrastructure pre-tax income of $956 million increased 22.5 percent and pre-tax margin increased 1.4 points to 12.8 percent compared to the prior-year period, driven primarily by the same factors described above.

Financing

See pages 87 through 90 for a discussion of Financing’s segment results.

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:	2022	2021	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Revenue	$ 15,535	$ 14,218	9.3 %	15.6 %
Americas	$ 8,142	$ 7,122	14.3 %	14.7 %
Europe/Middle East/Africa (EMEA)	4,526	4,314	4.9	17.4
Asia Pacific	2,868	2,782	3.1	15.1

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Revenue	$ 29,732	$ 27,405	8.5 %	13.3 %
Americas	$ 15,198	$ 13,599	11.8 %	12.0 %
Europe/Middle East/Africa (EMEA)	8,757	8,242	6.3	15.7
Asia Pacific	5,778	5,563	3.9	13.2

Total revenue of $15,535 million increased 9.3 percent as reported (16 percent adjusted for currency) in the second quarter of 2022 compared to the prior-year period, which includes approximately 5 points of revenue growth from incremental sales to Kyndryl.

Americas revenue of $8,142 million increased 14.3 percent as reported (15 percent adjusted for currency), which includes approximately 3 points of revenue growth from incremental sales to Kyndryl. Within North America, the U.S. increased 13.6 percent and Canada increased 4.3 percent as reported (8 percent adjusted for currency). Latin America increased 33.0 percent as reported (32 percent adjusted for currency), with Brazil increasing 43.2 percent as reported (38 percent adjusted for currency).

In EMEA, total revenue of $4,526 million increased 4.9 percent as reported (17 percent adjusted for currency), which includes approximately 6 points of revenue growth from incremental sales to Kyndryl. Germany, the UK, Italy and France increased 6.5 percent, 6.3 percent, 1.5 percent and 0.8 percent, respectively, as reported, and increased 20 percent, 18 percent, 14 percent and 13 percent, respectively, adjusted for currency. The suspension and orderly wind-down of our Russian operations impacted the revenue growth rate in EMEA by 2.0 points as reported (2 points adjusted for currency).

Asia Pacific revenue of $2,868 million increased 3.1 percent as reported (15 percent adjusted for currency), which includes approximately 6 points of revenue growth from incremental sales to Kyndryl. Japan decreased 0.4 percent as reported, but grew 18 percent adjusted for currency. India and Australia increased 31.7 percent and 9.5 percent, respectively, as reported, and increased 38 percent and 18 percent, respectively, adjusted for currency. China decreased 12.8 percent as reported (11 percent adjusted for currency).

For the first six months of 2022, total revenue of $29,732 million increased 8.5 percent as reported (13 percent adjusted for currency) compared to the prior-year period, which includes approximately 5 points of revenue growth from incremental sales to Kyndryl.

Americas revenue of $15,198 million increased 11.8 percent as reported (12 percent adjusted for currency), which includes approximately 4 points of revenue growth from incremental sales to Kyndryl. Within North America, the U.S. increased 10.4 percent and Canada increased 6.0 percent as reported (8 percent adjusted for currency). Latin America increased 29.6 percent as reported (29 percent adjusted for currency), with Brazil increasing 35.2 percent as reported (30 percent adjusted for currency).

In EMEA, total revenue of $8,757 million increased 6.3 percent as reported (16 percent adjusted for currency), which includes approximately 7 points of revenue growth from incremental sales to Kyndryl. The UK, Germany and France increased 10.4 percent, 7.4 percent and 5.7 percent, respectively, as reported, and increased 18 percent, 18 percent and 16 percent, respectively, adjusted for currency. Italy declined 1.0 percent as reported, but grew 9 percent adjusted for currency. The suspension and orderly wind-down of our Russian operations impacted the revenue growth rate in EMEA by 1.6 points as reported (2 points adjusted for currency).

Asia Pacific revenue of $5,778 million increased 3.9 percent as reported (13 percent adjusted for currency), which includes approximately 6 points of revenue growth from incremental sales to Kyndryl. Japan increased 1.8 percent as reported (16 percent adjusted for currency). India and Australia increased 28.7 percent and 10.4 percent, respectively, as reported, and increased 34 percent and 19 percent, respectively, adjusted for currency. China decreased 12 percent as reported and adjusted for currency.

Expense

Total Expense and Other (Income)

(Dollars in millions) For the three months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Total expense and other (income)	$ 6,568	$ 6,940	(5.4)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (278)	$ (276)	0.6 %
Acquisition-related charges	(2)	(18)	(90.8)
Non-operating retirement-related (costs)/income	(192)	(317)	(39.5)
Kyndryl-related impacts	(145)	—	nm
Operating (non-GAAP) expense and other (income)	$ 5,952	$ 6,329	(6.0)%
Total expense-to-revenue ratio	42.3 %	48.8 %	(6.5)pts.
Operating (non-GAAP) expense-to-revenue ratio	38.3 %	44.5 %	(6.2)pts.

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Total expense and other (income)	$ 13,280	$ 13,724	(3.2)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (558)	$ (549)	1.5 %
Acquisition-related charges	(9)	(34)	(74.8)
Non-operating retirement-related (costs)/income	(394)	(649)	(39.4)
Kyndryl-related impacts	(367)	—	nm
Operating (non-GAAP) expense and other (income)	$ 11,953	$ 12,491	(4.3)%
Total expense-to-revenue ratio	44.7 %	50.1 %	(5.4)pts.
Operating (non-GAAP) expense-to-revenue ratio	40.2 %	45.6 %	(5.4)pts.

nm - not meaningful

Total expense and other (income) decreased 5.4 percent in the second quarter of 2022 versus the prior-year period primarily driven by the effects of currency, a gain from the divestiture of our healthcare software assets, lower non-operating retirement-related costs and benefits from the actions taken to streamline operations and simplify our go-to-market model, partially offset by impacts related to the Kyndryl retained shares and higher spending reflecting our continuing investment in innovation, our ecosystem and talent. Total operating (non-GAAP) expense and other (income) decreased 6.0 percent year to year, driven primarily by the factors described above excluding the lower non-operating retirement-related costs and the impacts related to the Kyndryl retained shares.

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:	2022	2021	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 3,996	$ 3,954	1.1 %
Advertising and promotional expense	395	393	0.7
Workforce rebalancing charges	28	107	(74.3)
Amortization of acquired intangible assets	277	276	0.6
Stock-based compensation	153	141	8.2
Provision for/(benefit from) expected credit loss expense	6	(22)	nm
Total selling, general and administrative expense	$ 4,855	$ 4,849	0.1 %
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (277)	$ (276)	0.6 %
Acquisition-related charges	(2)	(18)	(90.8)
Kyndryl-related impacts	0	—	nm
Operating (non-GAAP) selling, general and administrative expense	$ 4,576	$ 4,555	0.4 %

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 7,820	$ 7,844	(0.3)%
Advertising and promotional expense	732	737	(0.8)
Workforce rebalancing charges	33	201	(83.7)
Amortization of acquired intangible assets	557	548	1.5
Stock-based compensation	289	256	12.9
Provision for/(benefit from) expected credit loss expense	22	(49)	nm
Total selling, general and administrative expense	$ 9,452	$ 9,536	(0.9)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (557)	$ (548)	1.5 %
Acquisition-related charges	(9)	(34)	(74.8)
Kyndryl-related impacts	0	—	nm
Operating (non-GAAP) selling, general and administrative expense	$ 8,887	$ 8,954	(0.8)%

nm - not meaningful

Total selling, general and administrative (SG&A) expense increased 0.1 percent in the second quarter of 2022 versus the prior-year period driven primarily by the following factors:

- Higher spending (7 points) reflecting our continuing investment to drive our hybrid cloud and AI strategy, expenses of acquired businesses and higher travel and commission expense, partially offset by benefits from the actions taken to streamline operations and simplify our go-to-market model and lower spending for shared services transferred to Kyndryl; partially offset by
- The effects of currency (4 points); and
- Lower workforce rebalancing charges (2 points).

Operating (non-GAAP) expense increased 0.4 percent year to year primarily driven by the same factors.

SG&A expense decreased 0.9 percent in the first six months of 2022 versus the prior-year period driven primarily by the following factors:

- The effects of currency (3 points); and
- Lower workforce rebalancing charges (2 points); partially offset by
- Higher spending (4 points) driven primarily by the same factors described above.

Operating (non-GAAP) expense decreased 0.8 percent year to year, primarily driven by the same factors.

Provisions for expected credit loss expense increased $71 million in the first six months of 2022 compared to the prior-year period, primarily driven by an increase in specific reserves in the current year compared to decreases in both general and specific reserves in the prior-year period. The receivables provision coverage was 2.2 percent at June 30, 2022, an increase of 10 basis points from December 31, 2021, due to the decline in total receivables balance, and a decrease of 20 basis points from June 30, 2021.

Research, Development and Engineering

(Dollars in millions) For the three months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Research, development and engineering expense	$ 1,673	$ 1,641	1.9 %

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Research, development and engineering expense	$ 3,352	$ 3,257	2.9 %

Research, development and engineering (RD&E) expense in the second quarter of 2022 increased 1.9 percent year to year reflecting our continuing investment to deliver innovation in AI, hybrid cloud and emerging areas such as quantum. Higher spending (4 points) in the current-year period was partially offset by the effects of currency (2 points).

RD&E expense in the first six months of 2022 increased 2.9 percent year to year, primarily driven by higher spending (4 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:	2022	2021	Yr. to Yr. Percent Change
Intellectual property and custom development income:			
Licensing of intellectual property including royalty-based fees	$ 113	$ 66	71.7 %
Custom development income	57	64	(10.9)
Sales/other transfers of intellectual property	6	4	70.4
Total	$ 176	$ 133	32.2 %

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Intellectual property and custom development income:			
Licensing of intellectual property including royalty-based fees	$ 184	$ 140	31.6 %
Custom development income	105	129	(18.7)
Sales/other transfers of intellectual property	8	10	(20.5)
Total	$ 297	$ 278	6.5 %

Total intellectual property and custom development income increased 32.2 percent year to year in the second quarter, and 6.5 percent in the first six months of 2022 compared to the prior-year period. 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:	2022	2021	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ (494)	$ (15)	nm
(Gains)/losses on derivative instruments	439	79	454.6 %
Interest income	(28)	(11)	147.9
Net (gains)/losses from securities and investment assets	54	0	nm
Retirement-related costs/(income)	192	317	(39.5)
Other	(243)	(68)	255.4
Total other (income) and expense	$ (81)	$ 302	nm
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (1)	$ (1)	—
Non-operating retirement-related (costs)/income	(192)	(317)	(39.5)%
Kyndryl-related impacts	(145)	—	nm
Operating (non-GAAP) other (income) and expense	$ (418)	$ (16)	nm

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ (670)	$ (124)	441.1 %
(Gains)/losses on derivative instruments	541	239	126.3
Interest income	(46)	(25)	82.6
Net (gains)/losses from securities and investment assets	273	(6)	nm
Retirement-related costs/(income)	394	649	(39.4)
Other	(327)	(87)	276.7
Total other (income) and expense	$ 166	$ 647	(74.4)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (1)	$ (1)	—
Non-operating retirement-related (costs)/income	(394)	(649)	(39.4)%
Kyndryl-related impacts	(367)	—	nm
Operating (non-GAAP) other (income) and expense	$ (596)	$ (3)	nm

nm - not meaningful

Total other (income) and expense was income of $81 million in the second quarter of 2022 compared to expense of $302 million in the prior-year period. The year-to-year change was primarily driven by:

- Higher gains on divestitures ($243 million) primarily driven by the divestiture of our healthcare software assets (included in “Other”);
- Net exchange gains (including derivative instruments) in the current year versus net exchange losses in the prior year ($120 million). The current year includes a loss on the cash-settled swap related to the Kyndryl retained shares ($88 million); and
- Lower non-operating retirement-related costs ($125 million). Refer to “Retirement-Related Plans” for additional information; partially offset by
- Net unrealized losses related to the Kyndryl retained shares ($56 million).

Operating (non-GAAP) other (income) and expense was $418 million of income in the second quarter of 2022 and increased $402 million compared to the prior-year period. The year-to-year change was driven primarily by the factors described above, excluding the higher non-operating retirement-related costs and impacts related to the Kyndryl retained shares.

Total other (income) and expense was $166 million of expense in the first six months of 2022 compared to $647 million in the prior-year period. The year-to-year decrease was primarily driven by:

- Lower non-operating retirement-related costs ($256 million). Refer to “Retirement-Related Plans” for additional information;
- Net exchange gains (including derivative instruments) in the current year versus net exchange losses in the prior year ($244 million). The current year includes a loss on the cash-settled swap related to the Kyndryl retained shares ($88 million); and
- Higher gains on divestitures ($275 million) primarily driven by the divestiture of our healthcare software assets (included in “Other”); partially offset by

- Net unrealized losses related to the Kyndryl retained shares ($278 million).

Operating (non-GAAP) other (income) and expense was $596 million of income in the first six months of 2022 and increased $593 million compared to the prior-year period. The year-to-year increase was driven primarily by the effects of currency and higher gains on divestitures described above.

Interest Expense

(Dollars in millions) For the three months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Interest expense	$ 297	$ 281	5.5 %

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Interest expense	$ 607	$ 561	8.2 %

Interest expense increased $15 million and $46 million year to year in the second quarter and first six months of 2022, respectively. Interest expense is presented in cost of financing in the Consolidated Income Statement if the related external borrowings are to support the Financing external business. Overall interest expense (excluding capitalized interest) for the second quarter and first six months of 2022 was $379 million and $772 million, respectively, a decrease of $6 million and an increase of $1 million, respectively, compared to the prior-year periods. The year-to-year dynamics for both the second quarter and first six months of 2022 were primarily driven by a lower average debt balance, offset by higher average interest rates compared to the prior-year periods.

Retirement-Related Plans

The following tables provide 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:	2022	2021	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 61	$ 71	(13.3)%
Multi-employer plans	3	5	(29.7)
Cost of defined contribution plans	233	252	(7.5)
Total operating costs	$ 298	$ 327	(9.1)%
Interest cost	$ 460	$ 410	12.2 %
Expected return on plan assets	(734)	(731)	0.4
Recognized actuarial losses	442	617	(28.4)
Amortization of prior service costs/(credits)	6	0	nm
Curtailments/settlements	11	16	(32.1)
Other costs	6	3	72.0
Total non-operating costs/(income)	$ 192	$ 317	(39.5)%
Total retirement-related plans — cost	$ 489	$ 644	(24.1)%

nm - not meaningful

(Dollars in millions) For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 127	$ 139	(8.6)%
Multi-employer plans	7	11	(31.5)
Cost of defined contribution plans	472	508	(7.1)
Total operating costs	$ 606	$ 658	(7.8)%
Interest cost	$ 927	$ 820	13.1 %
Expected return on plan assets	(1,483)	(1,461)	1.5
Recognized actuarial losses	902	1,239	(27.2)
Amortization of prior service costs/(credits)	13	4	257.5
Curtailments/settlements	19	34	(43.9)
Other costs	15	15	5.6
Total non-operating costs/(income)	$ 394	$ 649	(39.4)%
Total retirement-related plans — cost	$ 1,000	$ 1,307	(23.5)%

Total pre-tax retirement-related plan cost decreased by $155 million compared to the second quarter of 2021 primarily driven by a decrease in recognized actuarial losses ($175 million) and lower cost of defined contribution plans ($19 million), partially offset by higher interest costs ($50 million). Total cost for the first six months of 2022 decreased $307 million compared to the first six months of 2021, primarily driven by a decrease in recognized actuarial losses ($337 million), lower cost of defined contribution plans ($36 million) and higher expected return on plan assets ($22 million) partially offset by higher interest costs ($108 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 2022 were $298 million, a decrease of $30 million compared to the second quarter of 2021. For the first six months of 2022, operating retirement-related costs were $606 million, a decrease of $52 million compared to the prior-year period. These operating cost decreases were primarily driven by lower cost of defined contribution plans. Non-operating costs of $192 million in the second quarter of 2022 decreased $125 million year to year and for the first six months of 2022 were $394 million, a decrease of $256 million compared to the prior-year period. These non-operating cost decreases were driven primarily by a decrease in recognized actuarial losses, partially offset by higher interest costs.

Taxes

The continuing operations provision for income taxes for the second quarter of 2022 was $257 million, compared to $101 million in the second quarter of 2021. The operating (non-GAAP) income tax provision for the second quarter of 2022 was $413 million, compared to $246 million in the second quarter of 2021.

The continuing operations provision for income taxes for the first six months of 2022 was $218 million, compared to a benefit from income taxes of $58 million for the first six months of 2021. The operating (non-GAAP) provision for income taxes for the first six months of 2022 was $657 million, compared to $272 million for the first six months of 2021.

The continuing operations provision for income taxes for the first six months of 2022 was primarily driven by the impacts of foreign tax credit regulations, geographical mix of income, incentives and changes in unrecognized tax benefits. The continuing operations benefit from income taxes for the first six months of 2021 was primarily related to the tax impacts from the resolution of certain tax audits in the first quarter of 2021. The increase in the operating (non-GAAP) income tax provision in the first six months of 2022, compared to the prior year was primarily driven by tax impacts from the resolution of certain tax audits in the first quarter of 2021.

IBM's full-year tax provision and effective tax rate are impacted by recurring factors including the geographic mix of income before taxes, incentives, changes in unrecognized tax benefits and 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, and audit adjustments, among others.

During the fourth quarter of 2020, the U.S. Internal Revenue Service (IRS) concluded its examination of the company's U.S. income tax returns for 2013 and 2014, which had a specific focus on certain cross-border transactions that occurred in 2013 and issued a final Revenue Agent's Report (RAR). The IRS' proposed adjustments relative to these cross-border transactions, if sustained, would result in additional taxable income of approximately $4.5 billion. The company strongly disagrees with the IRS on these specific matters and filed its IRS Appeals protest in the first quarter of 2021. In the third quarter of 2018, the IRS commenced its audit of the company's U.S. tax returns for 2015 and 2016. The company anticipates that this audit will be completed in 2022. In the fourth quarter of 2021, the IRS commenced its audit of the company's U.S. tax returns for 2017 and 2018. 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 2015. The company is no longer subject to income tax examination of its U.S. federal tax return for years prior to 2013. The open years 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 company is involved in a number of income tax-related matters in India as a result of tax assessments issued by the India Tax Authorities. At June 30, 2022, the company had recorded $676 million as prepaid income taxes in India. A significant portion of this balance represents cash tax deposits paid over time to protect the company's right to appeal various income tax assessments made by the India Tax Authorities. 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, 2022 is $8,597 million which can be reduced by $540 million associated with timing adjustments, U.S. tax credits, potential transfer pricing adjustments, and state income taxes. The net amount of $8,057 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:	2022	2021	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 1.61	$ 0.90	78.9 %
Basic	$ 1.62	$ 0.91	78.0 %
Diluted operating (non-GAAP)	$ 2.31	$ 1.61	43.5 %
Weighted-average shares outstanding: (in millions)			
Assuming dilution	910.7	904.2	0.7 %
Basic	901.5	895.0	0.7 %

For the six months ended June 30:	2022	2021	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 2.34	$ 1.34	74.6 %
Basic	$ 2.36	$ 1.36	73.5 %
Diluted operating (non-GAAP)	$ 3.71	$ 2.73	35.9 %
Weighted-average shares outstanding: (in millions)			
Assuming dilution	910.0	903.0	0.8 %
Basic	900.4	894.3	0.7 %

Actual shares outstanding at June 30, 2022 were 903.2 million. The weighted-average number of common shares outstanding assuming dilution during the second quarter and first six months of 2022 were 6.5 million (0.7 percent) and 7.0 million (0.8 percent) shares higher, respectively, than the same periods of 2021.

Financial Position

Dynamics

Our balance sheet at June 30, 2022 continues to provide us with flexibility to support the business.

Cash, restricted cash and marketable securities at June 30, 2022 were $7,778 million, an increase of $222 million from December 31, 2021. Total debt of $50,309 million at June 30, 2022 decreased $1,394 million from December 31, 2021 primarily driven by currency impacts. We continue to manage our debt levels while being acquisitive and without sacrificing investments in our business or our solid dividend policy.

Our cash flow is presented on a consolidated basis and includes discontinued operations. Refer to note 3, “Separation of Kyndryl,” for additional information. In the first six months of 2022, we generated $4,569 million in cash from operating activities, compared to $7,539 million in the first six months of 2021, primarily due to financing receivables. We also invested $958 million in acquisitions and returned $2,963 million to shareholders through dividends in the first six months of 2022. Our cash generation permits us to invest and deploy capital to areas with the most attractive long-term opportunities.

Our pension plans were well funded at the end of 2021, with worldwide qualified plans funded at 107 percent. Overall pension funded status as of the end of June 2022 has increased from year-end 2021, mainly due to higher interest rates. We currently have no change to expected plan contributions in 2022.

IBM Working Capital

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Current assets	$ 27,896	$ 29,539
Current liabilities	31,844	33,619
Working capital	$ (3,948)	$ (4,080)
Current ratio	0.88:1	0.88:1

Working capital increased $132 million from the year-end 2021 position. The key changes are described below:

Current assets decreased $1,643 million ($556 million adjusted for currency) due to:

- A decline in receivables of $1,760 million ($1,120 million adjusted for currency) mainly due to collections of higher year-end balances; partially offset by
- An increase of $222 million ($555 million adjusted for currency) in cash, restricted cash and marketable securities.

Current liabilities decreased $1,775 million ($151 million adjusted for currency) as a result of:

- A decrease in short-term debt of $805 million ($812 million adjusted for currency) due to maturities of $3,891 million; partially offset by reclassifications of $3,120 million from long-term debt to reflect upcoming maturities;
- A decrease in taxes payable of $547 million ($428 million adjusted for currency) primarily due to indirect tax payments;
- A decrease in accounts payable of $248 million ($121 million adjusted for currency) primarily due to declines from seasonally higher year-end balances; and
- A decrease in other accrued expenses and liabilities of $211 million (an increase of $490 million adjusted for currency) primarily due to payments of $374 million for workforce rebalancing actions, partially offset by an increase in derivatives of $206 million; partially offset by
- An increase in deferred income of $4 million or $523 million adjusted for currency primarily driven by annual customer billings and an increase in software renewal rates.

Receivables and Allowances

Roll Forward of Total IBM Receivables Allowance for Credit Losses

(Dollars in millions) January 1, 2022	Additions / (Releases) *	Write-offs **	Foreign currency and other	June 30, 2022
$ 443	$ 29	$ (40)	$ (12)	$ 420

* Additions/(Releases) for Allowance for Credit Losses are recorded in expense.

** Refer to note A, “Significant Accounting Policies,” in our 2021 Annual Report for additional information regarding allowance for credit loss write-offs.

Excluding receivables classified as held for sale, the total IBM receivables provision coverage was 2.2 percent at June 30, 2022, an increase of 10 basis points compared to December 31, 2021. The increase was primarily driven by the decline in total receivables. The majority of the write-offs during the six months ended June 30, 2022 related to receivables which had been previously reserved.

Financing Segment Receivables and Allowances

The following table presents external Financing segment receivables excluding receivables classified as held for sale, and immaterial miscellaneous receivables.

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Amortized cost *	$ 12,123	$ 12,859
Specific allowance for credit losses	135	159
Unallocated allowance for credit losses	37	42
Total allowance for credit losses	172	201
Net financing receivables	$ 11,951	$ 12,658
Allowance for credit losses coverage	1.4 %	1.6 %

* Includes deferred initial direct costs which are expensed in IBM's consolidated financial results.

The percentage of Financing segment receivables reserved decreased from 1.6 percent at December 31, 2021, to 1.4 percent at June 30, 2022, primarily driven by write-offs of previously reserved receivables.

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

(Dollars in millions) January 1, 2022	Additions / (Releases)*	Write-offs **	Foreign currency and other	June 30, 2022
$ 201	$ (10)	$ (18)	$ 0	$ 172

* Additions/(Releases) for Allowance for Credit Losses are recorded in expense.

** Refer to note A, "Significant Accounting Policies," in our 2021 Annual Report for additional information regarding allowance for credit loss write-offs.

Financing's expected credit loss expense (including reserves for off-balance sheet commitments which are recorded in other liabilities) was a net release of $2 million and $12 million for the three and six months ended June 30, 2022, respectively, compared to a net release of $12 million and $29 million for the three and six months ended June 30, 2021, respectively. The declines in net releases in both periods of 2022 were primarily driven by lower unallocated reserve requirements in the prior year in Americas due to sales of receivables.

Noncurrent Assets and Liabilities

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Noncurrent assets	$ 99,607	$ 102,462
Long-term debt	$ 44,328	$ 44,917
Noncurrent liabilities (excluding debt)	$ 31,855	$ 34,469

The decrease in noncurrent assets of $2,855 million ($472 million adjusted for currency) was driven by:

- A decrease in goodwill and net intangible assets of $1,544 million ($426 million adjusted for currency) primarily driven by currency impacts, intangibles amortization and derecognition of goodwill and intangible assets of $647 million related to the divestiture of our healthcare software assets, partially offset by additions from new acquisitions; and

- A decrease in net property, plant and equipment and operating right-of-use assets of $793 million ($500 million adjusted for currency).

Long-term debt decreased $589 million (an increase of $740 million adjusted for currency) due to:

- Reclassifications to short-term debt of $3,120 million to reflect upcoming maturities and currency impacts; partially offset by

- Issuances of $4,085 million.

Noncurrent liabilities (excluding debt) decreased $2,615 million ($1,189 million adjusted for currency) due to:

- A decrease in retirement and postretirement benefit obligations of $1,317 million ($550 million adjusted for currency);

- A decrease of $510 million in other liabilities primarily due to currency impacts of $391 million;

- A decrease of $508 million ($348 million adjusted for currency) in deferred income reflecting seasonal reductions from higher year-end balances; and

- A decrease in long-term operating lease liabilities of $280 million ($172 million adjusted for currency) related primarily to real estate leases.

Debt

Our funding requirements are continually monitored and we execute our strategies to manage the overall asset and liability profile. Additionally, we maintain sufficient flexibility to access global funding sources as needed.

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Total company debt	$ 50,309	$ 51,703
Financing segment debt*	$ 12,265	$ 13,929
Non-Financing debt	$ 38,044	$ 37,775

* Financing segment debt includes debt of $1,140 million at June 30, 2022 and $1,345 million at December 31, 2021 to support intercompany financing receivables and other intercompany assets. Refer to Financing's "Financial Position" on page 88 for additional details.

Total debt of $50,309 million decreased $1,394 million ($72 million adjusted for currency) from December 31, 2021, primarily driven by maturities of $3,941 million and currency impacts, partially offset by issuances of $4,419 million.

Non-Financing debt of $38,044 million increased $269 million ($1,235 million adjusted for currency) from December 31, 2021 primarily due to new debt issuances.

Financing segment debt of $12,265 million decreased $1,664 million ($1,307 million adjusted for currency) from December 31, 2021 primarily due to lower funding requirements associated with financing receivables.

Financing provides financing solutions predominantly for IBM's external client assets, and the debt used to fund Financing assets is primarily composed of intercompany loans. 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 Financing debt-to-equity ratio remained at 9.0 to 1 at June 30, 2022.

We measure Financing as a stand-alone entity, and accordingly, interest expense relating to debt supporting Financing's external client and internal business is included in the "Financing Results of Operations" and in note 5, "Segments." In the Consolidated Income Statement, the external debt-related interest expense supporting Financing's internal financing to IBM is classified as interest expense.

Equity

Total equity increased by $480 million from December 31, 2021, primarily due to an increase from net income of $2,125 million, a decrease in accumulated other comprehensive losses of $1,066 million driven by retirement-related benefit plans ($689 million), cash flow hedges ($205 million) and foreign currency translation adjustments ($172 million), and common stock of $420 million; partially offset by dividends paid of $2,963 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 table below and include the cash flows of discontinued operations. These amounts also include the cash flows associated with the Financing business.

(Dollars in millions) **For the six months ended June 30:**	**2022**	**2021**
Net cash provided by/(used in):		
Operating activities	$ 4,569	$ 7,539
Investing activities	(1,186)	(4,671)
Financing activities	(2,819)	(8,914)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(267)	(65)
Net change in cash, cash equivalents and restricted cash	$ 297	$ (6,110)

Net cash provided by operating activities decreased $2,970 million as compared to the first six months of 2021 driven primarily by:

- A decrease of cash provided by financing receivables of $3,396 million primarily driven by higher prior-year sales of receivables and z16 product cycle dynamics; partially offset by
- A decrease in workforce rebalancing payments of $685 million; and
- An increase in cash from working capital improvements of $484 million.

Net cash used in investing activities decreased $3,485 million driven primarily by:

- A decrease in cash used in acquisitions of $1,909 million;

- An increase in cash provided by divestitures of $1,293 million; and
- A decrease in cash used in net capital expenditures of $346 million.

Net cash used in financing activities decreased $6,094 million driven primarily by:

- A decrease in net cash used in debt transactions of $6,233 million primarily driven by higher maturities in the prior year and net issuances in the current year.

Results of Discontinued Operations

Loss from discontinued operations, net of tax was $73 million in the second quarter of 2022 compared to income of $515 million in the prior-year period. For the first six months of 2022, loss from discontinued operations, net of tax was $2 million compared to income of $1,067 million in the prior-year period. As the separation of Kyndryl occurred on November 3, 2021, the first half of 2021 included a full six months of Kyndryl operations. The loss in the second quarter of 2022 primarily reflects the net impact of changes in separation-related estimates and the settlement of assets and liabilities in accordance with the separation and distribution agreement. The loss in the first six months of 2022 reflects the same drivers as above and also includes income primarily related to a joint venture historically managed by Kyndryl, which did not transfer at separation due to the transfer being subject to regulatory approval. Upon receiving regulatory approval in the first quarter of 2022, the company sold its majority shares in the joint venture to Kyndryl. See note 3, "Separation of Kyndryl," for additional information.

Looking Forward

Technology serves as a fundamental source of competitive advantage for our clients and is especially critical as our clients continue to navigate several strategic challenges and opportunities including competition for talent, supply chain issues, inflation, cybersecurity and geopolitical instability. Organizations are also under intense pressure to fast-track their digital transformation and harness the power of their data, which is growing exponentially. We continue to see a strong demand environment for our technology and consulting solutions as we help our clients respond to these challenges and opportunities. We have taken a series of significant steps to capture this demand, including changes to our portfolio, and focused investments in our offerings, technical talent, our ecosystem and go-to-market model. Our first half results reflect these investments and changes we have made to execute a platform-centric, hybrid cloud and AI strategy and continue to reinforce our confidence in the strategy.

Hybrid Cloud and AI Progress

The hybrid cloud platform we have built is open, secure and flexible and at its core is based on Red Hat, which gives clients powerful software capabilities based on open-source innovation. Our software has been optimized to run on that platform and includes advanced data and AI, automation and the security capabilities our clients need. Our global team of consultants offers deep business expertise and co-creates with clients to accelerate their digital transformation journeys. Our infrastructure allows clients to take full advantage of an extended hybrid cloud environment.

Clients are choosing our hybrid cloud capabilities to unlock more business value and meet their rapidly changing demands. We have more than 4,000 hybrid cloud platform clients, including more than 250 added in the second quarter of 2022. This platform adoption provides two avenues for growth - from the incremental number of clients, but more importantly it allows us to expand our software, consulting and infrastructure footprint as we help our clients digitally transform.

Critical to our platform-centric strategy is our ecosystem of partners. We continue to expand and extend our partnerships, through strategic collaboration agreements and in the second quarter of 2022, revenue from these partnerships grew solid double digits.

We continue to invest, both organically and inorganically, to deliver innovation for our clients. Our ability to deliver next generation technologies remains essential. Quantum is an example of our commitment to advance the future of technology. We continue to build on our progress toward our roadmap to deliver a 1,000+ qubit system in 2023 and a 4,000+ qubit system in 2025. In addition, technology developed by IBM and our collaborators has been selected by the National Institute of Standards and Technology (NIST) as the basis of the next generation of quantum-safe encryption protocols. Another example of innovation is our z16 system which became generally available in the second quarter of 2022. The z16 brings to our clients the power of embedded AI at scale, cyber-resilient security and cloud-native development for hybrid cloud. We also made another two acquisitions in the second quarter of 2022 to strengthen our portfolio, including Randori, a leading attack surface management (ASM) and cybersecurity provider, building on the recent acquisitions of ReaQta and launch of QRadar XDR.

We are confident in the strategy that we are executing and in the fundamentals of our business. Our balance sheet and liquidity position remain strong. At June 30, 2022 we had $7.8 billion of cash and cash equivalents, restricted cash and marketable securities and we continue to manage our debt levels while being acquisitive and without sacrificing investments in our business or our solid dividend policy. IBM is now a more focused, faster-growing and higher-value company. We expect to continue our progress as a leading hybrid cloud and AI company with a focus on revenue growth and cash generation while maintaining our solid and modestly growing dividend policy. Our mid-term financial model was previously communicated at our investor briefing on October 4, 2021.

Retirement-Related Plans

Our pension plans are well funded. Contributions for all retirement-related plans are expected to be approximately $2.1 billion in 2022, approximately flat compared to 2021, of which $0.2 billion generally relates to legally required contributions to non-U.S. defined benefit and multi-employer plans. We expect 2022 pre-tax retirement-related plan cost to be approximately $2.1 billion, a decrease of approximately $500 million compared to 2021. This estimate reflects current pension plan assumptions at December 31, 2021. Within total retirement-related plan cost, operating retirement-related plan cost is expected to be approximately $1.2 billion, a decrease of approximately $100 million versus 2021. Non-operating retirement-related plan cost is expected to be approximately $0.9 billion, a decrease of approximately $400 million compared to 2021, primarily driven by lower recognized actuarial losses and higher income from expected return on assets.

Currency Rate Fluctuations

In the second quarter of 2022, there has been significant movement of the U.S. dollar (USD) as compared to many other currencies. Changes in the relative values of non-U.S. currencies to the USD affect our financial results and financial position. At June 30, 2022, currency changes resulted in assets and liabilities denominated in local currencies being translated into fewer dollars than at year-end 2021. We use financial hedging instruments to limit specific currency risks related to financing transactions and other foreign currency-based transactions.

The combination of the rate and velocity of movements in currency, and the fact that we do not hedge 100 percent of our currency exposures, will result in a currency impact to our profit and cash flows in 2022. We maintain currency hedging programs for cash management purposes which temporarily mitigate, but do not eliminate, the volatility of currency impacts on our financial results. During periods of sustained movements in currency, the marketplace and competition adjust to the changing rates over time.

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, such as updates to pricing and sourcing. Currency movements impacted our year-to-year revenue and earnings per share growth in the first six months of 2022. Based on the currency rate movements in the first six months of 2022, total revenue increased 8.5 percent as reported and 13.3 percent at constant currency versus the first six months of 2021. On an income from continuing

operations before income taxes basis, these translation impacts, mitigated by the net impact of hedging activities, resulted in a theoretical maximum (assuming no pricing or sourcing actions) decrease of approximately $200 million in the first six months of 2022 on an as-reported basis and a decrease of approximately $160 million on an operating (non-GAAP) basis. The same mathematical exercise resulted in an increase of approximately $65 million in the first six months of 2021 on an as-reported basis and an increase of $100 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.

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 2021 Annual Report, on pages 47 to 49, there is a discussion of our liquidity including two tables that present three years of data. The table presented on page 47 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, 2022, those amounts are $4.6 billion of net cash from operating activities, $7.8 billion of cash and cash equivalents, restricted cash and short-term marketable securities and $10.0 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 June 30, 2022, the company amended its existing $2.5 billion Three-Year Credit Agreement and $7.5 billion Five-Year Credit Agreement (the Credit Agreements) to extend the maturity dates to June 20, 2025 and June 22, 2027, respectively, and to replace the London Interbank Offered Rate (LIBOR) interest rate provisions with customary provisions based on the Secured Overnight Financing Rate (SOFR). Refer to note 12, “Borrowings,” for additional details on these credit facilities.

The major rating agencies' ratings on our debt securities at June 30, 2022 appear in the following table and remain unchanged from March 31, 2022.

IBM RATINGS:	STANDARD AND POOR'S	MOODY'S INVESTORS SERVICE
Senior long-term debt	A-	A3
Commercial paper	A - 2	Prime - 2

IBM has ample financial flexibility, supported by our strong liquidity position and cash flows, to operate at a single A credit rating. Debt levels have decreased $1.4 billion from December 31, 2021, primarily driven by currency, and $22.7 billion from our peak levels at June 30, 2019 (immediately preceding the Red Hat acquisition).

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, 2022, the fair value of those instruments that were in a liability position was $551 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.

Effective December 31, 2021, the use of LIBOR was substantially eliminated for purposes of any new financial contract executions. The UK’s Financial Conduct Authority (FCA) extended the phase out of LIBOR in the case of U.S. dollar settings for certain tenors until the end of June 2023. Any legacy USD LIBOR based financial contracts are

expected to be addressed using the LIBOR rates published through the June 2023 extension period. The replacement of the LIBOR benchmark within the company's risk management activities did not have a material impact in the consolidated financial results.

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 82 and 83. 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 shareholder return 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 Financing receivables and net capital expenditures, including the investment in software. A key objective of the Financing business is to generate strong returns on equity, and our Financing receivables are the basis for that growth. Accordingly, management considers 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 Financing receivables.

The following is management's view of cash flows for the first six months of 2022 and 2021 prepared in a manner consistent with the description above and is presented on a consolidated basis, including cash flows of discontinued operations.

(Dollars in millions) **For the six months ended June 30:**	**2022**	**2021**
Net cash from operating activities per GAAP*	$ 4,569	$ 7,539
Less: change in Financing receivables	367	3,763
Net cash from operating activities, excluding Financing receivables	$ 4,202	$ 3,776
Capital expenditures, net	(871)	(1,217)
Free cash flow	$ 3,331	$ 2,559
Acquisitions	(958)	(2,866)
Divestitures	1,268	(25)
Common stock repurchases for tax withholdings	(315)	(234)
Dividends	(2,963)	(2,924)
Non-Financing debt	1,740	(2,331)
Other (includes Financing net receivables and Financing debt)	(1,882)	(288)
Change in cash, cash equivalents, restricted cash and short-term marketable securities	$ 221	$ (6,110)

* Includes cash flows of discontinued operations. See note 3, "Separation of Kyndryl," for additional information.

In the first six months of 2022, we generated free cash flow of $3.3 billion, an increase of $0.8 billion versus the prior-year period. In the first six months of 2022, we also continued to return value to shareholders with $3.0 billion in dividends and invested $1.0 billion in acquisitions.

Events that could temporarily change the historical cash flow dynamics discussed previously and in our 2021 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 14, "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 $200 million in 2022. Contributions related to all retirement-related plans are expected to be approximately $2.1 billion in 2022. 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 changes in pension plan funding regulations.

In 2022, 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 long-standing dividend policy.

Financing

Financing is a reportable segment that is measured as a stand-alone entity. Financing facilitates IBM clients' acquisition of information technology systems, software and services by providing financing solutions in the areas where the company has the expertise, while generating solid returns on equity.

Results of Operations

(Dollars in millions) For the three months ended June 30:	2022	2021*	Yr. to Yr. Percent Change
Revenue	$ 146	$ 209	(29.9)%
Pre-tax income	$ 102	$ 131	(22.4)%

* Recast to reflect 2021 segment changes.

(Dollars in millions) For the six months ended June 30:	2022	2021*	Yr. to Yr. Percent Change
Revenue	$ 300	$ 417	(28.0)%
Pre-tax income	$ 186	$ 229	(18.9)%

* Recast to reflect 2021 segment changes.

Our Financing business is focused on IBM's products and services. For the three months ended June 30, 2022, financing revenue decreased 29.9 percent as reported (27 percent adjusted for currency) compared to the prior year, driven by client financing down $61 million to $145 million. For the six months ended June 30, 2022, financing revenue decreased 28.0 percent as reported (26 percent adjusted for currency) compared to the prior year, driven by client financing down $114 million to $297 million. The decreases in client financing revenue in both periods in 2022 were primarily driven by the strategic actions taken in the prior year including selling certain client lease and loan financing receivables to third parties. While these strategic actions impact revenue and pre-tax income on a year-to-year basis, our repositioning of the Financing business has strengthened our liquidity position, improved the quality of our portfolio, and lowered our debt needs.

Financing pre-tax income decreased 22.4 percent to $102 million in the second quarter of 2022, compared to the prior year and the pre-tax margin of 69.7 percent increased 6.8 points year to year. For the six months ended June 30, 2022, Financing pre-tax income decreased 18.9 percent to $186 million compared to the prior year and the pre-tax margin of 62.0 percent increased 7.0 points year to year. The decreases in pre-tax income in both periods in 2022 were primarily driven by the strategic actions described above.

Financial Position

(Dollars in millions)	At June 30, 2022	At December 31, 2021
Cash and cash equivalents	$ 700	$ 1,359
Client financing receivables:		
Net investment in sales-type and direct financing leases[1]	3,888	3,396
Client loans	7,891	8,818
Total client financing receivables	$ 11,779	$ 12,215
Commercial financing receivables:		
Held for investment	171	444
Held for sale	614	793
Other receivables	53	61
Total external receivables[2]	$ 12,618	$ 13,512
Intercompany financing receivables[3] [4]	664	778
Other assets[5]	1,046	1,231
Total assets	$ 15,028	$ 16,880
Intercompany payables[3]	$ 394	$ 467
Debt[6]	12,265	13,929
Other liabilities	1,006	937
Total liabilities	$ 13,665	$ 15,333
Total equity	$ 1,363	$ 1,547
Total liabilities and equity	$ 15,028	$ 16,880

(1) Includes deferred initial direct costs which are expensed in IBM's consolidated financial results.
(2) The difference between the decrease in total external receivables of $0.9 billion (from $13.5 billion in December 2021 to $12.6 billion in June 2022) and the $0.4 billion change in Financing segment's receivables disclosed in the free cash flow presentation on page 86 is primarily attributable to currency impacts.
(3) This entire amount is eliminated for purposes of IBM's consolidated financial results and therefore does not appear in the Consolidated Balance Sheet.
(4) These assets, along with all other financing assets in this table, are leveraged at the value in the table using Financing segment debt.
(5) Includes $0.6 billion of other intercompany assets in June 2022 and $0.7 billion in December 2021.
(6) Financing segment debt is primarily composed of intercompany loans.

Total external receivables decreased $894 million primarily driven by collections of higher year-end balances partially offset by an increase in volumes in the second quarter of 2022 reflecting the z16 product cycle, with corresponding changes in debt funding.

At June 30, 2022, we continue to apply our rigorous credit policies. Approximately 71 percent of the total external portfolio was with investment-grade clients with no direct exposure to consumers, an increase of 7 points year to year and an increase of 3 points compared to March 31, 2022. This investment grade percentage is based on the credit ratings of the companies in the portfolio and reflects certain mitigating actions taken to reduce the risk to IBM.

We have 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. Sale of receivables arrangements are also utilized in the normal course of business as part of our cash and liquidity management.

Throughout 2021, sales of client financing receivables were utilized as part of the company's cash and liquidity management as well as for credit mitigation. In the first half of 2022, sales of client financing receivables were largely focused on credit mitigation. In addition, the company has an existing agreement with a third-party investor to sell IBM

short-term commercial financing receivables on a revolving basis. The company has expanded this agreement to other countries and geographies since commencement in the U.S. and Canada in 2020.

The following table presents the total amount of client and commercial financing receivables transferred:

(Dollars in millions) For the six months ended June 30:	2022	2021
Client financing receivables:		
Lease receivables	$ 15	$ 732
Loan receivables	2	1,359
Total client financing receivables transferred	$ 17	$ 2,091
Commercial financing receivables:		
Receivables transferred during the period	$ 3,914	$ 2,621
Receivables uncollected at end of period*	$ 815	$ 821

* Of the total amount of commercial financing receivables sold and derecognized from the Consolidated Balance Sheet, the amounts presented remained uncollected from the business partners as of June 30, 2022 and 2021.

For additional information relating to financing receivables refer to note 9, "Financing Receivables." Refer to pages 26 through 30 for additional information related to Financing segment receivables, allowance for credit losses and debt.

Return on Equity Calculation

(Dollars in millions)	For Three Months Ended June 30, 2022	For Three Months Ended June 30, 2021*	For Six Months Ended June 30, 2022	For Six Months Ended June 30, 2021*
Numerator				
Financing after-tax income**	$ 84	$ 97	$ 153	$ 169
Annualized after-tax income (1)	$ 336	$ 388	$ 305	$ 339
Denominator				
Average Financing equity (2)+	$ 1,358	$ 1,978	$ 1,421	$ 2,100
Financing return on equity (1)/(2)	24.8 %	19.6 %	21.5 %	16.1 %

* Recast to reflect 2021 segment changes.

** Calculated based upon an estimated tax rate principally based on 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 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.

Return on equity was 24.8 percent and 21.5 percent for the three and six months ended June 30, 2022, respectively, compared to 19.6 percent and 16.1 percent for the same periods in 2021. The increases in both periods in 2022 were primarily driven by a lower average equity balance, partially offset by a decrease in net income, which reflects the strategic actions taken in the prior year to reposition the Financing business.

Residual Value

Residual value is a risk unique to the financing business, and management of this risk is dependent upon the ability to accurately project future equipment values at lease inception. Financing has insight into product plans and cycles for IBM products. Based upon this product information, Financing continually monitors projections of future equipment values and compares them with the residual values reflected in the portfolio.

Financing optimizes the recovery of residual values by selling assets sourced from end of lease, leasing used equipment to new clients, or extending lease arrangements with current clients.

The following table presents the recorded amount of unguaranteed residual value for sales-type and direct financing leases, as well as operating leases at June 30, 2022 and December 31, 2021. In addition, the table presents the run out of when the unguaranteed residual value assigned to equipment on leases at June 30, 2022 is expected to be returned to the company.

Unguaranteed Residual Value

(Dollars in millions)	At December 31, 2021	At June 30, 2022	Estimated Run Out of June 30, 2022 Balance			
			2022	2023	2024	2025 and Beyond
Sales-type and direct financing leases	$ 335	$ 383	$ 59	$ 112	$ 72	$ 140
Operating leases	13	8	5	2	0	0
Total unguaranteed residual value	$ 348	$ 390	$ 64	$ 114	$ 72	$ 141

GAAP Reconciliation

The tables below provide a reconciliation of our income statement results as reported under GAAP to our operating earnings presentation which is a non-GAAP measure. Management'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 management's rationale for presenting operating earnings information.

(Dollars in millions except per share amounts) For the three months ended June 30, 2022:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 8,290	$ 180	$ —	$ —	$ —	$ 8,470
Gross profit margin	53.4 %	1.2 pts.	— pts.	— pts.	— pts.	54.5 %
S,G&A	$ 4,855	$ (279)	$ —	$ —	$ 0	$ 4,576
Other (income) and expense	(81)	(1)	(192)	—	(145)	(418)
Total expense and other (income)	6,568	(280)	(192)	—	(145)	5,952
Pre-tax income from continuing operations	1,722	460	192	—	145	2,518
Pre-tax margin from continuing operations	11.1 %	3.0 pts.	1.2 pts.	— pts.	0.9 pts.	16.2 %
Provision for (benefit from) income taxes*	$ 257	$ 115	$ 46	$ (4)	$ —	$ 413
Effective tax rate	14.9 %	1.8 pts.	0.7 pts.	(0.2)pts.	(0.9)pts.	16.4 %
Income from continuing operations	$ 1,465	$ 345	$ 146	$ 4	$ 145	$ 2,105
Income margin from continuing operations	9.4 %	2.2 pts.	0.9 pts.	0.0 pts.	0.9 pts.	13.5 %
Diluted earnings per share from continuing operations	$ 1.61	$ 0.38	$ 0.16	$ 0.00	$ 0.16	$ 2.31

(Dollars in millions except per share amounts) For the three months ended June 30, 2021:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 7,852	$ 179	$ —	$ —	$ —	$ 8,031
Gross profit margin	55.2 %	1.3 pts.	— pts.	— pts.	— pts.	56.5 %
S,G&A	$ 4,849	$ (294)	$ —	$ —	$ —	$ 4,555
Other (income) and expense	302	(1)	(317)	—	—	(16)
Total expense and other (income)	6,940	(294)	(317)	—	—	6,329
Pre-tax income from continuing operations	912	474	317	—	—	1,702
Pre-tax margin from continuing operations	6.4 %	3.3 pts.	2.2 pts.	— pts.	— pts.	12.0 %
Provision for (benefit from) income taxes*	$ 101	$ 105	$ 53	$ (14)	$ —	$ 246
Effective tax rate	11.1 %	3.1 pts.	1.0 pts.	(0.8)pts.	— pts.	14.5 %
Income from continuing operations	$ 810	$ 368	$ 264	$ 14	$ —	$ 1,456
Income margin from continuing operations	5.7 %	2.6 pts.	1.9 pts.	0.1 pts.	— pts.	10.2 %
Diluted earnings per share from continuing operations	$ 0.90	$ 0.41	$ 0.29	$ 0.01	$ —	$ 1.61

* 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, 2022:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 15,625	$ 361	$ —	$ —	$ —	$ 15,986
Gross profit margin	52.6 %	1.2 pts.	— pts.	— pts.	— pts.	53.8 %
S,G&A	$ 9,452	$ (565)	$ —	$ —	$ 0	$ 8,887
Other (income) and expense	166	(1)	(394)	—	(367)	(596)
Total expense and other (income)	13,280	(566)	(394)	—	(367)	11,953
Pre-tax income from continuing operations	2,345	928	394	—	367	4,033
Pre-tax margin from continuing operations	7.9 %	3.1 pts.	1.3 pts.	— pts.	1.2 pts.	13.6 %
Provision for income taxes*	$ 218	$ 224	$ 104	$ 112	$ —	$ 657
Effective tax rate	9.3 %	3.4 pts.	1.7 pts.	2.8 pts.	(0.8)pts.	16.3 %
Income from continuing operations	$ 2,127	$ 704	$ 290	$ (112)	$ 367	$ 3,376
Income margin from continuing operations	7.2 %	2.4 pts.	1.0 pts.	(0.4)pts.	1.2 pts.	11.4 %
Diluted earnings per share from continuing operations	$ 2.34	$ 0.77	$ 0.32	$ (0.12)	$ 0.40	$ 3.71

(Dollars in millions except per share amounts) For the six months ended June 30, 2021:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 14,879	$ 353	$ —	$ —	$ —	$ 15,232
Gross profit margin	54.3 %	1.3 pts.	— pts.	— pts.	— pts.	55.6 %
S,G&A	$ 9,536	$ (582)	$ —	$ —	$ —	$ 8,954
Other (income) and expense	647	(1)	(649)	—	—	(3)
Total expense and other (income)	13,724	(583)	(649)	—	—	12,491
Pre-tax income from continuing operations	1,155	936	649	—	—	2,741
Pre-tax margin from continuing operations	4.2 %	3.4 pts.	2.4 pts.	— pts.	— pts.	10.0 %
Provision for (benefit from) income taxes*	$ (58)	$ 238	$ 86	$ 6	$ —	$ 272
Effective tax rate	(5.0)%	10.4 pts.	4.3 pts.	0.2 pts.	— pts.	9.9 %
Income from continuing operations	$ 1,213	$ 699	$ 563	$ (6)	$ —	$ 2,469
Income margin from continuing operations	4.4 %	2.5 pts.	2.1 pts.	0.0 pts.	— pts.	9.0 %
Diluted earnings per share from continuing operations	$ 1.34	$ 0.77	$ 0.62	$ (0.01)	$ —	$ 2.73

* 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; 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; 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; fluctuations in financial results; impact of local legal, economic, political, health and other conditions; the company's failure to meet growth and productivity objectives; 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; reliance on third party distribution channels and ecosystems; cybersecurity and data privacy considerations; adverse effects related to climate change and environmental matters, tax matters; legal proceedings and investigatory risks; the company's pension plans; currency fluctuations and customer financing risks; impact of changes in market liquidity conditions and customer credit risk on receivables; potential failure of the separation of Kyndryl to qualify for tax-free treatment; 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 14, "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 2022.

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, 2022 - April 30, 2022	—	$ —	—	$ 2,007,611,768
May 1, 2022 - May 31, 2022	—	$ —	—	$ 2,007,611,768
June 1, 2022 - June 30, 2022	—	$ —	—	$ 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, 2022 there was approximately $2.0 billion in authorized funds remaining for purchases under this program.

Item 6. Exhibits

Exhibit Number	
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 25, 2022

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 25, 2022

/s/ Arvind Krishna

Arvind Krishna
Chairman and 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 25, 2022

/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, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Arvind Krishna, Chairman and 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
Chairman and Chief Executive Officer
July 25, 2022

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, 2022, 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 25, 2022

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.