UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q
QUARTERLY REPORT PURSUANT TO SECTION 13 or 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE QUARTER ENDED MARCH 31, 2023

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
1.250% Notes due 2023	IBM 23A	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
3.375% Notes due 2027	IBM 27F	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 30A	New York Stock Exchange
1.750% Notes due 2031	IBM 31	New York Stock Exchange
3.625% Notes due 2031	IBM 31B	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
3.750% Notes due 2035	IBM 35	New York Stock Exchange
4.875% Notes due 2038	IBM 38	New York Stock Exchange
1.200% Notes due 2040	IBM 40	New York Stock Exchange
4.000% Notes due 2043	IBM 43	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
5.875% Debentures due 2032	IBM 32D	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 908,045,414 shares of common stock outstanding at March 31, 2023.

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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 March 31, 2023	2022
Revenue:		
Services	$ 7,524	$ 7,703
Sales	6,532	6,339
Financing	196	155
Total revenue	14,252	14,197
Cost:		
Services	5,310	5,349
Sales	1,322	1,415
Financing	110	98
Total cost	6,743	6,862
Gross profit	7,509	7,335
Expense and other (income):		
Selling, general and administrative	4,853	4,597
Research, development and engineering	1,655	1,679
Intellectual property and custom development income	(180)	(121)
Other (income) and expense	(245)	246
Interest expense	367	311
Total expense and other (income)	6,451	6,712
Income from continuing operations before income taxes	1,058	623
Provision for/(benefit from) income taxes	124	(39)
Income from continuing operations	$ 934	$ 662
Income/(loss) from discontinued operations, net of tax	(7)	71
Net income	$ 927	$ 733
Earnings/(loss) per share of common stock:		
Assuming dilution:		
Continuing operations	$ 1.02	$ 0.73
Discontinued operations	(0.01)	0.08
Total	$ 1.01	$ 0.81
Basic:		
Continuing operations	$ 1.03	$ 0.74
Discontinued operations	(0.01)	0.08
Total	$ 1.02	$ 0.82
Weighted-average number of common shares outstanding: (millions)		
Assuming dilution	917.8	909.2
Basic	907.5	899.3

(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 March 31, 2023	2022
Net income	$ 927	$ 733
Other comprehensive income/(loss), before tax:		
Foreign currency translation adjustments	(87)	442
Net changes related to available-for-sale securities:		
Unrealized gains/(losses) arising during the period	15	0
Reclassification of (gains)/losses to net income	—	—
Total net changes related to available-for-sale securities	15	0
Unrealized gains/(losses) on cash flow hedges:		
Unrealized gains/(losses) arising during the period	(29)	60
Reclassification of (gains)/losses to net income	(122)	(1)
Total unrealized gains/(losses) on cash flow hedges	(151)	59
Retirement-related benefit plans:		
Prior service costs/(credits)	—	(5)
Net (losses)/gains arising during the period	2	9
Curtailments and settlements	(1)	8
Amortization of prior service (credits)/costs	(2)	7
Amortization of net (gains)/losses	131	468
Total retirement-related benefit plans	130	486
Other comprehensive income/(loss), before tax	(93)	987
Income tax (expense)/benefit related to items of other comprehensive income	53	(285)
Other comprehensive income/(loss), net of tax	(40)	703
Total comprehensive income	$ 888	$ 1,436

(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 March 31, 2023	At December 31, 2022
Assets:		
Current assets:		
Cash and cash equivalents	$ 9,337	$ 7,886
Restricted cash	198	103
Marketable securities	8,057	852
Notes and accounts receivable — trade (net of allowances of $250 in 2023 and $233 in 2022)	5,757	6,541
Short-term financing receivables:		
Held for investment (net of allowances of $141 in 2023 and $145 in 2022)	6,057	6,851
Held for sale	605	939
Other accounts receivable (net of allowances of $102 in 2023 and $89 in 2022)	812	817
Inventory, at lower of average cost or net realizable value:		
Finished goods	199	158
Work in process and raw materials	1,404	1,394
Total inventory	1,603	1,552
Deferred costs	1,055	967
Prepaid expenses and other current assets	2,501	2,611
Total current assets	35,982	29,118
Property, plant and equipment	18,761	18,695
Less: Accumulated depreciation	13,417	13,361
Property, plant and equipment — net	5,344	5,334
Operating right-of-use assets — net	2,789	2,878
Long-term financing receivables (net of allowances of $23 in 2023 and $28 in 2022)	5,065	5,806
Prepaid pension assets	8,487	8,236
Deferred costs	846	866
Deferred taxes	6,419	6,256
Goodwill	56,193	55,949
Intangible assets — net	10,905	11,184
Investments and sundry assets	1,607	1,617
Total assets	$ 133,637	$ 127,243

(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 March 31, 2023	At December 31, 2022
Liabilities:		
Current liabilities:		
Taxes	$ 1,650	$ 2,196
Short-term debt	4,887	4,760
Accounts payable	3,728	4,051
Compensation and benefits	2,772	3,481
Deferred income	13,220	12,032
Operating lease liabilities	869	874
Other accrued expenses and liabilities	3,866	4,111
Total current liabilities	30,993	31,505
Long-term debt	53,826	46,189
Retirement and nonpension postretirement benefit obligations	9,509	9,596
Deferred income	3,443	3,499
Operating lease liabilities	2,094	2,190
Other liabilities	12,099	12,243
Total liabilities	111,964	105,222
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: 2023 - 2,259,497,847 2022 - 2,257,116,920	58,675	58,343
Retained earnings	149,253	149,825
Treasury stock - at cost Shares: 2023 - 1,351,452,434 2022 - 1,351,024,943	(169,544)	(169,484)
Accumulated other comprehensive income/(loss)	(16,780)	(16,740)
Total IBM stockholders' equity	21,604	21,944
Noncontrolling interests	68	77
Total equity	21,672	22,021
Total liabilities and equity	$ 133,637	$ 127,243

(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)	Three Months Ended March 31, 2023	2022*
Cash flows from operating activities:		
Net income	$ 927	$ 733
Adjustments to reconcile net income/(loss) to cash provided by operating activities:		
Depreciation	527	631
Amortization of intangibles	547	625
Stock-based compensation	268	234
Net (gain)/loss on asset sales and other	(55)	(51)
Changes in operating assets and liabilities, net of acquisitions/divestitures	1,559	1,076
Net cash provided by operating activities	3,774	3,248
Cash flows from investing activities:		
Payments for property, plant and equipment	(300)	(281)
Proceeds from disposition of property, plant and equipment	11	72
Investment in software	(168)	(169)
Acquisition of businesses, net of cash acquired	(22)	(698)
Divestitures of businesses, net of cash transferred	—	61
Purchases of marketable securities and other investments	(8,531)	(1,025)
Proceeds from disposition of marketable securities and other investments	1,050	682
Net cash provided by/(used in) investing activities	(7,960)	(1,358)
Cash flows from financing activities:		
Proceeds from new debt	9,432	4,084
Payments to settle debt	(2,125)	(1,129)
Short-term borrowings/(repayments) less than 90 days — net	(3)	(8)
Common stock repurchases for tax withholdings	(96)	(80)
Financing — other	(3)	(15)
Cash dividends paid	(1,497)	(1,475)
Net cash provided by/(used in) financing activities	5,708	1,377
Effect of exchange rate changes on cash, cash equivalents and restricted cash	24	(5)
Net change in cash, cash equivalents and restricted cash	1,547	3,263
Cash, cash equivalents and restricted cash at January 1	7,988	6,957
Cash, cash equivalents and restricted cash at March 31	$ 9,535	$ 10,219

* Includes immaterial cash flows from 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 - January 1, 2023	$ 58,343	$ 149,825	$ (169,484)	$ (16,740)	$ 21,944	$ 77	$ 22,021
Net income plus other comprehensive income/(loss):							
Net income		927			927		927
Other comprehensive income/(loss)				(40)	(40)		(40)
Total comprehensive income/(loss)					$ 888		$ 888
Cash dividends paid — common stock ($1.65 per share)		(1,497)			(1,497)		(1,497)
Common stock issued under employee plans (2,380,928 shares)	332				332		332
Purchases (711,325 shares) and sales (283,834 shares) of treasury stock under employee plans — net		(2)	(60)		(62)		(62)
Changes in noncontrolling interests						(9)	(9)
Equity – March 31, 2023	$ 58,675	$ 149,253	$ (169,544)	$ (16,780)	$ 21,604	$ 68	$ 21,672

(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		733			733		733
Other comprehensive income/(loss)				703	703		703
Total comprehensive income/(loss)					$ 1,436		$ 1,436
Cash dividends paid — common stock ($1.64 per share)		(1,475)			(1,475)		(1,475)
Common stock issued under employee plans (1,562,135 shares)	221				221		221
Purchases (595,710 shares) and sales (400,300 shares) of treasury stock under employee plans — net		(3)	(30)		(34)		(34)
Other equity	63	(63)			0		0
Changes in noncontrolling interests						(33)	(33)
Equity - March 31, 2022	$ 57,603	$ 153,401	$ (169,422)	$ (22,532)	$ 19,050	$ 62	$ 19,112

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

Notes to Consolidated Financial Statements

1. Basis of Presentation:

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

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

In the fourth quarter of 2022, the company completed its annual assessment of the useful lives of its property, plant and equipment. Due to advances in technology, the company determined it should increase the estimated useful lives of its server and network equipment from five to six years for new assets and from three to four years for used assets. This change in accounting estimate was effective beginning January 1, 2023. Based on the carrying amount of server and network equipment included in property, plant and equipment-net in the company's Consolidated Balance Sheet as of December 31, 2022, the effect of this change in estimate was an increase in income from continuing operations before income taxes of $74 million or $0.06 per both basic and diluted share for the three months ended March 31, 2023.

For the three months ended March 31, 2023, the company recorded a provision for income taxes of $124 million and its effective tax rate was 11.7 percent. For the three months ended March 31, 2022, the company recorded a benefit from income taxes of $39 million and its effective tax rate was (6.3) percent. The rates are driven by many factors including the geographical mix of income, incentives, and changes in unrecognized tax benefits. The prior-year rate also reflects the impact of updates to the foreign tax credit regulations.

Noncontrolling interest amounts of $4.6 million and $4.9 million, net of tax, for the three months ended March 31, 2023 and 2022, respectively, are included as a reduction within other (income) and expense in the Consolidated Income Statement.

The company has supplier finance programs with third-party financial institutions where the company agrees to pay the financial institutions the stated amounts of invoices from participating suppliers on the originally invoiced maturity date, which have an average term of 90 days. The financial institutions offer earlier payment of the invoices at the sole discretion of the supplier for a discounted amount. The company does not provide secured legal assets or other forms of guarantees under the arrangements. The company is not a party to the arrangement between its suppliers and the financial institutions. These obligations are recognized as accounts payable in the Consolidated Balance Sheet. The obligations outstanding under these programs at March 31, 2023 and December 31, 2022 were $113 million and $60 million, respectively.

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 2022 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.

2. Accounting Changes:

Standards Implemented

Disclosures of Supplier Finance Program Obligations

Standard/Description–Issuance date: September 2022. This guidance requires an entity to provide certain interim and annual disclosures about the use of supplier finance programs in connection with the purchase of goods or services.

Effective Date and Adoption Considerations–The guidance was effective January 1, 2023 with certain annual disclosures required beginning in 2024 and early adoption was permitted. The company adopted the guidance 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. Refer to note 1, "Basis of Presentation," for additional information.

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 was effective January 1, 2023 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. Refer to note 9, "Financing Receivables," for additional information.

3. Revenue Recognition:

Disaggregation of Revenue

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

Revenue by Major Products/Service Offerings

(Dollars in millions) For the three months ended March 31:	2023	2022
Hybrid Platform & Solutions	$ 4,179	$ 4,080
Transaction Processing	1,742	1,692
Total Software	$ 5,921	$ 5,772
Business Transformation	2,283	2,255
Application Operations	1,736	1,619
Technology Consulting	943	955
Total Consulting	$ 4,962	$ 4,829
Hybrid Infrastructure	1,709	1,700
Infrastructure Support	1,389	1,519
Total Infrastructure	$ 3,098	$ 3,219
Financing*	196	154
Other	75	224
Total revenue	$ 14,252	$ 14,197

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

Revenue by Geography

(Dollars in millions) For the three months ended March 31:	2023	2022
Americas	$ 7,078	$ 7,056
Europe/Middle East/Africa	4,331	4,231
Asia Pacific	2,843	2,910
Total	$ 14,252	$ 14,197

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 March 31, 2023, the aggregate amount of the transaction price allocated to RPO related to customer contracts that are unsatisfied or partially unsatisfied was $58 billion. Approximately 71 percent of the amount is expected to be recognized as revenue in the subsequent two years, approximately 27 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 months ended March 31, 2023, revenue was reduced by $47 million 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 March 31, 2023	At December 31, 2022
Notes and accounts receivable — trade (net of allowances of $250 in 2023 and $233 in 2022)	$ 5,757	$ 6,541
Contract assets*	$ 461	$ 464
Deferred income (current)	$ 13,220	$ 12,032
Deferred income (noncurrent)	$ 3,443	$ 3,499

* Included within prepaid expenses and other current assets in the Consolidated Balance Sheet.

The amount of revenue recognized during the three months ended March 31, 2023 that was included within the deferred income balance at December 31, 2022 was $3.9 billion 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 three months ended March 31, 2023 and the year ended December 31, 2022.

(Dollars in millions) January 1, 2023	Additions / (Releases)	Write-offs	Foreign currency and other	March 31, 2023
$ 233	$ 23	$ (8)	$ 1	$ 250

January 1, 2022	Additions / (Releases)	Write-offs	Foreign currency and other	December 31, 2022
$ 218	$ 59	$ (31)	$ (14)	$ 233

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

4. Segments:

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. 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 March 31, 2023:					
Revenue	$ 5,921	$ 4,962	$ 3,098	$ 196	$ 14,177
Pre-tax income from continuing operations	$ 1,164	$ 382	$ 216	$ 100	$ 1,863
Revenue year-to-year change	2.6 %	2.8 %	(3.7)%	27.3 %	1.5 %
Pre-tax income year-to-year change	2.7 %	9.6 %	8.5 %	19.6 %	5.5 %
Pre-tax income margin	19.7 %	7.7 %	7.0 %	51.3 %	13.1 %
For the three months ended March 31, 2022:					
Revenue	$ 5,772	$ 4,829	$ 3,219	$ 154	$ 13,973
Pre-tax income from continuing operations	$ 1,134	$ 348	$ 199	$ 84	$ 1,766
Pre-tax income margin	19.7 %	7.2 %	6.2 %	54.6 %	12.6 %

Reconciliations to IBM as Reported:

(Dollars in millions) For the three months ended March 31:	2023	2022
Revenue:		
Total reportable segments	$ 14,177	$ 13,973
Other–divested businesses	0	154
Other revenue	75	70
Total consolidated revenue	$ 14,252	$ 14,197
Pre-tax income/(loss) from continuing operations:		
Total reportable segments	$ 1,863	$ 1,766
Amortization of acquired intangible assets	(392)	(461)
Acquisition-related (charges)/income	(3)	(7)
Non-operating retirement-related (costs)/income	5	(202)
Kyndryl-related impacts	—	(222)*
Workforce rebalancing charges**	(259)	—
Other–divested businesses	(4)	(52)
Unallocated corporate amounts and other	(151)	(199)+
Total pre-tax income from continuing operations	$ 1,058	$ 623

* Unrealized loss on Kyndryl retained shares. See note 5, "Acquisitions & Divestitures," for additional information.

** Beginning in the first quarter of 2023, the company updated its measure of segment pre-tax income, consistent with its management system, to no longer allocate workforce rebalancing charges to its segments. Workforce rebalancing charges in the first quarter of 2022 of $5 million were included in the segments.

+ Recast to conform to 2023 presentation.

5. Acquisitions & Divestitures:

Acquisitions

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

During the three months ended March 31, 2023, the company completed three acquisitions at an aggregate cost of $226 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
StepZen, Inc.	Software	Developer of GraphQL to help build application programming interfaces (APIs)
Uptake Technologies, Inc.	Software	Provider of advanced data analytics and content for heavy industries
NS1	Software	Leading provider of network automation SaaS solutions

At March 31, 2023, the remaining cash to be remitted by the company related to certain first-quarter 2023 acquisitions was $187 million. Of the amount outstanding, $173 million was recorded as restricted cash in the Consolidated Balance Sheet and is expected to be paid in 2023 with the remaining $14 million expected to be paid in the first quarter of 2024. The unremitted cash associated with these acquisitions is a non-cash investing activity for purposes of the company's Consolidated Statement of Cash Flows as of March 31, 2023.

The following table reflects the purchase price related to these acquisitions and the resulting purchase price allocation as of March 31, 2023.

(Dollars in millions)	Amortization Life (in years)	Total Acquisitions
Current assets		$ 27
Property, plant and equipment/noncurrent assets		9
Intangible assets:		
Goodwill	N/A	141
Client relationships	7	34
Completed technology	5-7	35
Trademarks	2-5	2
Total assets acquired		$ 247
Current liabilities		19
Noncurrent liabilities		2
Total liabilities assumed		$ 21
Total purchase price		$ 226

N/A - not applicable

The goodwill generated was assigned to the Software segment and 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. It is expected that none of the goodwill will be deductible for tax purposes.

The overall weighted-average useful life of the identified amortizable intangible assets acquired was 6.6 years. 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.

In April 2023, the company acquired Ahana Cloud, Inc. (Ahana), an expert in open-source-based, managed cloud-native data analytics solutions. Ahana will be integrated into the Software segment. At the date of issuance of the financial statements, the initial purchase accounting for Ahana was not complete.

Divestitures

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 common stock of Kyndryl Holdings, Inc. (Kyndryl) to IBM stockholders on a pro rata basis. The company retained 19.9 percent of the shares of Kyndryl common stock immediately following the separation. During 2022, the company fully disposed of its retained interest in Kyndryl common stock pursuant to exchange agreements with a third-party financial institution, which were completed within twelve months of separation. As of November 2, 2022, the company no longer held an ownership interest in Kyndryl.

Loss from discontinued operations, net of tax for the three months ended March 31, 2023 of $7 million 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. Income from discontinued operations, net of tax for the three months ended March 31, 2022 of $71 million reflects the same drivers above and also reflects a gain on sale of a joint venture historically managed by Kyndryl, which transferred to Kyndryl in the first quarter of 2022 upon receiving regulatory approval.

6. Other (Income) and Expense:

Components of other (income) and expense are as follows:

(Dollars in millions) For the three months ended March 31:	2023	2022
Other (income) and expense:		
Foreign currency transaction losses/(gains)*	$ 88	$ (176)
(Gains)/losses on derivative instruments	(142)	102
Interest income	(170)	(17)
Net (gains)/losses from securities and investment assets	5	218 **
Retirement-related costs/(income)	(5)	202
Other+	(22)	(83)
Total other (income) and expense	$ (245)	$ 246

* The company uses financial hedging instruments to limit specific currency risks related to foreign currency-based transactions. The hedging program does not hedge 100 percent of currency exposures and defers, versus eliminates, the impact of currency. Refer to note 16, "Derivative Financial Instruments," for additional information on foreign exchange risk.

** Includes an unrealized loss on Kyndryl retained shares of $222 million. See note 5, "Acquisitions & Divestitures," for additional information.

+ Other primarily consists of (gains)/losses from divestitures and dispositions of land/buildings.

7. Earnings Per Share of Common Stock:

The following table provides the computation of basic and diluted earnings per share of common stock for the three months ended March 31, 2023 and 2022.

(Dollars in millions except per share amounts) For the three months ended March 31:	2023	2022
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	907,526,887	899,316,026
Add — Incremental shares under stock-based compensation plans	8,609,239	8,375,246
Add — Incremental shares associated with contingently issuable shares	1,709,153	1,534,864
Number of shares on which diluted earnings per share is calculated	917,845,279	909,226,136
Income from continuing operations	$ 934	$ 662
Income/(loss) from discontinued operations, net of tax	(7)	71
Net income on which basic earnings per share is calculated	$ 927	$ 733
Income from continuing operations	$ 934	$ 662
Net income applicable to contingently issuable shares	—	—
Income from continuing operations on which diluted earnings per share is calculated	$ 934	$ 662
Income/(loss) from discontinued operations, net of tax, on which diluted earnings per share is calculated	(7)	71
Net income on which diluted earnings per share is calculated	$ 927	$ 733
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 1.02	$ 0.73
Discontinued operations	(0.01)	0.08
Total	$ 1.01	$ 0.81
Basic		
Continuing operations	$ 1.03	$ 0.74
Discontinued operations	(0.01)	0.08
Total	$ 1.02	$ 0.82

Stock options to purchase 960,929 shares and 1,163,321 shares were outstanding as of March 31, 2023 and 2022, 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 protect principal by investing in very liquid investment securities with highly rated counterparties.

The company’s standard practice is to hold all of its debt security investments classified as available-for-sale until maturity. No impairment for credit losses and no material non-credit impairments were recorded for the three months ended March 31, 2023 and 2022, 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 months ended March 31, 2023 and 2022, respectively.

The following table presents the company's financial assets and financial liabilities that are measured at fair value on a recurring basis at March 31, 2023 and December 31, 2022.

(Dollars in millions)	Fair Value Hierarchy Level	At March 31, 2023 Assets (5)	At March 31, 2023 Liabilities (6)	At December 31, 2022 Assets (5)	At December 31, 2022 Liabilities (6)
Cash equivalents: (1)					
Time deposits and certificates of deposit (2)	2	$ 3,896	$ N/A	$ 3,712	$ N/A
Money market funds	1	817	N/A	306	N/A
Total cash equivalents		$ 4,713	$ N/A	$ 4,018	$ N/A
Equity investments	1	1	N/A	—	N/A
Debt securities-current (2)(3)	2	8,057	N/A	852	N/A
Debt securities-noncurrent (2)(4)	2,3	33	N/A	31	N/A
Derivatives designated as hedging instruments:					
Interest rate contracts	2	19	281	3	336
Foreign exchange contracts	2	111	388	184	674
Derivatives not designated as hedging instruments:					
Foreign exchange contracts	2	10	50	42	16
Equity contracts	2	28	12	49	8
Total		$ 12,971	$ 731	$ 5,179	$ 1,034

(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) U.S. treasury bills and term deposits that are reported within marketable securities in the Consolidated Balance Sheet. The March 31, 2023 balance includes proceeds from the first quarter 2023 debt issuances. See note 12, "Borrowings," for additional information.
(4) Includes immaterial activity related to private company investments reported within investments and sundry assets in the Consolidated Balance Sheet.
(5) 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 March 31, 2023 were $145 million and $23 million, respectively, and at December 31, 2022 were $271 million and $7 million, respectively.
(6) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Balance Sheet at March 31, 2023 were $248 million and $483 million, respectively, and at December 31, 2022 were $546 million and $488 million, respectively.

N/A - not applicable

Financial Assets and Liabilities Not Measured at Fair Value

Short-Term Receivables and Payables

Short-term receivables (excluding the current portion of long-term receivables) 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) are financial liabilities with carrying values that approximate fair value. If measured at fair value in the financial statements, these financial instruments would be classified as Level 3 in the fair value hierarchy, except for short-term debt which would be classified as Level 2.

Loans and Long-Term Receivables

Fair values are based on discounted future cash flows using current interest rates offered for similar loans to clients with similar credit ratings for the same remaining maturities. At March 31, 2023 and December 31, 2022, 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 $53,826 million and $46,189 million, and the estimated fair value was $50,811 million and $42,514 million at March 31, 2023 and December 31, 2022, 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), 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 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 March 31, 2023:	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	$ 7,558	$ 3,853	$ 250	$ 605	$ 12,265
Unearned income	(410)	(363)	—	—	(773)
Unguaranteed residual value	—	400	—	—	400
Amortized cost	$ 7,148	$ 3,890	$ 250	$ 605	$ 11,891
Allowance for credit losses	(100)	(58)	(6)	—	(164)
Total financing receivables, net	$ 7,047	$ 3,831	$ 244	$ 605	$ 11,727
Current portion	$ 4,369	$ 1,445	$ 244	$ 605	$ 6,662
Noncurrent portion	$ 2,678	$ 2,387	$ —	$ —	$ 5,065

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

(Dollars in millions) At December 31, 2022:	Client Financing Receivables Client Loan and Installment Payment Receivables (Loans)	Client Financing Receivables Investment in Sales-Type and Direct Financing Leases	Commercial Financing Receivables Held for Investment	Commercial Financing Receivables Held for Sale*	Total
Financing receivables, gross	$ 8,875	$ 4,023	$ 299	$ 939	$ 14,136
Unearned income	(439)	(351)	—	—	(790)
Unguaranteed residual value	—	422	—	—	422
Amortized cost	$ 8,437	$ 4,094	$ 299	$ 939	$ 13,769
Allowance for credit losses	(108)	(60)	(5)	—	(173)
Total financing receivables, net	$ 8,329	$ 4,034	$ 293	$ 939	$ 13,596
Current portion	$ 5,073	$ 1,485	$ 293	$ 939	$ 7,790
Noncurrent portion	$ 3,256	$ 2,549	$ —	$ —	$ 5,806

* 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 secured 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 secured borrowings were $283 million and $349 million at March 31, 2023 and December 31, 2022, respectively. These borrowings are included in note 12, "Borrowings."

Transfer of Financial Assets

The company has an existing agreement with a third-party investor to sell IBM short-term commercial financing receivables on a revolving basis. In addition, 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. There were no material client financing receivables transferred for the three months ended March 31, 2023 and 2022.

The following table presents the total amount of commercial financing receivables transferred.

(Dollars in millions) For the three months ended March 31:	2023	2022
Commercial financing receivables:		
Receivables transferred during the period	$ 2,233	$ 1,989
Receivables uncollected at end of period*	$ 780	$ 724

* 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 March 31, 2023 and 2022.

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. The impacts to the Consolidated Income Statement, including fees and net loss associated with the transfer of commercial financing receivables for the three months ending March 31, 2023 and 2022 were $24 million and $11 million, respectively.

Financing Receivables by Portfolio Segment

The following tables present the amortized cost basis for client financing receivables at March 31, 2023 and December 31, 2022, 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 March 31, 2023:	Americas	EMEA	Asia Pacific	Total
Amortized cost	$ 6,394	$ 3,082	$ 1,561	$ 11,037
Allowance for credit losses:				
Beginning balance at January 1, 2023	$ 88	$ 60	$ 20	$ 168
Write-offs	0	0	—	0
Recoveries	—	0	0	0
Additions/(releases)	0	(13)	(1)	(13)
Other*	4	0	0	4
Ending balance at March 31, 2023	$ 93	$ 47	$ 19	$ 159

(Dollars in millions) At December 31, 2022:	Americas	EMEA	Asia Pacific	Total
Amortized cost	$ 7,281	$ 3,546	$ 1,704	$ 12,531
Allowance for credit losses:				
Beginning balance at January 1, 2022	$ 111	$ 61	$ 23	$ 195
Write-offs	(20)	(3)	(2)	(25)
Recoveries	1	0	4	5
Additions/(releases)	(5)	6	(4)	(3)
Other*	2	(5)	(2)	(4)
Ending balance at December 31, 2022	$ 88	$ 60	$ 20	$ 168

* 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 2022 Annual Report.

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 March 31, 2023:	Total Amortized Cost	Amortized Cost > 90 Days*	Amortized Cost > 90 Days and Accruing*	Billed Invoices > 90 Days and Accruing	Amortized Cost Not Accruing**
Americas	$ 6,394	$ 183	$ 107	$ 15	$ 76
EMEA	3,082	47	16	16	32
Asia Pacific	1,561	26	9	3	17
Total client financing receivables	$ 11,037	$ 257	$ 133	$ 33	$ 124

(Dollars in millions) At December 31, 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	$ 7,281	$ 272	$ 198	$ 22	$ 74
EMEA	3,546	52	8	1	46
Asia Pacific	1,704	20	3	1	17
Total client financing receivables	$ 12,531	$ 344	$ 208	$ 23	$ 137

* 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 $121 million and $122 million at March 31, 2023 and December 31, 2022, respectively. Financing income recognized on these receivables was immaterial for the three months ended March 31, 2023 and 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 March 31, 2023 and December 31, 2022, 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. Gross write-offs by vintage year at March 31, 2023 were not material.

(Dollars in millions)	Americas		EMEA		Asia Pacific	
At March 31, 2023:	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D
Vintage year:						
2023	$ 295	$ 231	$ 157	$ 130	$ 115	$ 48
2022	2,840	764	1,130	618	617	84
2021	1,001	262	381	133	189	58
2020	401	194	170	127	183	37
2019	205	60	94	78	103	18
2018 and prior	72	68	23	42	77	31
Total	$ 4,815	$ 1,579	$ 1,955	$ 1,127	$ 1,285	$ 276

(Dollars in millions)	Americas		EMEA		Asia Pacific	
At December 31, 2022:	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D	Aaa – Baa3	Ba1 – D
Vintage year:						
2022	$ 3,316	$ 1,097	$ 1,447	$ 704	$ 799	$ 96
2021	1,197	323	451	159	203	65
2020	559	217	258	158	210	49
2019	251	91	161	99	127	22
2018	128	26	42	16	84	21
2017 and prior	32	45	14	38	12	17
Total	$ 5,482	$ 1,800	$ 2,373	$ 1,173	$ 1,434	$ 269

Modifications and Troubled Debt Restructurings

The company did not have any significant modifications due to financial difficulty during the three months ended March 31, 2023. The company did not have any significant troubled debt restructurings during the year ended December 31, 2022.

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) For the three months ended March 31:	2023	2022
Lease income — sales-type and direct financing leases:		
Sales-type lease selling price	$ 90	$ 54
Less: Carrying value of underlying assets*	(30)	(19)
Gross profit	$ 61	$ 36
Interest income on lease receivables	59	45
Total sales-type and direct financing lease income	$ 119	$ 81
Lease income — operating leases	26	30
Variable lease income	21	28
Total lease income	$ 166	$ 138

* Excludes unguaranteed residual value.

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 March 31, 2023 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class:			
Capitalized software	$ 1,638	$ (675)	$ 962
Client relationships	8,327	(2,890)	5,438
Completed technology	5,097	(2,025)	3,073
Patents/trademarks	1,799	(370)	1,429
Other**	19	(15)	4
Total	$ 16,880	$ (5,976)	$ 10,905

(Dollars in millions)	At December 31, 2022 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount*
Intangible asset class:			
Capitalized software	$ 1,650	$ (705)	$ 945
Client relationships	8,559	(2,951)	5,608
Completed technology	5,220	(2,045)	3,175
Patents/trademarks	2,140	(688)	1,452
Other**	19	(15)	4
Total	$ 17,588	$ (6,404)	$ 11,184

* Amounts as of March 31, 2023 and December 31, 2022 include an increase in net intangible asset balances of $30 million and a decrease of $198 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 $279 million during the first three months of 2023, primarily due to intangible asset amortization, partially offset by additions of capitalized software and acquired intangibles. The aggregate intangible amortization expense was $547 million and $625 million for the three months ended March 31, 2023 and 2022, respectively. In the first three months of 2023, the company retired $992 million of fully amortized intangible assets, impacting both the gross carrying amount and accumulated amortization by this amount.

The future amortization expense relating to intangible assets currently recorded in the Consolidated Balance Sheet is estimated to be the following at March 31, 2023:

(Dollars in millions)	Capitalized Software	Acquired Intangibles	Total
Remainder of 2023	$ 441	$ 1,173	$ 1,615
2024	374	1,553	1,927
2025	138	1,535	1,673
2026	9	1,512	1,520
2027	—	1,492	1,492
Thereafter	—	2,678	2,678

Goodwill

The changes in the goodwill balances by segment for the three months ended March 31, 2023 and for the year ended December 31, 2022 are as follows:

(Dollars in millions) Segment	Balance 1/1/2023	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation and Other Adjustments*	Balance 3/31/2023
Software	$ 43,657	$ 141	$ 1	$ —	$ 66	$ 43,865
Consulting	7,928	—	5	—	29	7,962
Infrastructure	4,363	—	—	—	2	4,366
Other	—	—	—	—	—	—
Total	$ 55,949	$ 141	$ 6	$ —	$ 97	$ 56,193

(Dollars in millions) Segment	Balance 1/1/2022	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation and Other Adjustments*	Balance 12/31/2022
Software	$ 43,966	$ 568	$ (118)	$ —	$ (760)	$ 43,657
Consulting	6,797	1,366	(42)	—	(192)	7,928
Infrastructure	4,396	—	—	(1)	(32)	4,363
Other**	484	—	—	(484)	—	—
Total	$ 55,643	$ 1,934	$ (159)	$ (485)	$ (984)	$ 55,949

* Primarily driven by foreign currency translation.
** The company derecognized goodwill related to the divestiture of its healthcare software assets in the second quarter of 2022.

There were no goodwill impairment losses recorded during the first three months of 2023 or full-year 2022 and the company has no accumulated impairment losses. Purchase price adjustments recorded in the first three months of 2023 and full-year 2022 were related to acquisitions that were still subject to the measurement period that ends at the earlier of 12 months from the acquisition date or when information becomes available. Net purchase price adjustments recorded during the first three months of 2023 were not material. Net purchase price adjustments recorded in 2022 primarily related to deferred tax assets and liabilities associated with the Turbonomic acquisition.

12. Borrowings:

Short-Term Debt

(Dollars in millions)	At March 31, 2023	At December 31, 2022
Short-term loans	$ 6	$ 8
Long-term debt — current maturities	4,881	4,751
Total	$ 4,887	$ 4,760

The weighted-average interest rate for short-term loans was 7.4 percent and 7.6 percent at March 31, 2023 and December 31, 2022, respectively.

Long-Term Debt

Pre-Swap Borrowing

(Dollars in millions)	Maturities	Balance 3/31/2023	Balance 12/31/2022
U.S. dollar debt (weighted-average interest rate at March 31, 2023):*			
3.4%	2023	$ 1,514	$ 1,529
3.3%	2024	5,007	5,009
5.1%	2025	1,603	1,603
3.5%	2026	5,201	4,351
3.1%	2027	3,620	3,620
5.0%	2028	1,313	313
3.5%	2029	3,250	3,250
2.0%	2030	1,350	1,350
4.4%	2032	1,850	1,850
4.8%	2033	750	—
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
4.2%	2052	1,400	1,400
5.1%	2053	650	—
7.1%	2096	316	316
		$ 36,836	$ 33,605
Other currencies (weighted-average interest rate at March 31, 2023, in parentheses):*			
Euro (1.8%)	2023–2043	$ 20,103	$ 17,087
Pound sterling (4.9%)	2038	928	—
Japanese yen (0.5%)	2024–2028	1,327	694
Other (16.1%)	2023–2026	305	361
		$ 59,499	$ 51,747
Finance lease obligations (3.6%)	2023–2030	232	239
		$ 59,731	$ 51,986
Less: net unamortized discount		866	835
Less: net unamortized debt issuance costs		170	138
Add: fair value adjustment**		11	(73)
		$ 58,707	$ 50,940
Less: current maturities		4,881	4,751
Total		$ 53,826	$ 46,189

* 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 2023, the company issued $0.7 billion of Japanese yen floating-rate syndicated bank loans with a maturity of 5 years; $4.6 billion of Euro fixed-rate notes in tranches with maturities ranging from 4 to 20 years and coupons ranging from 3.375 to 4 percent; $0.9 billion of Pound sterling fixed-rate notes with a maturity of 15 years and a coupon of 4.875 percent; and $3.25 billion of U.S. dollar fixed-rate notes in tranches with maturities ranging from 3 to 30 years and coupons ranging from 4.5 to 5.1 percent.

Pre-swap annual contractual obligations of long-term debt outstanding at March 31, 2023, are as follows:

(Dollars in millions)	Total
Remainder of 2023	$ 2,812
2024	6,378
2025	4,935
2026	5,550
2027	5,812
Thereafter	34,243
Total	$ 59,731

Interest on Debt

(Dollars in millions) For the three months ended March 31:	2023	2022
Cost of financing	$ 90	$ 82
Interest expense	367	311
Interest capitalized	4	2
Total interest paid and accrued	$ 462	$ 395

Lines of Credit

The company has a $2.5 billion Three-Year Credit Agreement and a $7.5 billion Five-Year Credit Agreement with maturity dates of June 20, 2025 and June 22, 2027, respectively. The Credit Agreements permit the company and its subsidiary borrowers to borrow up to $10 billion on a revolving basis. At March 31, 2023, 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 $1.4 billion and $1.6 billion at March 31, 2023 and December 31, 2022, 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 $1.7 billion and $2.1 billion at March 31, 2023 and December 31, 2022, respectively. The reduction in the future financing commitments is primarily due to lower services financing in the current quarter. 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 2022 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 March 31, 2023.

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 March 31, 2023 and December 31, 2022 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)	2023	2022
Balance at January 1	$ 79	$ 77
Current period accruals	17	14
Accrual adjustments to reflect actual experience	(17)	(2)
Charges incurred	(21)	(20)
Balance at March 31	$ 58	$ 69

Extended Warranty Liability (Deferred Income)

(Dollars in millions)	2023	2022
Balance at January 1	$ 272	$ 350
Revenue deferred for new extended warranty contracts	9	18
Amortization of deferred revenue	(37)	(44)
Other*	1	(1)
Balance at March 31	$ 244	$ 323
Current portion	$ 129	$ 155
Noncurrent portion	$ 116	$ 168

* 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 March 31, 2023 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.

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 September 21, 2022, the plaintiff voluntarily dismissed the case, without prejudice. On January 13, 2023, a putative securities law class action making allegations substantially similar to those in the dismissed case was filed in the same court. On April 4, 2023, the court entered an order appointing June E. Adams Irrevocable Trust Dated 7/21/14 FBO Edward Adams, the same entity that filed the since-dismissed April 5, 2022 class action, 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 was formed to investigate the issues raised in the letter. The special committee has completed its investigation and recommended that no claims should be asserted on behalf of the company. The independent directors of the company's Board of Directors unanimously adopted that recommendation.

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. IBM filed a notice of appeal. 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 March 31, 2023:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ (87)	$ 56	$ (30)
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ 15	$ (4)	$ 11
Reclassification of (gains)/losses to other (income) and expense	—	—	—
Total net changes related to available-for-sale securities	$ 15	$ (4)	$ 11
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ (29)	$ 6	$ (23)
Reclassification of (gains)/losses to:			
Cost of services	2	0	2
Cost of sales	(14)	4	(10)
Cost of financing	5	(1)	4
SG&A expense	(10)	3	(7)
Other (income) and expense	(126)	32	(94)
Interest expense	21	(5)	16
Total unrealized gains/(losses) on cash flow hedges	$ (151)	$ 38	$ (113)
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ —	$ 1	$ 1
Net (losses)/gains arising during the period	2	0	2
Curtailments and settlements	(1)	0	(1)
Amortization of prior service (credits)/costs	(2)	1	(2)
Amortization of net (gains)/losses	131	(38)	93
Total retirement-related benefit plans	$ 130	$ (38)	$ 92
Other comprehensive income/(loss)	$ (93)	$ 53	$ (40)

* 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 March 31, 2022:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 442	$ (136)	$ 306
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	$ 60	$ (16)	$ 44
Reclassification of (gains)/losses to:			
Cost of services	(15)	4	(11)
Cost of sales	(12)	4	(9)
Cost of financing	5	(1)	4
SG&A expense	(6)	2	(4)
Other (income) and expense	7	(2)	5
Interest expense	21	(5)	15
Total unrealized gains/(losses) on cash flow hedges	$ 59	$ (15)	$ 44
Retirement-related benefit plans*:			
Prior service costs/(credits)	$ (5)	$ 5	$ 0
Net (losses)/gains arising during the period	9	(4)	5
Curtailments and settlements	8	(2)	6
Amortization of prior service (credits)/costs	7	(2)	5
Amortization of net (gains)/losses	468	(131)	337
Total retirement-related benefit plans	$ 486	$ (134)	$ 352
Other comprehensive income/(loss)	$ 987	$ (285)	$ 703

* 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, 2023	$ (135)	$ (3,591)	$ (13,013)	$ (1)	$ (16,740)
Other comprehensive income before reclassifications	(23)	(30)	2	11	(39)
Amount reclassified from accumulated other comprehensive income/(loss)	(90)	—	90	—	0
Total change for the period	$ (113)	$ (30)	$ 92	$ 11	$ (40)
March 31, 2023	$ (248)	$ (3,621)	$ (12,921)	$ 10	$ (16,780)

(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	44	306	5	0	355
Amount reclassified from accumulated other comprehensive income/(loss)	0	—	348	—	348
Total change for the period	$ 44	$ 306	$ 352	$ 0	$ 703
March 31, 2022	$ 26	$ (3,056)	$ (19,502)	$ (1)	$ (22,532)

* 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 March 31, 2023 and December 31, 2022, the amount recognized in other accounts receivable for the right to reclaim cash collateral was $42 million and $140 million, respectively. At March 31, 2023, there was no amount recognized in accounts payable for the obligation to return cash collateral. At December 31, 2022, the amount recognized in accounts payable for such obligation was $8 million. The company restricts the use of cash collateral received to rehypothecation, and therefore reports it in restricted cash in the Consolidated Balance Sheet. There was no cash collateral rehypothecated at March 31, 2023. At December 31, 2022, the amount rehypothecated was $8 million. Additionally, if derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Balance Sheet at March 31, 2023 and December 31, 2022, the total derivative asset and liability positions each would have been reduced by $157 million and $220 million, respectively.

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

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

Interest Rate Risk

Fixed and Variable Rate Borrowings

The company issues debt in the global capital markets to fund its operations and financing business. Access to cost-effective financing can result in interest rate mismatches with the underlying assets. To manage these mismatches and to reduce overall interest cost, the company may use interest-rate swaps to convert specific fixed-rate debt issuances into variable-rate debt (i.e., fair value hedges) and to convert specific variable-rate debt issuances into fixed-rate debt (i.e., cash flow hedges). At March 31, 2023 and December 31, 2022, the total notional amount of the company's interest-rate swaps was $6.9 billion and $6.5 billion, respectively. The weighted-average remaining maturity of these instruments at both March 31, 2023 and December 31, 2022 was approximately 6 years. These interest-rate contracts were accounted for as fair value hedges. The company did not have any cash flow hedges relating to this program outstanding at March 31, 2023 and December 31, 2022.

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 March 31, 2023 and December 31, 2022.

In connection with cash flow hedges of forecasted interest payments related to the company's borrowings, the company recorded net losses (before taxes) of $135 million and $139 million at March 31, 2023 and December 31, 2022, respectively, in AOCI. The company estimates that $18 million of the deferred net losses (before taxes) on derivatives in AOCI at March 31, 2023 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 March 31, 2023 and December 31, 2022, the carrying value of debt designated as hedging instruments was $15.2 billion and $13.4 billion, respectively. The company also uses cross-currency swaps and foreign exchange forward contracts for this risk management purpose. At March 31, 2023 and December 31, 2022, the total notional amount of derivative instruments designated as net investment hedges was $5.0 billion and $4.7 billion, respectively. At March 31, 2023 and December 31, 2022, the weighted-average remaining maturity of these instruments was approximately 0.2 years and 0.1 years, respectively.

Anticipated Royalties and Cost Transactions

The company's operations generate significant nonfunctional currency, third-party vendor payments and intercompany payments for royalties and goods and services among the company's non-U.S. subsidiaries and with the company. In anticipation of these foreign currency cash flows and in view of the volatility of the currency markets, the company selectively employs foreign exchange forward contracts to manage its currency risk. These forward contracts

are accounted for as cash flow hedges. At March 31, 2023, the maximum remaining length of time over which the company hedged its exposure is approximately two years. At March 31, 2023 and December 31, 2022, the total notional amount of forward contracts designated as cash flow hedges of forecasted royalty and cost transactions was $8.4 billion and $8.1 billion, respectively. At both March 31, 2023 and December 31, 2022, the weighted-average remaining maturity of these instruments was approximately 0.6 years.

At March 31, 2023 and December 31, 2022, in connection with cash flow hedges of anticipated royalties and cost transactions, the company recorded net losses and net gains (before taxes) of $24 million and $66 million, respectively, in AOCI. The company estimates that $85 million of deferred net losses (before taxes) on derivatives in AOCI at March 31, 2023 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 March 31, 2023, the maximum length of time remaining over which the company hedged its exposure is approximately eight years. At March 31, 2023 and December 31, 2022, the total notional amount of cross-currency swaps designated as cash flow hedges of foreign currency denominated debt was $4.0 billion and $3.1 billion, respectively.

At March 31, 2023 and December 31, 2022, in connection with cash flow hedges of foreign currency denominated borrowings, the company recorded net losses (before taxes) of $166 million and $101 million, respectively, in AOCI. The company estimates that $41 million of deferred net gains (before taxes) on derivatives in AOCI at March 31, 2023 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 March 31, 2023 and December 31, 2022, the total notional amount of derivative instruments in economic hedges of foreign currency exposure was $8.4 billion and $5.9 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 equity swap derivatives 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 both March 31, 2023 and December 31, 2022, the total notional amount of derivative instruments in economic hedges of these compensation obligations was $1.1 billion.

Cumulative Basis Adjustments for Fair Value Hedges

At March 31, 2023 and December 31, 2022, the following amounts were recorded in the Consolidated Balance Sheet related to cumulative basis adjustments for fair value hedges.

(Dollars in millions)	March 31, 2023	December 31, 2022
Short-term debt:		
Carrying amount of the hedged item	$ (204)	$ (199)
Cumulative hedging adjustments included in the carrying amount — assets/(liabilities)*	$ (4)	$ 1
Long-term debt:		
Carrying amount of the hedged item	$ (6,693)	$ (6,216)
Cumulative hedging adjustments included in the carrying amount — assets/(liabilities)*	$ (8)	$ 72

* Includes ($238) million and ($250) million of hedging adjustments on discontinued hedging relationships at March 31, 2023 and December 31, 2022, 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 March 31:	2023	2022	2023	2022
Cost of services	$ 5,310	$ 5,349	$ (2)	$ 15
Cost of sales	$ 1,322	$ 1,415	$ 14	$ 12
Cost of financing	$ 110	$ 98	$ (3)	$ (2)
SG&A expense	$ 4,853	$ 4,597	$ 59	$ (70)
Other (income) and expense	$ (245)	$ 246	$ 142	$ (102)
Interest expense	$ 367	$ 311	$ (14)	$ (6)

(Dollars in millions) For the three months ended March 31:	Consolidated Income Statement Line Item	Gain (Loss) Recognized in Consolidated Income Statement: Recognized on Derivatives 2023	Recognized on Derivatives 2022	Attributable to Risk Being Hedged (2) 2023	Attributable to Risk Being Hedged (2) 2022
Derivative instruments in fair value hedges (1):					
Interest rate contracts	Cost of financing	$ 13	$ (1)	$ (17)	$ 4
	Interest expense	53	(4)	(68)	16
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	16	(95)	N/A	N/A
Equity contracts	SG&A expense	49	(76)	N/A	N/A
Total		$ 131	$ (176)	$ (84)	$ 20

(Dollars in millions) For the three months ended March 31:	Gain (Loss) Recognized in Consolidated Income Statement and Other Comprehensive Income: Recognized in OCI 2023	Recognized in OCI 2022	Consolidated Income Statement Line Item	Reclassified from AOCI 2023	Reclassified from AOCI 2022	Amounts Excluded from Effectiveness Testing (3) 2023	Amounts Excluded from Effectiveness Testing (3) 2022
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ —	Cost of financing	$ (1)	$ (1)	$ —	$ —
			Interest expense	(3)	(3)	—	—
Foreign exchange contracts	(29)	60	Cost of services	(2)	15	—	—
			Cost of sales	14	12	—	—
			Cost of financing	(4)	(5)	—	—
			SG&A expense	10	6	—	—
			Other (income) and expense	126	(7)	—	—
			Interest expense	(17)	(17)	—	—
Instruments in net investment hedges (4):							
Foreign exchange contracts	(224)	541	Cost of financing	—	—	5	1
			Interest expense	—	—	22	2
Total	$ (253)	$ 601		$ 122	$ 1	$ 28	$ 3

(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 months ending March 31, 2023 and 2022, 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) For the three months ended March 31:	2023	2022
Cost	$ 46	$ 40
Selling, general and administrative	149	136
Research, development and engineering	74	57
Pre-tax stock-based compensation cost	$ 268	$ 234
Income tax benefits	(67)	(57)
Total net stock-based compensation cost	$ 201	$ 177

Pre-tax stock-based compensation cost for the three months ended March 31, 2023 increased $35 million compared to the corresponding period in the prior year, including increases in Employees Stock Purchase Plan (ESPP) ($19 million) as a result of ESPP being considered compensatory effective April 1, 2022 and stock options ($14 million) due to the conversion of stock options previously issued by acquired entities and stock options granted by the company as part of its executive compensation programs.

Total unrecognized compensation cost related to non-vested awards at March 31, 2023 was $1.7 billion and is expected to be recognized over a weighted-average period of approximately 2.6 years.

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 March 31:	2023	2022	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Defined benefit and contribution pension plans — cost	$ 281	$ 478	(41.1)%
Nonpension postretirement plans — cost	32	33	(1.6)
Total	$ 314	$ 510	(38.5)

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

Cost/(Income) of Pension Plans

(Dollars in millions)	U.S. Plans		Non-U.S. Plans	
For the three months ended March 31:	**2023**	**2022**	**2023**	**2022**
Service cost	$ —	$ —	$ 44	$ 64
Interest cost*	272	302	288	139
Expected return on plan assets*	(382)	(475)	(356)	(274)
Amortization of prior service costs/(credits)*	—	2	5	4
Recognized actuarial losses*	27	179	102	278
Curtailments and settlements*	—	—	(1)	8
Multi-employer plans	—	—	4	4
Other costs/(credits)*	—	—	9	9
Total net periodic pension (income)/cost of defined benefit plans	$ (82)	$ 8	$ 95	$ 231
Cost of defined contribution plans	172	141	97	98
Total defined benefit and contribution pension plans cost recognized in the Consolidated Income Statement	$ 90	$ 149	$ 192	$ 328

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

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

Cost of Nonpension Postretirement Plans

(Dollars in millions)	U.S. Plan		Non-U.S. Plans	
For the three months ended March 31:	**2023**	**2022**	**2023**	**2022**
Service cost	$ 1	$ 1	$ 1	$ 1
Interest cost*	29	18	9	9
Expected return on plan assets*	—	—	(1)	0
Amortization of prior service costs/(credits)*	(7)	1	0	0
Recognized actuarial losses*	—	2	0	1
Curtailments and settlements*	—	—	—	—
Total nonpension postretirement plans cost recognized in the Consolidated Income Statement	$ 23	$ 23	$ 9	$ 10

* 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 2023 from the amounts disclosed in the 2022 Annual Report.

The table below includes contributions to the following plans:

(Dollars in millions) For the three months ended March 31:	Plan Contributions 2023	2022
U.S. nonpension postretirement benefit plan	$ 109	$ 120
Non-U.S. DB and multi-employer plans*	7	35
Total plan contributions	$ 117	$ 154

* Amounts reported net of refunds.

During the three months ended March 31, 2023 and 2022, the company contributed $109 million and $105 million of U.S. Treasury Securities, respectively, to the U.S. nonpension postretirement benefit plan. Additionally, during the three months ended March 31, 2023 and 2022, the company contributed $192 million and $156 million of 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 April 25, 2023, the company announced that the Board of Directors approved an increase in the quarterly dividend to $1.66 per common share. The dividend is payable June 10, 2023 to shareholders of record on May 10, 2023.

Item 2.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION FOR THE THREE MONTHS ENDED MARCH 31, 2023

Snapshot

Organization of Information:

In the fourth quarter of 2022, we completed our annual assessment of the useful lives of our property, plant and equipment. Due to advances in technology, we determined we should increase the estimated useful lives of our server and network equipment from five to six years for new assets and from three to four years for used assets. This change in accounting estimate was effective beginning January 1, 2023. Based on the carrying amount of server and network equipment included in property, plant and equipment-net in our Consolidated Balance Sheet as of December 31, 2022, the effect of this change in estimate was an increase in income from continuing operations before income taxes of $74 million or $0.06 per both basic and diluted share for the three months ended March 31, 2023.

In the first quarter of 2023, we initiated a workforce rebalancing action to address remaining stranded costs from portfolio actions over the last couple of years resulting in a charge to pre-tax income from continuing operations of approximately $260 million. In addition, beginning in the first quarter of 2023, we updated our measure of segment pre-tax income to no longer allocate workforce rebalancing actions to our segments, consistent with our management system. Workforce rebalancing charges in the first quarter of 2022 of $5 million were included in the segments.

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 its business performance. Financial results adjusted for currency are calculated by translating current period activity in local currency using the comparable prior-year period's currency conversion rate. This approach is used for countries where the functional currency is the local currency. Generally, when the dollar either strengthens or weakens against other currencies, the growth at constant currency rates or adjusting for currency will be higher or lower than growth reported at actual exchange rates. Refer to "Currency Rate Fluctuations" for additional information.

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 primarily include true-ups, accounting elections and any changes to regulations, laws, audit adjustments that affect the recorded one-time charge. Management 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 gains or losses on the Kyndryl common stock and the related cash-settled swap with a third-party financial institution, which were recorded in other (income) and expense in the Consolidated Income Statement. As of November 2, 2022, the company no longer held an

ownership interest in Kyndryl. 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. 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.

Financial Results Summary — Three Months Ended March 31:

(Dollars and shares in millions except per share amounts) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent/ Margin Change
Revenue	$ 14,252	$ 14,197	0.4 %*
Gross profit margin	52.7 %	51.7 %	1.0 pts.
Total expense and other (income)	$ 6,451	$ 6,712	(3.9)%
Income from continuing operations before income taxes	$ 1,058	$ 623	69.8 %
Provision for/(benefit from) income taxes from continuing operations	$ 124	$ (39)	nm
Income from continuing operations	$ 934	$ 662	41.1 %
Income from continuing operations margin	6.6 %	4.7 %	1.9 pts.
Income/(loss) from discontinued operations, net of tax	$ (7)	$ 71	nm
Net income	$ 927	$ 733	26.5 %
Earnings per share from continuing operations - assuming dilution	$ 1.02	$ 0.73	39.7 %
Consolidated earnings per share - assuming dilution	$ 1.01	$ 0.81	24.7 %
Weighted-average shares outstanding - assuming dilution	917.8	909.2	0.9 %
	At 3/31/2023	**At 12/31/2022**	
Assets	$ 133,637	$ 127,243	5.0 %
Liabilities	$ 111,964	$ 105,222	6.4 %
Equity	$ 21,672	$ 22,021	(1.6)%

* 4.4 percent adjusted for currency.

nm - not meaningful

The following table provides the company's operating (non-GAAP) earnings for the first quarter of 2023 and 2022.

(Dollars in millions except per share amounts) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Net income as reported	$ 927	$ 733	26.5 %
Income/(loss) from discontinued operations, net of tax	(7)	71	nm
Income from continuing operations	$ 934	$ 662	41.1 %
Non-operating adjustments (net of tax):			
Acquisition-related charges	$ 305	$ 359	(15.1)%
Non-operating retirement-related costs/(income)	5	144	(96.5)
U.S. tax reform impacts	5	(116)	nm
Kyndryl-related impacts	—	222	(100.0)
Operating (non-GAAP) earnings*	$ 1,249	$ 1,271	(1.8)%
Diluted operating (non-GAAP) earnings per share*	$ 1.36	$ 1.40	(2.9)%

* Refer to page 67 for a more detailed reconciliation of net income to operating earnings.

nm - not meaningful

Macroeconomic Environment:

Our business profile positions us well in challenging times. Our diversification across geographies, industries, clients and business mix and our recurring revenue base provides some stability in revenue, profit and cash generation.

We had a good start to 2023 and saw progress from the actions we have taken to mitigate the impacts of escalating labor and component costs and a strong U.S. dollar. Consulting pre-tax margin increased in the first quarter of 2023 as we continue to benefit from pricing and productivity actions. And across our product-based businesses, we announced a

series of price increases reflecting the value we provide to our clients. We expect these actions to continue to contribute to margin improvement throughout 2023. In the current environment, clients are prioritizing digital transformation projects that focus on cost reduction and productivity. While demand for our offerings that support these priorities remains solid, we are seeing some deceleration in Consulting from the previous robust growth levels, especially in the U.S. The strength of the U.S. dollar continued to impact our reported revenue and pre-tax profit. We execute hedging programs which defer but do not eliminate the impact of currency. The (gains)/losses from these hedging programs are reflected primarily in other income and expense. See "Currency Rate Fluctuations," for additional information.

In March 2023, the bank failures of Silicon Valley Bank and Signature Bank created significant market disruption and uncertainty within the U.S. banking sector, in particular with respect to regional banks. We hold minimal cash balances with regional banks in the U.S. We have a robust and disciplined cash management process to protect our cash and maintain financial stability. Further, while we serve many clients in the Financial Services Sector (FSS), less than one percent of our total revenue comes from regional banks. We have not seen any notable changes in the client buying behaviors of our FSS clients in the U.S. We continue to monitor the impacts of this situation but do not anticipate a significant impact on our future results of operations or financial position.

Financial Performance Summary — Three Months Ended March 31:

In the first quarter of 2023, we reported $14.3 billion in revenue, income from continuing operations of $0.9 billion and operating (non-GAAP) earnings of $1.2 billion. Diluted earnings per share from continuing operations was $1.02 as reported and $1.36 on an operating (non-GAAP) basis. We generated $3.8 billion in cash from operations and $1.3 billion in free cash flow and delivered shareholder returns of $1.5 billion in dividends. We continued to invest in innovation while transforming our business processes and driving productivity. Our first-quarter results reflect progress in our key growth areas as clients continue to accelerate their digital transformations, modernize their applications, automate their workflows and create flexible and secure hybrid cloud environments.

Total revenue grew 0.4 percent as reported and 4 percent adjusted for currency compared to the prior-year period led by our growth areas of Software and Consulting. Software delivered revenue growth of 2.6 percent as reported and 6 percent adjusted for currency, with growth in both Hybrid Platform & Solutions and Transaction Processing. Hybrid Platform & Solutions revenue was up 2.4 percent as reported and 5 percent adjusted for currency. We continue to see client demand for broad capabilities across Red Hat, Automation, Data & AI and Security. Transaction Processing revenue grew 2.9 percent as reported and 7 percent adjusted for currency as this software remains core to our clients' hybrid cloud strategies. Consulting revenue increased 2.8 percent as reported and 8 percent adjusted for currency, with growth led by data and customer experience transformation projects, in addition to cloud application development and management. Infrastructure revenue decreased 3.7 percent as reported and was flat adjusted for currency, with revenue growth in Hybrid Infrastructure led by zSystems, more than offset by a decline in Infrastructure Support revenue.

From a geographic perspective, Americas revenue grew 0.3 percent year to year as reported (1 percent adjusted for currency). Europe/Middle East/Africa (EMEA) increased 2.4 percent (8 percent adjusted for currency). Asia Pacific decreased 2.3 percent but grew 7 percent adjusted for currency.

Gross margin of 52.7 percent increased 1.0 point year to year with margin expansion across all reportable segments and a strong portfolio mix overall. Operating (non-GAAP) gross margin of 53.7 percent increased 0.8 points year to year due to the same dynamics.

Total expense and other (income) decreased 3.9 percent in the first quarter of 2023 versus the prior-year period primarily driven by an unrealized loss from Kyndryl retained shares in the first-quarter 2022, lower non-operating retirement-related costs, higher interest income, the effects of currency and benefits from productivity and transformation of our business processes. These impacts were partially offset by higher workforce rebalancing charges and higher net spending reflecting our continuing investment in innovation, our ecosystem and talent. Total operating (non-GAAP) expense and other (income) increased 3.5 percent year to year, driven primarily by the factors described

above excluding the prior-year unrealized loss on Kyndryl stock and the lower non-operating retirement-related costs in the current year.

Pre-tax income from continuing operations of $1.1 billion increased 69.8 percent and pre-tax margin was 7.4 percent, an increase of 3.0 points versus the first quarter of 2022. Performance this quarter benefitted from the expense dynamics described above, improvements in business mix and ongoing productivity initiatives, partially offset by currency and workforce rebalancing charges. The first-quarter 2023 workforce rebalancing charge of approximately $260 million impacted the pre-tax income from continuing operations year-to-year performance by approximately 40 points and the pre-tax margin by 1.8 points. The continuing operations provision for income taxes in the first quarter of 2023 was $124 million, compared to a benefit of $39 million in the first quarter of 2022. The prior-year benefit was primarily driven by the impact of updates to the foreign tax credit regulations. Net income from continuing operations of $0.9 billion increased 41.1 percent and the net income from continuing operations margin was 6.6 percent, up 1.9 points year to year. The workforce rebalancing charge impacted net income from continuing operations year-to-year performance by approximately 30 points and pre-tax margin by 1.4 points.

Operating (non-GAAP) pre-tax income from continuing operations of $1.4 billion decreased 4.4 percent compared to the prior-year period and the operating (non-GAAP) pre-tax margin from continuing operations decreased 0.5 points to 10.2 percent. The workforce rebalancing charge impacted operating (non-GAAP) pre-tax income from continuing operations year-to-year performance by approximately 17 points and operating (non-GAAP) pre-tax margin by 1.8 points. The operating (non-GAAP) income tax provision for the first quarter of 2023 was $200 million, compared to a provision for income taxes of $244 million in the first quarter of 2022. Operating (non-GAAP) income from continuing operations of $1.2 billion decreased 1.8 percent and the operating (non-GAAP) income margin from continuing operations of 8.8 percent was down 0.2 points year to year. The workforce rebalancing charge impacted operating (non-GAAP) income from continuing operations year-to-year performance by approximately 16 points and operating (non-GAAP) pre-tax margin by 1.4 points.

Diluted earnings per share from continuing operations of $1.02 in the first quarter of 2023 increased 39.7 percent and operating (non-GAAP) diluted earnings per share of $1.36 decreased 2.9 percent versus the prior-year period. The workforce rebalancing charge resulted in an impact of ($0.22) both to diluted earnings per share from continuing operations and diluted operating (non-GAAP) earnings per share.

At March 31, 2023, the balance sheet remained strong with the flexibility to support and invest in the business. Cash and cash equivalents, restricted cash and marketable securities at March 31, 2023 of $17.6 billion increased $8.8 billion from December 31, 2022 and debt of $58.7 billion at March 31, 2023 increased $7.8 billion, both increases driven primarily by net debt issuances.

Total assets increased $6.4 billion ($5.9 billion adjusted for currency) from December 31, 2022 primarily driven by the increase in cash and cash equivalents, restricted cash and marketable securities; partially offset by a decrease in receivables. Total liabilities increased $6.7 billion ($6.2 billion adjusted for currency) from December 31, 2022 primarily driven by the increase in debt and an increase in deferred income; partially offset by decreases in compensation and benefits and taxes payable. Total equity of $21.7 billion decreased $0.3 billion from December 31, 2022 as a result of dividends paid, partially offset by first-quarter 2023 net income and common stock issuances.

Cash provided by operating activities was $3.8 billion in the first three months of 2023, an increase of $0.5 billion compared to the prior-year period. Net cash used in investing activities of $8.0 billion increased $6.6 billion and net cash provided by financing activities of $5.7 billion increased $4.3 billion compared to the first three months of 2022.

First Quarter in Review

Results of Continuing Operations

Segment Details

The table below presents each reportable segment's revenue and gross margin results, followed by an analysis of the first quarter of 2023 versus the first quarter of 2022 reportable segments results.

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Software	$ 5,921	$ 5,772	2.6 %	5.6 %
Gross margin	79.5 %	78.8 %	0.6 pts.	
Consulting	4,962	4,829	2.8 %	8.2 %
Gross margin	25.2 %	24.3 %	0.9 pts.	
Infrastructure	3,098	3,219	(3.7)%	0.1 %
Gross margin	51.7 %	50.5 %	1.2 pts.	
Financing	196	154	27.3 %	31.0 %
Gross margin	43.9 %	37.7 %	6.2 pts.	
Other	75	224	(66.6)%	(65.2)%
Gross margin	(182.3)%	(32.9)%	(149.4)pts.	
Total revenue	$ 14,252	$ 14,197	0.4 %	4.4 %
Total gross profit	$ 7,509	$ 7,335	2.4 %	
Total gross margin	52.7 %	51.7 %	1.0 pts.	
Non-operating adjustments:				
Amortization of acquired intangible assets	148	181	(18.0)%	
Operating (non-GAAP) gross profit	$ 7,658	$ 7,516	1.9 %	
Operating (non-GAAP) gross margin	53.7 %	52.9 %	0.8 pts.	

Software

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Software revenue:	$ 5,921	$ 5,772	2.6 %	5.6 %
Hybrid Platform & Solutions	$ 4,179	$ 4,080	2.4 %	5.2 %
Red Hat			8.3	10.8
Automation			(0.9)	2.1
Data & AI			0.8	3.4
Security			(1.2)	2.0
Transaction Processing	1,742	1,692	2.9	6.5

Software revenue of $5,921 million increased 2.6 percent as reported (6 percent adjusted for currency) in the first quarter of 2023 compared to the prior-year period with growth in both Hybrid Platform & Solutions and Transaction Processing. This performance reflects the benefits of our growing recurring revenue and continued strong renewal rates. This, together with the growth in transactional software this quarter, demonstrates clients' commitment to our hybrid cloud and AI platforms.

Hybrid Platform & Solutions revenue of $4,179 million increased 2.4 percent as reported (5 percent adjusted for currency) in the first quarter of 2023 compared to the prior-year period reflecting continued client demand for our broad capabilities across all business areas. Red Hat revenue grew 8.3 percent as reported (11 percent adjusted for currency) in the first quarter of 2023 with growth across all major offerings. We had strength in OpenShift, our hybrid cloud platform, and Ansible, our IT automation solution, both of which continued to take market share this quarter. Automation revenue decreased 0.9 percent as reported, but grew 2 percent adjusted for currency driven by growth in offerings such as integration and application servers given client demand for improved IT performance and cost. Data & AI revenue increased 0.8 percent as reported (3 percent adjusted for currency), reflecting growth across Data Management, Business Analytics, and Asset and Supply Chain Management. Many of these offerings, such as DB2, serve as the underpinnings for modern AI and mission-critical workloads. Security revenue decreased 1.2 percent as reported, but grew 2.0 percent adjusted for currency compared to the prior year.

Across Hybrid Platform & Solutions, our annual recurring revenue (ARR) was $13.5 billion. 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.

Transaction Processing revenue of $1,742 million increased 2.9 percent as reported (7 percent adjusted for currency) in the first quarter of 2023 compared to the prior-year period. This software remains core to our clients' hybrid cloud strategies. The strong performance of the last two zSystems cycles drove significant capacity growth. This growth translates to software opportunity and contributed to growth in both recurring and transactional revenue. Together with price increases, this performance contributed to good revenue growth this quarter.

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent/ Margin Change
Software:			
Gross profit	$ 4,705	$ 4,550	3.4 %
Gross profit margin	79.5 %	78.8 %	0.6 pts.
Pre-tax income	$ 1,164	$ 1,134	2.7 %
Pre-tax margin	19.7 %	19.7 %	0.0 pts.

Software gross profit margin increased 0.6 points to 79.5 percent in the first quarter of 2023 compared to the prior-year period, reflecting the solid revenue performance in the quarter. Pre-tax income of $1,164 million increased 2.7 percent year to year and pre-tax margin of 19.7 percent was flat compared to the prior-year first quarter, reflecting the higher profit contribution from revenue, partially offset by the impact of currency.

Consulting

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Consulting revenue:	$ 4,962	$ 4,829	2.8 %	8.2 %
Business Transformation	$ 2,283	$ 2,255	1.3 %	6.5 %
Technology Consulting	943	955	(1.3)	4.2
Application Operations	1,736	1,619	7.3	13.0

Consulting revenue of $4,962 million increased 2.8 percent as reported and 8 percent adjusted for currency in the first quarter of 2023 compared to strong growth in the first quarter of 2022. Clients continue to leverage IBM's hybrid cloud leadership and deep expertise to accelerate their digital transformations. More recently, clients are prioritizing digital transformation projects that focus on cost take out and productivity. While total Consulting revenue growth remained solid, we saw some deceleration in revenue growth particularly among U.S. clients with respect to more discretionary projects, impacting backlog realization within the quarter. Our hybrid cloud expertise and the depth and breadth of our strategic partnerships differentiates IBM Consulting in the market. In the first quarter of 2023, we had solid growth in our Red Hat consulting practice and our strategic partnerships continued to make strong contributions to our total Consulting revenue growth.

Business Transformation revenue of $2,283 million increased 1.3 percent as reported and 6 percent adjusted for currency in the first quarter of 2023 compared to the prior-year period led by growth in data and customer experience transformation projects.

Technology Consulting revenue of $943 million decreased 1.3 percent as reported, but grew 4 percent adjusted for currency on a year-to-year basis led by growth in our engagements around cloud application development.

Application Operations revenue of $1,736 million increased 7.3 percent as reported and 13 percent adjusted for currency compared to the first quarter of 2022 led by growth in cloud application management.

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent/ Margin Change
Consulting:			
Gross profit	$ 1,252	$ 1,176	6.5 %
Gross profit margin	25.2 %	24.3 %	0.9 pts.
Pre-tax income	$ 382	$ 348	9.6 %
Pre-tax margin	7.7 %	7.2 %	0.5 pts.

Consulting first-quarter gross profit margin of 25.2 percent increased 0.9 points on a year-to-year basis. Pre-tax income increased 9.6 percent to $382 million in the first quarter of 2023 and pre-tax margin increased 0.5 points to 7.7 percent compared to the prior-year period. Our gross profit margin expansion and pre-tax margin performance continued to benefit from the pricing and productivity actions we have taken during the past year.

Consulting Signings and Book-to-Bill

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Consulting signings	$ 5,193	$ 5,136	1.1 %	6.5 %

Our book-to-bill ratio over the last twelve months was 1.07. In the first quarter of 2023, Consulting signings grew 1.1 percent as reported and 7 percent adjusted for currency. We continued to see broad demand for projects that deliver technology-driven transformations leveraging a hybrid cloud environment. Within the quarter, we saw solid demand for cloud modernization offerings and had one of our largest-ever Red Hat signings quarters. Clients' focus on driving productivity and cost reductions has contributed to signings growth from digital transformations in areas such as talent, finance and supply chain transformations.

Book-to-bill represents the ratio of IBM Consulting signings to its revenue over the same period and is a useful indicator of the demand for our business over time. 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.

Infrastructure

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Infrastructure revenue:	$ 3,098	$ 3,219	(3.7)%	0.1 %
Hybrid Infrastructure	$ 1,709	$ 1,700	0.5 %	3.8 %
zSystems			7.0	10.7
Distributed Infrastructure			(2.8)	0.3
Infrastructure Support	1,389	1,519	(8.5)	(4.0)

Infrastructure revenue of $3,098 million decreased 3.7 percent as reported and was flat adjusted for currency in the first quarter of 2023 compared to the prior-year period, reflecting a decrease in Infrastructure Support revenue year to year, partially offset by revenue growth in Hybrid Infrastructure led by zSystems.

Hybrid Infrastructure revenue of $1,709 million increased 0.5 percent as reported (4 percent adjusted for currency) compared to first quarter of 2022. Within Hybrid Infrastructure, zSystems revenue increased 7.0 percent as reported (11 percent adjusted for currency) year to year. This was the fourth quarter of z16 availability and the program's performance has outpaced that of prior cycles. In addition to its capabilities around embedded AI at scale, cloud native development for hybrid cloud and cyber-resilient security, clients are also leveraging z16 for its energy efficiency. We also had continued strong growth in shipped MIPs for new Linux workloads on z16. Distributed Infrastructure revenue decreased 2.8 percent as reported and was flat adjusted for currency. Revenue growth in Storage was offset by declines in Power reflecting the prior-year strong performance following the launch of Power10 high-end systems in the third quarter of 2021.

Infrastructure Support revenue of $1,389 million decreased 8.5 percent as reported and 4 percent adjusted for currency in the first quarter of 2023 compared to the prior-year period, reflecting product cycle dynamics.

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent/ Margin Change
Infrastructure:			
Gross profit	$ 1,603	$ 1,625	(1.4)%
Gross profit margin	51.7 %	50.5 %	1.2 pts.
Pre-tax income	$ 216	$ 199	8.5 %
Pre-tax margin	7.0 %	6.2 %	0.8 pts.

Infrastructure gross profit margin increased 1.2 points to 51.7 percent in the first quarter of 2023 compared to the prior-year period driven by margin expansion in Hybrid Infrastructure, partially offset by a decrease in margin within Infrastructure Support. Pre-tax income increased 8.5 percent to $216 million in the first quarter of 2023 and pre-tax margin increased 0.8 points year to year to 7.0 percent. The pre-tax margin performance reflects the benefits from gross profit margin performance within Hybrid Infrastructure, reflecting product cycle dynamics, as well as the changes in the useful life of servers and network equipment effective January 1, 2023 and an increase in IP income year to year. These benefits were partially offset by product cycle driven revenue declines and mix within Infrastructure Support and the impact of currency.

Financing

See pages 64 through 66 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 March 31:	2023	2022	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Revenue	$ 14,252	$ 14,197	0.4 %	4.4 %
Americas	$ 7,078	$ 7,056	0.3 %	1.2 %
Europe/Middle East/Africa (EMEA)	4,331	4,231	2.4	7.9
Asia Pacific	2,843	2,910	(2.3)	7.0

Total revenue of $14,252 million increased 0.4 percent as reported and 4 percent adjusted for currency in the first quarter of 2023 compared to the prior year.

Americas revenue of $7,078 million increased 0.3 percent as reported and 1 percent adjusted for currency. The U.S. decreased 0.6 percent compared to the prior year. The decrease in the U.S. was primarily driven by the divestiture of our healthcare software assets in second-quarter 2022 and declines in Infrastructure. Canada increased 2.8 percent as reported and 9 percent adjusted for currency. Latin America increased 7.6 percent as reported and 11 percent adjusted for currency, with Brazil increasing 13.6 percent as reported and 13 percent adjusted for currency.

In EMEA, total revenue of $4,331 million increased 2.4 percent as reported and 8 percent adjusted for currency. France and Italy increased 3.6 percent and 2.4 percent, respectively, as reported, and increased 8 percent and 7 percent, respectively, adjusted for currency. The UK and Germany decreased 10.8 percent and 5.4 percent, respectively, as reported, and 2 percent and 1 percent, respectively, adjusted for currency.

Asia Pacific revenue of $2,843 million decreased 2.3 percent as reported, but increased 7 percent adjusted for currency. Japan decreased 2.5 percent as reported, but increased 11 percent adjusted for currency. India increased 8.3

percent as reported and 18 percent adjusted for currency. China and Australia decreased 24.3 percent and 16.0 percent, respectively, as reported, and 20 percent and 11 percent, respectively, adjusted for currency.

Expense

Total Expense and Other (Income)

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Total expense and other (income)	$ 6,451	$ 6,712	(3.9)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (244)	$ (280)	(12.8)%
Acquisition-related charges	(3)	(7)	(50.1)
Non-operating retirement-related (costs)/income	5	(202)	nm
Kyndryl-related impacts	—	(222)	(100.0)
Operating (non-GAAP) expense and other (income)	$ 6,209	$ 6,001	3.5 %
Total expense-to-revenue ratio	45.3 %	47.3 %	(2.0)pts.
Operating (non-GAAP) expense-to-revenue ratio	43.6 %	42.3 %	1.3 pts.

nm — not meaningful

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

Selling, General and Administrative Expense

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 3,886	$ 3,824	1.6 %
Advertising and promotional expense	314	336	(6.6)
Workforce rebalancing charges	259	5	nm
Amortization of acquired intangible assets	243	279	(12.9)
Stock-based compensation	149	136	9.4
Provision for/(benefit from) expected credit loss expense	2	16	(88.2)
Total selling, general and administrative expense	$ 4,853	$ 4,597	5.6 %
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (243)	$ (279)	(12.9)%
Acquisition-related charges	(3)	(7)	(63.3)
Kyndryl-related impacts	—	0	(100.0)
Operating (non-GAAP) selling, general and administrative expense	$ 4,607	$ 4,311	6.9 %

nm — not meaningful

Total selling, general and administrative (SG&A) expense increased 5.6 percent in the first quarter of 2023 versus the prior-year period driven primarily by the following factors:

- Higher workforce rebalancing charges (6 points) to address remaining stranded costs from portfolio actions; and

- Higher spending (2 points) reflecting our continuing investment to drive our hybrid cloud and AI strategy, partially offset by benefits from productivity and the actions taken to transform our operations; partially offset by

- The effects of currency (2 points).

Operating (non-GAAP) expense increased 6.9 percent year to year primarily driven by the same factors.

The provision for expected credit loss expense decreased $14 million year to year, primarily driven by a higher release of general reserves and lower additions to specific reserves in the current-year period. The receivables provision coverage was 2.8 percent at March 31, 2023, excluding receivables classified as held for sale, an increase of 40 basis points compared to December 31, 2022. The increase in coverage was primarily driven by the overall decrease in total receivables and, to a lesser extent, an increase in specific reserves.

Research, Development and Engineering

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Research, development and engineering expense	$ 1,655	$ 1,679	(1.4)%

Research, development and engineering (RD&E) expense in the first quarter of 2023 decreased 1.4 percent year to year primarily due to the effects of currency (2 points) which more than offset higher spending in the current-year period. We continue to invest to deliver innovation in AI, hybrid cloud and emerging areas such as quantum computing.

Intellectual Property and Custom Development Income

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Intellectual property and custom development income:			
Licensing of intellectual property including royalty-based fees	$ 61	$ 71	(14.2)%
Custom development income	115	48	139.1
Sales/other transfers of intellectual property	4	2	119.0
Total	$ 180	$ 121	48.7 %

Total intellectual property and custom development income in the first quarter of 2023 increased 48.7 percent year to year. The increase was primarily driven by a three-year joint development and licensing agreement signed in the fourth quarter of 2022 with a Japanese consortium to leverage our intellectual property and expertise on advanced semiconductors.

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 March 31:	2023	2022	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ 88	$ (176)	nm
(Gains)/losses on derivative instruments	(142)	102	nm
Interest income	(170)	(17)	nm
Net (gains)/losses from securities and investment assets	5	218	(97.6)%
Retirement-related costs/(income)	(5)	202	nm
Other	(22)	(83)	(73.9)
Total other (income) and expense	$ (245)	$ 246	nm
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (1)	$ (1)	—
Acquisition-related charges	(1)	—	nm
Non-operating retirement-related (costs)/income	5	(202)	nm
Kyndryl-related impacts	—	(222)	(100.0)%
Operating (non-GAAP) other (income) and expense	$ (242)	$ (179)	35.3 %

nm - not meaningful

Total other (income) and expense was income of $245 million in the first quarter of 2023 compared to expense of $246 million in the prior-year period. The year-to-year change was primarily driven by:

- An unrealized loss on the Kyndryl retained shares ($222 million) in the prior-year period;
- Non-operating retirement-related income in the first quarter of 2023 compared to cost in the prior-year period ($207 million). Refer to “Retirement-Related Plans” for additional information; and
- Higher interest income ($152 million) driven by higher average interest rates and a higher average cash balance in the current year; partially offset by
- Lower gains from divestitures and dispositions of land/buildings ($56 million).

Operating (non-GAAP) other (income) and expense was income of $242 million in the first quarter of 2023 compared to income of $179 million in the prior-year period. The year-to-year increase was driven primarily by the higher interest income, partially offset by the lower gains from divestitures and dispositions of land/buildings.

Interest Expense

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Interest expense	$ 367	$ 311	18.3 %

Interest expense increased $57 million in the first quarter of 2023 compared to the prior-year period. 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 first quarter of 2023 was $458 million, an increase of $65 million versus the prior-year period, driven by higher average interest rates and a higher average debt balance in the current year.

Retirement-Related Plans

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

(Dollars in millions) For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 46	$ 66	(29.6)%
Multi-employer plans	4	4	(6.3)
Cost of defined contribution plans	269	239	12.5
Total operating costs	$ 319	$ 309	3.3 %
Interest cost	$ 599	$ 467	28.2 %
Expected return on plan assets	(739)	(749)	(1.4)
Recognized actuarial losses	129	460	(71.9)
Amortization of prior service costs/(credits)	(2)	7	nm
Curtailments/settlements	(1)	8	nm
Other costs	9	9	(6.4)
Total non-operating costs/(income)	$ (5)	$ 202	(102.5)%
Total retirement-related plans — cost	$ 314	$ 510	(38.5)%

nm - not meaningful

Total pre-tax retirement-related cost decreased by $197 million compared to the first quarter of 2022, primarily driven by a decrease in recognized actuarial losses ($331 million) and lower service cost ($19 million), partially offset by higher interest costs ($132 million) and higher cost of defined contribution plans ($30 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 first quarter of 2023 were $319 million, an increase of $10 million compared to the first quarter of 2022, primarily driven by higher cost of defined contribution plans ($30 million), partially offset by lower service cost ($19 million). Non-operating costs/(income) was $5 million of income in the first quarter of 2023 compared to cost of $202 million in the prior-year period. The year-to-year change was primarily driven by a decrease in recognized actuarial losses ($331 million), partially offset by higher interest costs ($132 million).

The year-to-year decrease in recognized actuarial losses was primarily driven by the December 2022 remeasurement of our retirement and postretirement plans which resulted in a significant reduction to our pension plan benefit obligations and an improvement in our overall funded status primarily due to higher discount rates. In addition, we transferred $16 billion of our U.S. Qualified PPP obligations and related plan assets to third-party insurers in 2022 to further reduce the risk profile of our plans. The transfer resulted in a pre-tax pension settlement charge of $5.9 billion in the third quarter of 2022 primarily related to the accelerated recognition of actuarial losses.

Taxes

The continuing operations provision for income taxes for the first quarter of 2023 was $124 million, compared to a benefit from income taxes of $39 million in the first quarter of 2022. The prior-year benefit was primarily driven by the impact of updates to the foreign tax credit regulations. The operating (non-GAAP) income tax provision for the first quarter of 2023 was $200 million, compared to a provision for income taxes of $244 million in the first quarter of 2022.

IBM's full-year tax provision and effective tax rate are impacted by recurring factors including the geographical 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 2023. 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 challenging tax assessments issued by the India Tax Authorities. As of March 31, 2023, the company had recorded $657 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 are always uncertain, the company believes that adequate amounts of tax, interest and penalties have been provided for any adjustments that are expected to result for these years.

The amount of unrecognized tax benefits at March 31, 2023 is $8,741 million which can be reduced by $539 million associated with timing adjustments, potential transfer pricing adjustments, and state income taxes. The net amount of $8,202 million, if recognized, would favorably affect the company's effective tax rate.

Earnings Per Share

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

For the three months ended March 31:	2023	2022	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 1.02	$ 0.73	39.7 %
Basic	$ 1.03	$ 0.74	39.2 %
Diluted operating (non-GAAP)	$ 1.36	$ 1.40	(2.9)%
Weighted-average shares outstanding: (in millions)			
Assuming dilution	917.8	909.2	0.9 %
Basic	907.5	899.3	0.9 %

Actual shares outstanding at March 31, 2023 were 908.0 million. The weighted-average number of common shares outstanding assuming dilution during the first quarter of 2023 was 8.6 million shares (0.9 percent) higher than the same period of 2022.

Financial Position

Dynamics

Our balance sheet at March 31, 2023 continues to provide us with flexibility to support and invest in the business.

Cash and cash equivalents, restricted cash and marketable securities at March 31, 2023 were $17,592 million, an increase of $8,752 million compared to December 31, 2022. Total debt of $58,712 million at March 31, 2023 increased $7,764 million from December 31, 2022 primarily due to new debt issuances. We were opportunistic in accessing the debt market and issued $9,463 million of debt in the first quarter of 2023 to prudently plan for our debt maturity obligations through 2024. We continue to manage our debt levels while being acquisitive and without sacrificing investments in our business or our secure and modestly growing dividend policy.

In the first three months of 2023, we generated $3,774 million in cash from operating activities, an increase of $525 million compared to the first three months of 2022. Our free cash flow at March 31, 2023 was $1,340 million, an increase of $100 million versus the prior year. See pages 62 and 63 for additional information on free cash flow. Our solid cash generation supports investment and deployment of capital to areas with the most attractive long-term opportunities. We completed three acquisitions and returned $1,497 million to shareholders through dividends in the first quarter of 2023.

Our pension plans were well funded at the end of 2022, with worldwide qualified plans funded at 114 percent. Overall pension funded status as of the end of March 2023 was fairly consistent with year-end 2022, and we currently have no change to expected plan contributions in 2023.

IBM Working Capital

(Dollars in millions)	At March 31, 2023	At December 31, 2022
Current assets	$ 35,982	$ 29,118
Current liabilities	30,993	31,505
Working capital	$ 4,989	$ (2,387)
Current ratio	1.16:1	0.92:1

Working capital increased $7,376 million from the year-end 2022 position. Current assets increased $6,864 million ($6,730 million adjusted for currency) primarily in cash and cash equivalents, and marketable securities mainly driven by new debt issuances; partially offset by a decrease in receivables mainly from collections of seasonally higher year-end balances. Current liabilities decreased $512 million ($670 million adjusted for currency) primarily in compensation

and benefits driven by payments related to prior year performance-based compensation, and a decrease in taxes payable; partially offset by an increase in deferred income mainly driven by annual customer billings.

Receivables and Allowances

Roll Forward of Total IBM Receivables Allowance for Credit Losses

(Dollars in millions) January 1, 2023	Additions / (Releases) *	Write-offs **	Foreign currency and other+	March 31, 2023
$ 495	$ 4	$ (8)	$ 26	$ 516

* Additions/(Releases) for allowance for credit losses are recorded in expense.
** Refer to note A, "Significant Accounting Policies," in our 2022 Annual Report for additional information regarding allowance for credit loss write-offs.
\+ Other includes additions/(releases) related to discontinued operations.

Excluding receivables classified as held for sale, the total IBM receivables provision coverage was 2.8 percent at March 31, 2023, an increase of 40 basis points compared to December 31, 2022. The increase in coverage was primarily driven by the overall decrease in total receivables and, to a lesser extent, an increase in specific reserves. The majority of the write-offs during the three months ended March 31, 2023 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 March 31, 2023	At December 31, 2022
Amortized cost *	$ 11,301	$ 12,843
Specific allowance for credit losses	126	127
Unallocated allowance for credit losses	38	46
Total allowance for credit losses	164	173
Net financing receivables	$ 11,137	$ 12,670
Allowance for credit losses coverage	1.5 %	1.3 %

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

The percentage of Financing segment receivables reserved increased from 1.3 percent at December 31, 2022, to 1.5 percent at March 31, 2023, primarily driven by the decline in amortized cost.

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

(Dollars in millions) January 1, 2023	Additions / (Releases)*	Write-offs **	Foreign currency and other	March 31, 2023
$ 173	$ (13)	$ 0	$ 5	$ 164

* Additions/(Releases) for Allowance for Credit Losses are recorded in expense.
** Refer to note A, "Significant Accounting Policies," in our 2022 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 $15 million for the three months ended March 31, 2023, compared to a net release of $10 million for the same period in 2022. The increase in net releases was primarily driven by lower unallocated and specific reserve requirements in the current year in EMEA.

Noncurrent Assets and Liabilities

(Dollars in millions)	At March 31, 2023	At December 31, 2022
Noncurrent assets	$ 97,654	$ 98,125
Long-term debt	$ 53,826	$ 46,189
Noncurrent liabilities (excluding debt)	$ 27,146	$ 27,528

The decrease in noncurrent assets of $470 million ($790 million adjusted for currency) was primarily due to long-term financing receivables as a result of declines from seasonally higher year-end balances.

Long-term debt increased $7,636 million ($7,424 million adjusted for currency) primarily driven by new debt issuances, partially offset by reclassifications to short-term debt to reflect upcoming maturities.

Noncurrent liabilities (excluding debt) decreased $382 million ($555 million adjusted for currency) primarily driven by a decrease in deferred taxes and operating lease liabilities.

Debt

Our funding requirements are continually monitored as 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 March 31, 2023	At December 31, 2022
Total debt	$ 58,712	$ 50,949
Financing segment debt*	$ 10,522	$ 12,872
Non-Financing debt	$ 48,191	$ 38,077

* Refer to Financing's "Financial Position" on page 65 for additional details.

Total debt of $58,712 million increased $7,764 million ($7,542 million adjusted for currency) from December 31, 2022, primarily driven by proceeds from issuances of $9,407 million; partially offset by maturities of $2,016 million.

Non-Financing debt of $48,191 million increased $10,114 million ($9,930 million adjusted for currency) from December 31, 2022, primarily driven by our first quarter debt issuances to plan for debt maturities obligations through 2024.

Financing segment debt of $10,522 million decreased $2,350 million ($2,388 million adjusted for currency) from December 31, 2022, 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. The Financing debt-to-equity ratio remained at 9.0 to 1 at March 31, 2023.

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 4, "Segments."

Equity

Total equity decreased $349 million from December 31, 2022, primarily driven by dividends paid of $1,497 million, partially offset by an increase from net income of $927 million and common stock of $332 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. These amounts also include the cash flows associated with the Financing business.

(Dollars in millions) **For the three months ended March 31:**	**2023**	**2022**
Net cash provided by/(used in):		
Operating activities	$ 3,774	$ 3,248
Investing activities	(7,960)	(1,358)
Financing activities	5,708	1,377
Effect of exchange rate changes on cash, cash equivalents and restricted cash	24	(5)
Net change in cash, cash equivalents and restricted cash	$ 1,547	$ 3,263

Net cash provided by operating activities increased $525 million as compared to the first three months of 2022. This was due to an increase in cash provided by financing receivables, a decrease in workforce rebalancing payments, and improvements in sales cycle working capital, partially offset by an increase in performance-based compensation payments given our strong results in 2022.

Net cash used in investing activities increased $6,602 million mainly driven by net purchases of marketable securities and other investments.

Net cash provided by financing activities increased $4,331 million mainly due to an increase in net cash provided by debt transactions of $4,357 million primarily driven by a higher level of net additions in the current year.

Results of Discontinued Operations

Loss from discontinued operations, net of tax, was $7 million in the first quarter of 2023 compared to income of $71 million in the prior-year period. The results for both periods reflect 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 prior-year income also reflects a gain on sale of a joint venture historically managed by Kyndryl, which transferred to Kyndryl in the first quarter of 2022, upon receiving regulatory approval.

Looking Forward

As technology remains a fundamental source of competitive advantage, we continue to see strong demand for our hybrid cloud and AI solutions. Clients continue to accelerate their digital transformations, modernize their applications, automate their workflows and create flexible and secure hybrid cloud environments. Technology is helping clients scale and enhance productivity which is especially important in the face of inflation, demographic shifts, cybersecurity, supply chain issues and sustainability goals. We are helping our clients seize new business opportunities, overcome today's challenges and emerge stronger. We are building a stronger, more focused company that is closely aligned to the needs of our clients. We have continued to focus our portfolio in hybrid cloud and AI, invest in our offerings, technical talent and ecosystem and streamline our go-to-market model.

Hybrid Cloud and AI Strategy

We believe hybrid cloud and AI are the two most transformational enterprise technologies for business. These technologies work together to drive business outcomes and innovation. Hybrid cloud is the most prominent form of IT architecture and our approach is platform centric. Red Hat OpenShift is the leading container platform. It enables our clients to leverage the latest innovations in open-source software. Our software and infrastructure technologies have been tailored for this platform and our global team of consultants leverage their vast technical and business knowledge to accelerate clients' digital transformation processes. We have been co-creating with clients to unlock business value from a hybrid cloud approach.

The second element of our strategy, AI is projected to add $16 trillion to the global economy by 2030. AI for business is different than AI for consumers given the need for accurate results, trusted data and governance tools. Productivity gains will come from enterprises automating their business workflows. Foundational models, large language models and generative AI will also greatly enhance productivity. We are helping clients turn their workflows into simpler, automated processes with AI and helping them deploy AI into business areas such as IT operations, customer care, cybersecurity and digital labor.

To bring our hybrid cloud and AI strategy to market, our partner ecosystem continues to play a critical role. We continue to expand and extend the work we do with partners to serve our joint clients through strategic collaboration agreements. We also continue to invest, both organically and inorganically, to deliver new innovation that matters for our clients and to shape the technologies of the future. To complement our innovations, we closed three acquisitions in the first quarter of 2023 to extend our capabilities in hybrid cloud and AI. We also continue to engage in projects that have a positive impact on society. Many clients are leveraging our technology and expertise to advance their sustainability agendas.

We are digitally transforming IBM, much in the same way we are helping our clients with their transformations by reimagining and transforming the way we work. This includes optimizing our infrastructure and application environments, as well as redesigning our end-to-end business processes. These productivity initiatives free up spending for reinvestments and contribute to margin expansion.

In the current environment, clients are prioritizing digital transformation projects that focus on cost reduction and productivity. While demand for our offerings that support these priorities remains solid, we saw some deceleration in Consulting from the previous robust growth levels, especially in the U.S.

We remain confident in our strategy and in the fundamentals of our business. Our balance sheet and liquidity position remain strong. At March 31, 2023 we had $17.6 billion of cash and cash equivalents, restricted cash and marketable securities. We issued $9.5 billion of debt in the first quarter of 2023 to prudently plan for our debt maturity obligations through 2024 and we continued to manage our debt levels while being acquisitive and without sacrificing investments in our business or our secure and modestly growing dividend policy. We expect to continue our progress as a leading hybrid cloud and AI company with a focus on revenue growth and cash generation.

Retirement-Related Plans

Our pension plans are well funded. Contributions for all retirement-related plans are expected to be approximately $2.1 billion in 2023, an increase of approximately $100 million compared to 2022, of which $0.2 billion generally relates to legally required contributions to non-U.S. defined benefit and multi-employer plans. We expect 2023 pre-tax retirement-related plan cost to be approximately $1.2 billion, a decrease of approximately $6.5 billion compared to 2022. The decrease is primarily driven by a $5.9 billion settlement charge in the third quarter of 2022 resulting from the transfer of a portion of the U.S. Qualified PPP to insurance companies. This estimate reflects current pension plan assumptions at December 31, 2022. Within total retirement-related plan cost, operating retirement-related plan cost is expected to be approximately $1.2 billion, approximately flat versus 2022. Non-operating retirement-related plan cost is expected to be approximately $0.1 billion, a decrease of approximately $6.5 billion compared to 2022, primarily driven by the third-quarter 2022 settlement charge and lower recognized actuarial losses, partially offset by higher interest cost.

Currency Rate Fluctuations

Changes in the relative values of non-U.S. currencies to the USD affect our financial results and financial position. At March 31, 2023, currency changes resulted in assets and liabilities denominated in local currencies being translated into more dollars than at year-end 2022. We use financial hedging instruments to limit specific currency risks related to foreign currency-based transactions.

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 revenues, profit and cash flows throughout 2023. We execute a hedging program which defers, versus eliminates, 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. Based on the currency rate movements in the first three months of 2023, revenue from continuing operations increased 0.4 percent as reported and 4.4 percent at constant currency versus the first three months of 2022. Currency translation and hedging impacted year-to-year pre-tax profit growth by approximately $150 million and operating (non-GAAP) pre-tax profit growth by approximately $160 million in the first quarter 2023. 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 2022 Annual Report, on pages 33 to 35, there is a discussion of our liquidity including two tables that present three years of data. The table presented on page 33 includes consolidated 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 three months ended, or at, as applicable, March 31, 2023, those amounts are $3.8 billion of net cash from operating activities, $17.6 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.

The major rating agencies' ratings on our debt securities at March 31, 2023 appear in the following table and remain unchanged from December 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 increased $7.8 billion from December 31, 2022 primarily driven by debt issuances. In the first quarter of 2023, we issued $9.5 billion of debt primarily to plan for our debt maturity obligations through 2024.

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 March 31, 2023, the fair value of those instruments that were in a liability position was $731 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 page 59. 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 three months of 2023 and 2022 prepared in a manner consistent with the description above.

(Dollars in millions) For the three months ended March 31:	2023	2022
Net cash from operating activities per GAAP	$ 3,774	$ 3,248
Less: change in Financing receivables	1,977	1,631
Net cash from operating activities, excluding Financing receivables	$ 1,797	$ 1,618
Capital expenditures, net	(457)	(378)
Free cash flow	$ 1,340	$ 1,240
Acquisitions	(22)	(698)
Divestitures	—	61
Dividends	(1,497)	(1,475)
Non-Financing debt	9,692	4,675
Other (includes Financing receivables and Financing debt)	(762)	(590)*
Change in cash, cash equivalents, restricted cash and short-term marketable securities	$ 8,752	$ 3,213

* Recast to conform to current-year presentation.

In the first three months of 2023, we generated free cash flow of $1.3 billion, an increase of $0.1 billion versus the prior-year period. The increase was driven by lower payments for structural actions, working capital efficiencies and our profit performance, partially offset by higher performance-based compensation payments given our strong results in 2022 and an increase in capital expenditures. In the first quarter of 2023, we also continued to return value to shareholders with $1.5 billion in dividends.

Events that could temporarily change the historical cash flow dynamics discussed previously and in our 2022 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 2023. Contributions related to all retirement-related plans are expected to be approximately $2.1 billion in 2023. 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 2023, 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 secure and modestly growing dividend policy.

Financing

Financing is a reportable segment that is measured as a stand-alone entity. Financing facilitates IBM clients' acquisition of IBM 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 March 31:	2023	2022	Yr. to Yr. Percent Change
Revenue	$ 196	$ 154	27.3 %
Pre-tax income	$ 100	$ 84	19.6 %

For the three months ended March 31, 2023, financing revenue increased 27.3 percent (31 percent adjusted for currency) to $196 million compared to the prior year, driven by an increase in Client Financing asset yields.

Financing pre-tax income increased 19.6 percent to $100 million compared to the prior year and the pre-tax margin of 51.3 percent decreased 3.3 points year to year. The increase in pre-tax income was driven by an improvement in expense, partially offset by a lower gross profit. The improvement in expense was primarily driven by settlements on non-accrual assets, lower foreign exchange net losses and a decrease in selling, general and administrative expenses. The lower gross profit was driven by an increase in intercompany interest cost.

Financial Position

(Dollars in millions)	At March 31, 2023	At December 31, 2022	
Cash and cash equivalents	$ 564	$ 699	
Client financing receivables:			
Net investment in sales-type and direct financing leases[1]	3,846	4,047	
Client loans	7,047	8,329	
Total client financing receivables	$ 10,893	$ 12,376	
Commercial financing receivables:			
Held for investment	244	293	
Held for sale	605	939	
Other receivables	38	66	
Total external receivables[2]	$ 11,779	$ 13,674	
Intercompany assets[3]	325	988	[4]
Other assets	361	395	[4]
Total assets	$ 13,029	$ 15,757	
Intercompany payables[3]	$ 424	$ 637	
Debt[5]	10,522	12,872	
Other liabilities	915	814	
Total liabilities	$ 11,861	$ 14,323	
Total equity	$ 1,168	$ 1,433	
Total liabilities and equity	$ 13,029	$ 15,757	

(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 $1.9 billion (from $13.7 billion in December 2022 to $11.8 billion in March 2023) and the $2.0 billion change in Financing segment's receivables disclosed in the free cash flow presentation on page 63 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) Prior period amounts have been recast to conform to 2023 presentation.
(5) Financing segment debt is primarily composed of intercompany loans.

Total external receivables decreased $1,895 million primarily due to collections of higher year-end balances. Intercompany assets decreased $663 million primarily driven by intercompany financing receivables at December 31, 2022 that settled in the first quarter of 2023. These declines had corresponding reductions in debt funding.

We continue to apply our rigorous credit policies. Approximately 73 percent of the total external portfolio was with investment-grade clients with no direct exposure to consumers at both March 31, 2023 and December 31, 2022; a year-to-year increase of 4 points as 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. For additional information relating to financing receivables refer to note 9, "Financing Receivables." Refer to pages 57 through 58 for additional information related to Financing segment receivables, allowance for credit losses and debt.

Return on Equity Calculation

(Dollars in millions) For the three months ended March 31:	2023	2022
Numerator		
Financing after-tax income*	$ 82	$ 69
Annualized after-tax income (1)	$ 329	$ 275
Denominator		
Average Financing equity (2)**	$ 1,301	$ 1,450
Financing return on equity (1)/(2)	25.3 %	19.0 %

* 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.

Return on equity was 25.3 percent compared to 19.0 percent for the three months ended March 31, 2023 and 2022, respectively. The increase was primarily driven by an increase in net income, and a lower average equity balance.

Residual Value

The estimated residual value represents the estimated fair value of the equipment under lease at the end of the lease. The company estimates the future fair value of leased equipment by using historical models, analyzing the current market for new and used equipment and obtaining forward-looking product information such as marketing plans and technology innovations.

The company optimizes the recovery of residual values by extending lease arrangements with, or selling leased equipment to existing clients and periodically reassesses the realizable value of its lease residual values.

The following table presents the recorded amount of unguaranteed residual value for sales-type and direct financing leases at March 31, 2023 and December 31, 2022. In addition, the table presents the run out of when the unguaranteed residual value assigned to equipment on leases at March 31, 2023 is expected to be returned to the company. The unguaranteed residual value for operating leases at March 31, 2023 and December 31, 2022 was not material.

Unguaranteed Residual Value

	At	At	Estimated Run Out of March 31, 2023 Balance			
(Dollars in millions)	December 31, 2022	March 31, 2023	2023	2024	2025	2026 and Beyond
Sales-type and direct financing leases	$ 422	$ 400	$ 46	$ 60	$ 141	$ 153

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. Please 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 March 31, 2023:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 7,509	$ 148	$ —	$ —	$ —	$ 7,658
Gross profit margin	52.7 %	1.0 pts.	— pts.	— pts.	— pts.	53.7 %
SG&A	$ 4,853	$ (246)	$ —	$ —	$ —	$ 4,607
Other (income) and expense	$ (245)	$ (2)	$ 5	$ —	$ —	$ (242)
Total expense and other (income)	$ 6,451	$ (247)	$ 5	$ —	$ —	$ 6,209
Pre-tax income from continuing operations	$ 1,058	$ 396	$ (5)	$ —	$ —	$ 1,449
Pre-tax margin from continuing operations	7.4 %	2.8 pts.	0.0 pts.	— pts.	— pts.	10.2 %
Provision for income taxes*	$ 124	$ 91	$ (10)	$ (5)	$ —	$ 200
Effective tax rate	11.7 %	3.1 pts.	(0.7)pts.	(0.3)pts.	— pts.	13.8 %
Income from continuing operations	$ 934	$ 305	$ 5	$ 5	$ —	$ 1,249
Income margin from continuing operations	6.6 %	2.1 pts.	0.0 pts.	0.0 pts.	— pts.	8.8 %
Diluted earnings per share from continuing operations	$ 1.02	$ 0.33	$ 0.01	$ 0.01	$ —	$ 1.36

(Dollars in millions except per share amounts) For the three months ended March 31, 2022:	GAAP	Acquisition-Related Adjustments	Retirement-Related Adjustments	U.S. Tax Reform Impacts	Kyndryl-Related Impacts	Operating (non-GAAP)
Gross profit	$ 7,335	$ 181	$ —	$ —	$ —	$ 7,516
Gross profit margin	51.7 %	1.3 pts.	— pts.	— pts.	— pts.	52.9 %
SG&A	$ 4,597	$ (286)	$ —	$ —	$ 0	$ 4,311
Other (income) and expense	$ 246	$ (1)	$ (202)	$ —	$ (222)	$ (179)
Total expense and other (income)	$ 6,712	$ (287)	$ (202)	$ —	$ (222)	$ 6,001
Pre-tax income from continuing operations	$ 623	$ 468	$ 202	$ —	$ 222	$ 1,515
Pre-tax margin from continuing operations	4.4 %	3.3 pts.	1.4 pts.	— pts.	1.6 pts.	10.7 %
Provision for/(benefit from) income taxes*	$ (39)	$ 109	$ 58	$ 116	$ —	$ 244
Effective tax rate	(6.3)%	9.1 pts.	4.6 pts.	7.7 pts.	0.9 pts.	16.1 %
Income from continuing operations	$ 662	$ 359	$ 144	$ (116)	$ 222	$ 1,271
Income margin from continuing operations	4.7 %	2.5 pts.	1.0 pts.	(0.8)pts.	1.6 pts.	9.0 %
Diluted earnings per share from continuing operations	$ 0.73	$ 0.39	$ 0.16	$ (0.13)	$ 0.24	$ 1.40

* 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 first quarter of 2023.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares that May Yet Be Purchased Under The Program*
January 1, 2023 - January 31, 2023	—	$ —	—	$ 2,007,611,768
February 1, 2023 - February 28, 2023	—	$ —	—	$ 2,007,611,768
March 1, 2023 - March 31, 2023	—	$ —	—	$ 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 March 31, 2023 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: April 25, 2023

By: /s/ Nicolás A. Fehring
Nicolás A. Fehring
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: April 25, 2023

/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: April 25, 2023

/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 March 31, 2023, 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
April 25, 2023

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 March 31, 2023, 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
April 25, 2023

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.