Table of Contents

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 SEPTEMBER 30, 2017

1-2360
(Commission file number)

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes ☒ No ☐

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

Large accelerated filer ☒	Accelerated filer ☐
Non-accelerated filer ☐ (Do not check if a smaller reporting company)	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 925,791,378 shares of common stock outstanding at September 30, 2017.

Index

Part I - Financial Information

Item 1. Consolidated Financial Statements:

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

(Dollars in millions except per share amounts)	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Revenue:				
Services	$ 12,703	$ 12,938	$ 37,592	$ 38,347
Sales	6,017	5,872	17,744	18,542
Financing	433	417	1,260	1,260
Total revenue	19,153	19,226	56,597	58,149
Cost:				
Services	8,426	8,418	25,502	25,492
Sales	1,605	1,536	4,839	4,496
Financing	322	259	890	760
Total cost	10,353	10,213	31,232	30,748
Gross profit	8,800	9,013	25,365	27,401
Expense and other (income):				
Selling, general and administrative	4,648	4,732	14,959	16,093
Research, development and engineering	1,342	1,397	4,360	4,320
Intellectual property and custom development income	(308)	(528)	(1,118)	(1,110)
Other (income) and expense	(114)	(8)	(218)	281
Interest expense	168	158	451	473
Total expense and other (income)	5,735	5,751	18,434	20,056
Income from continuing operations before income taxes	3,065	3,263	6,931	7,345
Provision for/(benefit from) income taxes	339	409	120	(31)
Income from continuing operations	$ 2,726	$ 2,854	$ 6,811	$ 7,375
Loss from discontinued operations, net of tax	0	(1)	(3)	(4)
Net income	$ 2,726	$ 2,853	$ 6,807	$ 7,371
Earnings/(loss) per share of common stock:				
Assuming dilution:				
Continuing operations	$ 2.92	$ 2.98	$ 7.24	$ 7.67
Discontinued operations	0.00	0.00	0.00	0.00
Total	$ 2.92	$ 2.98	$ 7.24	$ 7.67
Basic:				
Continuing operations	$ 2.93	$ 2.99	$ 7.28	$ 7.70
Discontinued operations	0.00	0.00	0.00	0.00
Total	$ 2.93	$ 2.99	$ 7.28	$ 7.70
Weighted-average number of common shares outstanding: (millions)				
Assuming dilution	933.2	957.3	940.2	960.7
Basic	929.4	954.0	935.6	957.7
Cash dividend per common share	$ 1.50	$ 1.40	$ 4.40	$ 4.10

(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 September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Net income	$ 2,726	$ 2,853	$ 6,807	$ 7,371
Other comprehensive income/(loss), before tax:				
Foreign currency translation adjustments	89	(99)	213	(109)
Net changes related to available-for-sale securities:				
Unrealized gains/(losses) arising during the period	(1)	(1)	2	(36)
Reclassification of (gains)/losses to net income	0	(1)	1	36
Total net changes related to available-for-sale securities	(2)	(2)	2	0
Unrealized gains/(losses) on cash flow hedges:				
Unrealized gains/(losses) arising during the period	(70)	35	(198)	(221)
Reclassification of (gains)/losses to net income	(73)	15	(347)	26
Total unrealized gains/(losses) on cash flow hedges	(143)	50	(545)	(195)
Retirement-related benefit plans:				
Prior service costs/(credits)	0	—	0	—
Net (losses)/gains arising during the period	1	11	106	(57)
Curtailments and settlements	2	4	3	19
Amortization of prior service (credits)/costs	(22)	(28)	(66)	(81)
Amortization of net (gains)/losses	733	696	2,156	2,079
Total retirement-related benefit plans	713	683	2,200	1,960
Other comprehensive income/(loss), before tax	658	632	1,869	1,656
Income tax (expense)/benefit related to items of other comprehensive income	11	(192)	7	(213)
Other comprehensive income/(loss)	669	440	1,877	1,442
Total comprehensive income/(loss)	$ 3,394	$ 3,293	$ 8,684	$ 8,813

(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 FINANCIAL POSITION
(UNAUDITED)

ASSETS

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Assets:		
Current assets:		
Cash and cash equivalents	$ 10,915	$ 7,826
Marketable securities	600	701
Notes and accounts receivable - trade (net of allowances of $296 in 2017 and $290 in 2016)	8,150	9,182
Short-term financing receivables (net of allowances of $270 in 2017 and $337 in 2016)	18,050	19,006
Other accounts receivable (net of allowances of $39 in 2017 and $48 in 2016)	926	1,057
Inventories, at lower of average cost or market:		
Finished goods	430	358
Work in process and raw materials	1,281	1,195
Total inventories	1,711	1,553
Prepaid expenses and other current assets	4,389	4,564
Total current assets	44,742	43,888
Property, plant and equipment	31,937	30,133
Less: Accumulated depreciation	20,880	19,303
Property, plant and equipment — net	11,057	10,830
Long-term financing receivables (net of allowances of $84 in 2017 and $101 in 2016)	8,459	9,021
Prepaid pension assets	4,521	3,034
Deferred taxes	7,289	5,224
Goodwill	36,782	36,199
Intangible assets — net	3,981	4,688
Investments and sundry assets	4,806	4,585
Total assets	$ 121,636	$ 117,470

(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 FINANCIAL POSITION — (CONTINUED)
(UNAUDITED)

LIABILITIES AND EQUITY

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Liabilities:		
Current liabilities:		
Taxes	$ 3,038	$ 3,235
Short-term debt	4,299	7,513
Accounts payable	5,442	6,209
Compensation and benefits	3,918	3,577
Deferred income	10,649	11,035
Other accrued expenses and liabilities	4,352	4,705
Total current liabilities	31,697	36,275
Long-term debt	41,327	34,655
Retirement and nonpension postretirement benefit obligations	17,554	17,070
Deferred income	3,579	3,600
Other liabilities	7,723	7,477
Total liabilities	101,879	99,078
Equity:		
IBM stockholders' equity:		
Common stock, par value $0.20 per share, and additional paid-in capital	54,395	53,935
Shares authorized: 4,687,500,000		
Shares issued: 2017 - 2,228,489,401		
2016 - 2,225,116,815		
Retained earnings	155,565	152,759
Treasury stock - at cost	(162,812)	(159,050)
Shares: 2017 - 1,302,698,023		
2016 - 1,279,249,412		
Accumulated other comprehensive income/(loss)	(27,521)	(29,398)
Total IBM stockholders' equity	19,627	18,246
Noncontrolling interests	130	146
Total equity	19,757	18,392
Total liabilities and equity	$ 121,636	$ 117,470

(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)	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Cash flows from operating activities:		
Net income	$ 6,807	$ 7,371
Adjustments to reconcile net income to cash provided by operating activities		
Depreciation	2,231	2,106
Amortization of intangibles	1,161	1,148
Stock-based compensation	388	403
Net (gain)/loss on asset sales and other	92	100
Changes in operating assets and liabilities, net of acquisitions/divestitures	312	1,978* **
Net cash provided by operating activities	10,991	13,105* **
Cash flows from investing activities:		
Payments for property, plant and equipment	(2,273)	(2,594)
Proceeds from disposition of property, plant and equipment	337	234
Investment in software	(411)	(441)
Acquisition of businesses, net of cash acquired	(442)	(5,445)
Divestitures of businesses, net of cash transferred	35	35
Non-operating finance receivables — net	469	1,441*
Purchases of marketable securities and other investments	(3,770)	(4,021)
Proceeds from disposition of marketable securities and other investments	2,778	3,501
Net cash used in investing activities	(3,278)	(7,289)*
Cash flows from financing activities:		
Proceeds from new debt	9,355	8,368
Payments to settle debt	(6,252)	(5,616)
Short-term borrowings/(repayments) less than 90 days — net	(794)	(864)
Common stock repurchases	(3,674)	(2,632)
Common stock repurchases for tax withholdings	(153)	(115)**
Common stock transactions — other	137	166
Cash dividends paid	(4,119)	(3,927)
Net cash used in financing activities	(5,499)	(4,619)**
Effect of exchange rate changes on cash and cash equivalents	875	155
Net change in cash and cash equivalents	3,089	1,352
Cash and cash equivalents at January 1	7,826	7,686
Cash and cash equivalents at September 30	$ 10,915	$ 9,039

* Revised classification of certain financing receivables.
** Reclassified to reflect adoption of the FASB guidance on share-based compensation.

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

Table of Contents

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

(Dollars in millions)	Common Stock and Additional Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income/(Loss)	Total IBM Stockholders' Equity	Non-Controlling Interests	Total Equity
Equity - January 1, 2017	$ 53,935	$ 152,759	$ (159,050)	$ (29,398)	$ 18,246	$ 146	$ 18,392
Cumulative effect of change in accounting principle *		102			102		102
Net income		6,807			6,807		6,807
Other comprehensive income/(loss)				1,877	1,877		1,877
Total comprehensive income/(loss)					$ 8,684		$ 8,684
Cash dividends paid — common stock		(4,119)			(4,119)		(4,119)
Common stock issued under employee plans (3,372,586 shares)	460				460		460
Purchases (960,186 shares) and sales (363,335 shares) of treasury stock under employee plans — net		15	(106)		(91)		(91)
Other treasury shares purchased, not retired (22,851,760 shares)			(3,655)		(3,655)		(3,655)
Changes in noncontrolling interests						(16)	(16)
Equity - September 30, 2017	$ 54,395	$ 155,565	$ (162,812)	$ (27,521)	$ 19,627	$ 130	$ 19,757

(Dollars in millions)	Common Stock and Additional Paid-in Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income/(Loss)	Total IBM Stockholders' Equity	Non-Controlling Interests	Total Equity
Equity - January 1, 2016	$ 53,262	$ 146,124	$ (155,518)	$ (29,607)	$ 14,262	$ 162	$ 14,424
Net income		7,371			7,371		7,371
Other comprehensive income/(loss)				1,442	1,442		1,442
Total comprehensive income/(loss)					$ 8,813		$ 8,813
Cash dividends paid — common stock		(3,927)			(3,927)		(3,927)
Common stock issued under employee plans (3,370,992 shares)	513				513		513
Purchases (787,805 shares) and sales (336,480 shares) of treasury stock under employee plans — net		16	(72)		(56)		(56)
Other treasury shares purchased, not retired (17,793,841 shares)			(2,579)		(2,579)		(2,579)
Changes in other equity	(16)	0			(17)		(17)
Changes in noncontrolling interests						(12)	(12)
Equity - September 30, 2016	$ 53,759	$ 149,585	$ (158,170)	$ (28,164)	$ 17,010	$ 149	$ 17,159

* Reflects the adoption of the FASB guidance on intra-entity transfers of assets in the first-quarter 2017.

(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. Refer to the company's 2016 Annual Report on pages 71 to 74, for a discussion of the company's critical accounting estimates.

The company revised the classification of certain financing receivables for the three and nine months ended September 30, 2016, decreasing net cash provided by operating activities and net cash used in investing activities in the amount of $99 million and $311 million, respectively, which the company concluded to be immaterial to the periods presented. The twelve-month revision for the period ended December 31, 2016 was provided in the company's 2016 Annual Report on page 26. There was no impact to total GAAP cash flows or free cash flow.

In the first quarter of 2017, the company reported a benefit from income taxes of $329 million, and its effective tax rate was (23.1) percent. This was primarily driven by a discrete tax benefit of $582 million from a first-quarter 2017 transaction accounted for under the new Financial Accounting Standards Board (FASB) guidance related to intra-entity transfers of assets. This benefit was partially offset by a discrete tax charge related to foreign audit activity of $99 million. The company had additional discrete tax benefits of $170 million in second-quarter 2017. For the nine months ended September 30, 2017, the company reported a provision for income taxes of $120 million and its effective tax rate was 1.7 percent, primarily as a result of the first and second quarter discrete items. For the nine months ended September 30, 2016, the company reported a benefit from income taxes of $31 million and its effective tax rate was (0.4) percent. The negative effective tax rate in the comparable period of 2016 was due to the resolution of a long-standing Japan tax matter in February 2016. Refer to note 2, "Accounting Changes," and the Taxes section of the Management Discussion for additional information.

Noncontrolling interest amounts of $4.4 million and $3.1 million, net of tax, for the three months ended September 30, 2017 and 2016, respectively, and $11.5 million and $7.5 million, net of tax, for the nine months ended September 30, 2017 and 2016, respectively, are included as a reduction within other (income) and expense in the Consolidated Statement of Earnings.

Interim results are not necessarily indicative of financial results for a full year. The information included in this Form 10-Q should be read in conjunction with the company's 2016 Annual Report.

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

2. Accounting Changes:

New Standards to be Implemented

In August 2017, the FASB issued guidance to simplify the application of current hedge accounting in certain areas, better portray the economic results of an entity's risk management activities in its financial statements and make targeted improvements to presentation and disclosure requirements. The guidance is effective January 1, 2019 with early adoption permitted. The company plans to adopt the guidance as of January 1, 2018. The guidance is not expected to have a material impact in the consolidated financial results.

In March 2017, the FASB issued guidance that impacts the presentation of net periodic pension and postretirement benefit costs. Under the guidance, the service cost component of net benefit cost will continue to be presented in the same line items as other employee compensation costs, unless eligible for capitalization in the Consolidated Statement of Financial Position. The other components of net benefit costs will be presented separately from service cost as non-operating costs in the Consolidated Statement of Earnings or Notes to the Consolidated Financial Statements. The guidance is effective

January 1, 2018 with early adoption permitted. The company will adopt the guidance as of the effective date. The guidance is primarily a change in financial statement presentation and is not expected to have a material impact in the consolidated financial results.

In June 2016, the FASB issued guidance for credit impairment based on an expected loss model rather than an incurred loss model. The guidance requires the consideration of all available relevant information when estimating expected credit losses, including past events, current conditions and forecasts and their implications for expected credit losses. The guidance is effective January 1, 2020 with a one year early adoption permitted. The company is evaluating the impact of the new guidance.

In February 2016, the FASB issued guidance which changes the accounting for leases. The guidance requires lessees to recognize right-of-use assets and lease liabilities for most leases in the Consolidated Statement of Financial Position. The guidance makes some changes to lessor accounting, including the elimination of the use of third-party residual value guarantee insurance in the capital lease test, and overall aligns with the new revenue recognition guidance. The guidance also requires qualitative and quantitative disclosures to assess the amount, timing and uncertainty of cash flows arising from leases. The guidance is effective January 1, 2019 and early adoption is permitted. The company will adopt the guidance as of the effective date. A cross-functional implementation team has been established which is evaluating the lease portfolio, system, process and policy change requirements. The company is currently evaluating the impact of the new guidance on its consolidated financial results and expects it will have a material impact on the Consolidated Statement of Financial Position. The company's operating lease commitments were $6.9 billion at December 31, 2016. In 2016, the use of third-party residual value guarantee insurance resulted in the company recognizing $220 million of sales-type lease revenue that would otherwise have been recognized over the lease period as operating lease revenue.

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

The FASB issued guidance on the recognition of revenue from contracts with customers in May 2014 with amendments in 2015 and 2016. Revenue recognition will depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The guidance also requires disclosures regarding the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. The guidance permits two methods of adoption: retrospectively to each prior reporting period presented, or retrospectively with the cumulative effect of initially applying the guidance recognized at the date of initial application (the cumulative catch-up transition method). The company will adopt the guidance on January 1, 2018 and apply the cumulative catch-up transition method. The transition adjustment to be recorded to stockholders' equity upon adoption of the new standard is not expected to be material.

Given the scope of work required to implement the recognition and disclosure requirements under the new standard, the company began its assessment process in 2014 and has identified changes to policy, processes, systems and controls. This also includes the assessment of data availability and presentation necessary to meet the additional disclosure requirements of the guidance in the Notes to the Consolidated Financial Statements.

The company expects revenue recognition for its broad portfolio of hardware, software and services offerings to remain largely unchanged. However, the guidance is expected to change the timing of revenue recognition in certain areas, including accounting for certain software licenses. These impacts are not expected to be material. The company expects to continue to recognize revenue for term license (recurring license charge) software arrangements on a monthly basis over the period that the client is entitled to use the license due to the contractual terms in these arrangements.

Since the company currently expenses sales commissions as incurred, the requirement in the new standard to capitalize certain in-scope sales commissions will result in an accounting change for the company. However, the impact to the consolidated financial statements is not expected to be material, with no impact to cash flows.

The company continues to assess all potential impacts of the guidance and given normal ongoing business dynamics, preliminary conclusions are subject to change.

Notes to Consolidated Financial Statements — (continued)

Standards Implemented

In January 2017, the FASB issued guidance which clarifies the definition of a business. The guidance provides a more robust framework to use in determining when a set of assets and activities acquired or sold is a business. The guidance is effective January 1, 2018 and early adoption is permitted. The company adopted the guidance effective January 1, 2017, and it did not have a material impact in the consolidated financial results.

In October 2016, the FASB issued guidance which requires an entity to recognize the income tax consequences of intra-entity transfers of assets, other than inventory, at the time of transfer. Assets within the scope of the guidance include intellectual property and property, plant and equipment. The guidance is effective January 1, 2018 and early adoption is permitted. The company adopted the guidance on January 1, 2017 using the required modified retrospective method. At adoption, $95 million and $47 million were reclassified from investments and sundry assets and prepaid expenses and other current assets, respectively into retained earnings. Additionally, net deferred taxes of $244 million were established in deferred taxes in the Consolidated Statement of Financial Position, resulting in a cumulative-effect net credit to retained earnings of $102 million. In January 2017, the company had one transaction that generated a $582 million benefit to income tax expense, income from continuing operations and net income and a benefit to both basic and diluted earnings per share of $0.62 per share for the nine months ended September 30, 2017. There was no impact in the consolidated financial results for the three months ended September 30, 2017. The ongoing impact of this guidance will be dependent on any transaction that is within its scope.

In March 2016, the FASB issued guidance which changes the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification in the Consolidated Statement of Cash Flows. The guidance was effective and adopted by the company on January 1, 2017, and it did not have a material impact in the Consolidated Statement of Financial Position. The ongoing impact of the guidance could result in increased volatility in the provision for income taxes and earnings per share in the Consolidated Statement of Earnings, depending on the company's share price at exercise or vesting of share-based awards compared to grant date, however these impacts are not expected to be material. These impacts are recorded on a prospective basis. See note 5, "Stock-Based Compensation," for additional information. The company continues to estimate forfeitures in conjunction with measuring stock-based compensation cost. The guidance also requires cash payments on behalf of employees for shares directly withheld for taxes to be presented as financing outflows in the Consolidated Statement of Cash Flows. Prior to adoption, the company reported this activity as an operating cash outflow and as a result, prior periods have been reclassified as required. The FASB also issued guidance in May 2017, which relates to the accounting for modifications of share-based payment awards. The company adopted the guidance in the second quarter of 2017. The guidance had no impact in the consolidated financial results.

In September 2015, the FASB issued guidance eliminating the requirement that an acquirer in a business combination account for a measurement-period adjustment retrospectively. Instead, an acquirer will recognize a measurement-period adjustment during the period in which the amount of the adjustment is determined. In addition, the portion of the amount recorded in current-period earnings by line item that would have been recorded in previous reporting periods if the adjustment to the provisional amounts had been recognized as of the acquisition date should be presented separately on the face of the income statement or disclosed in the notes. The guidance was effective January 1, 2016 on a prospective basis. The guidance did not have a material impact in the consolidated financial results.

In May 2015, the FASB issued guidance which removed the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. The amendments also removed the requirement to make certain disclosures for all investments that are eligible to be measured at fair value using the net asset value per share practical expedient. Rather, those disclosures are limited to investments for which the entity has elected to measure the fair value using that practical expedient. The guidance was effective January 1, 2016. The guidance was a change in disclosure only and did not have an impact in the consolidated financial results.

In April 2015, the FASB issued guidance about whether a cloud computing arrangement includes a software license. If a cloud computing arrangement includes a software license, then the customer should account for the software license element of the arrangement consistent with the acquisition of other software licenses. If a cloud computing arrangement does not include a software license, the customer should account for the arrangement as a services contract. All software licenses recognized under this guidance will be accounted for consistent with other licenses of intangible assets. The guidance was effective January 1, 2016 and the company adopted it on a prospective basis. The guidance did not have a material impact in the consolidated financial results.

Notes to Consolidated Financial Statements — (continued)

3. Financial Instruments:

Fair Value Measurements

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

- Level 1—Quoted prices (unadjusted) in active markets for identical assets or liabilities that can be accessed at the measurement date;
- Level 2—Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly; and
- Level 3—Unobservable inputs for the asset or liability.

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

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

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

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

- Counterparty credit risk adjustments are applied to financial instruments, taking into account the actual credit risk of a counterparty as observed in the credit default swap market to determine the true fair value of such an instrument.
- Credit risk adjustments are applied to reflect the company’s own credit risk when valuing all liabilities measured at fair value. The methodology is consistent with that applied in developing counterparty credit risk adjustments, but incorporates the company’s own credit risk as observed in the credit default swap market.

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

Certain financial assets are measured at fair value on a nonrecurring basis. These assets include equity method investments that are recognized at fair value at the measurement date to the extent that they are deemed to be other-than-temporarily impaired. Certain assets that are measured at fair value on a recurring basis can be subject to nonrecurring fair value measurements. These assets include available-for-sale equity investments that are deemed to be other-than-temporarily impaired. In the event of an other-than-temporary impairment of a financial investment, fair value is measured using a model described above.

Non-financial assets such as property, plant and equipment, land, goodwill and intangible assets are also subject to nonrecurring fair value measurements if they are deemed to be impaired. The impairment models used for nonfinancial assets depend on the type of asset. During the nine months ended September 30, 2016, a pre-tax impairment charge related to certain property, plant and equipment of $218 million was recorded. There were no material impairments of non-financial assets for the nine months ended September 30, 2017.

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

The following tables present the company’s financial assets and financial liabilities that are measured at fair value on a recurring basis at September 30, 2017 and December 31, 2016.

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) At September 30, 2017	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents (1)				
Time deposits and certificates of deposit	$ —	$ 5,553	$ —	$ 5,553
Money market funds	1,375	—	—	1,375
U.S. government securities	—	200	—	200
Canadian government securities	—	460	—	460
Total	1,375	6,214	—	7,589(6)
Debt securities - current (2)	—	599	—	599(6)
Debt securities - noncurrent (3)	4	7	—	11
Available-for-sale equity investments (3)	5	—	—	5
Derivative assets (4)				
Interest rate contracts	—	517	—	517
Foreign exchange contracts	—	416	—	416
Equity contracts	—	23	—	23
Total	—	957	—	957(7)
Total assets	$ 1,384	$ 7,775	$ —	$ 9,159(7)
Liabilities:				
Derivative liabilities (5)				
Foreign exchange contracts	$ —	$ 333	$ —	$ 333
Equity contracts	—	4	—	4
Interest rate contracts	—	15	—	15
Total liabilities	$ —	$ 352	$ —	$ 352(7)

(1) Included within cash and cash equivalents in the Consolidated Statement of Financial Position.
(2) U.S. government securities reported as marketable securities in the Consolidated Statement of Financial Position.
(3) Included within investments and sundry assets in the Consolidated Statement of Financial Position.
(4) The gross balances of derivative assets contained within prepaid expenses and other current assets, and investments and sundry assets in the Consolidated Statement of Financial Position at September 30, 2017 were $269 million and $687 million, respectively.
(5) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Statement of Financial Position at September 30, 2017 were $332 million and $20 million, respectively.
(6) Available-for-sale securities with carrying values that approximate fair value.
(7) If derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Statement of Financial Position, the total derivative asset and liability positions each would have been reduced by $274 million.

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) At December 31, 2016	Level 1	Level 2	Level 3	Total
Assets:				
Cash equivalents (1)				
Time deposits and certificates of deposit	$ —	$ 3,629	$ —	$ 3,629
Money market funds	1,204	—	—	1,204
Total	1,204	3,629	—	4,832(6)
Debt securities - current (2)	—	699	—	699(6)
Debt securities - noncurrent (3)	1	6	—	8
Available-for-sale equity investments (3)	7	—	—	7
Derivative assets (4)				
Interest rate contracts	—	555	—	555
Foreign exchange contracts	—	560	—	560
Equity contracts	—	11	—	11
Total	—	1,126	—	1,126(7)
Total assets	$ 1,212	$ 5,460	$ —	$ 6,672(7)
Liabilities:				
Derivative liabilities (5)				
Foreign exchange contracts	$ —	$ 188	$ —	$ 188
Equity contracts	—	10	—	10
Interest rate contracts	—	8	—	8
Total liabilities	$ —	$ 206	$ —	$ 206(7)

(1) Included within cash and cash equivalents in the Consolidated Statement of Financial Position.
(2) U.S government securities reported as marketable securities in the Consolidated Statement of Financial Position.
(3) Included within investments and sundry assets in the Consolidated Statement of Financial Position.
(4) The gross balances of derivative assets contained within prepaid expenses and other current assets, and investments and sundry assets in the Consolidated Statement of Financial Position at December 31, 2016 were $532 million and $594 million, respectively.
(5) The gross balances of derivative liabilities contained within other accrued expenses and liabilities, and other liabilities in the Consolidated Statement of Financial Position at December 31, 2016 were $145 million and $61 million, respectively.
(6) Available-for-sale securities with carrying values that approximate fair value.
(7) If derivative exposures covered by a qualifying master netting agreement had been netted in the Consolidated Statement of Financial Position, the total derivative asset and liability positions each would have been reduced by $116 million.

There were no transfers between Levels 1 and 2 for the nine months ended September 30, 2017 and the year ended December 31, 2016.

Financial Assets and Liabilities Not Measured at Fair Value

Short-Term Receivables and Payables

Notes and other accounts receivable and other investments are financial assets with carrying values that approximate fair value. Accounts payable, other accrued expenses and short-term debt (excluding the current portion of long-term debt) 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 September 30, 2017 and December 31, 2016, 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.

Notes to Consolidated Financial Statements — (continued)

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 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 $41,327 million and $34,655 million, and the estimated fair value was $43,623 million and $36,838 million at September 30, 2017 and December 31, 2016, 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.

Debt and Marketable Equity Securities

The company's cash equivalents and current debt securities are considered available-for-sale and recorded at fair value, which is not materially different from carrying value, in the Consolidated Statement of Financial Position.

The following tables summarize the company's noncurrent debt and marketable equity securities which are considered available-for-sale and recorded at fair value in the Consolidated Statement of Financial Position.

(Dollars in millions) At September 30, 2017:	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Debt securities — noncurrent(1)	$ 7	$ 3	$ —	$ 11
Available-for-sale equity investments(1)	$ 1	$ 4	$ 0	$ 5

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

(Dollars in millions) At December 31, 2016:	Adjusted Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Debt securities — noncurrent(1)	$ 5	$ 3	$ —	$ 8
Available-for-sale equity investments(1)	$ 3	$ 5	$ 0	$ 7

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

Sales of debt and available-for-sale equity investments during the period were as follows:

(Dollars in millions) For the three months ended September 30:	2017	2016
Proceeds	$ 0	$ 1
Gross realized gains (before taxes)	0	1
Gross realized losses (before taxes)	—	—

(Dollars in millions) For the nine months ended September 30:	2017	2016
Proceeds	$ 5	$ 150
Gross realized gains (before taxes)	1	1
Gross realized losses (before taxes)	2	37

The after-tax net unrealized holding gains/(losses) on available-for-sale debt and equity securities that have been included in other comprehensive income/(loss) for the period and after-tax net (gains)/losses reclassified from accumulated other comprehensive income/(loss) to net income were as follows:

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) For the three months ended September 30:	2017	2016
Net unrealized gains/(losses) arising during the period	$ 1	$ (1)
Net unrealized (gains)/losses reclassified to net income*	0	(1)

*There were no writedowns for the three months ended September 30, 2017 and 2016, respectively.

(Dollars in millions) For the nine months ended September 30:	2017	2016
Net unrealized gains/(losses) arising during the period	$ 1	$ (22)
Net unrealized (gains)/losses reclassified to net income*	0	22

* There were no writedowns for the nine months ended September 30, 2017 and 2016, respectively.

The contractual maturities of substantially all available-for-sale debt securities are less than one year at September 30, 2017.

Derivative Financial Instruments

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

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

The company is also a party to collateral security arrangements with most of its major derivative counterparties. These arrangements require the company to hold or post collateral (cash or U.S. Treasury securities) when the derivative fair values exceed contractually established thresholds. Posting thresholds can be fixed or can vary based on credit default swap pricing or credit ratings received from the major credit agencies. The aggregate fair value of all derivative instruments under these collateralized arrangements that were in a liability position at September 30, 2017 and December 31, 2016 was $45 million and $11 million, respectively, for which no collateral was posted at either date. Full collateralization of these agreements would be required in the event that the company's credit rating falls below investment grade or if its credit default swap spread exceeds 250 basis points, as applicable, pursuant to the terms of the collateral security arrangements. The aggregate fair value of derivative instruments in asset positions as of September 30, 2017 and December 31, 2016 was $957 million and $1,126 million, respectively. This amount represents the maximum exposure to loss at the reporting date if the counterparties failed to perform as contracted. This exposure was reduced by $274 million and $116 million at September 30, 2017 and December 31, 2016, respectively, of liabilities included in master netting arrangements with those counterparties. Additionally, at September 30, 2017 and December 31, 2016, this exposure was reduced by $123 million and $141 million of cash collateral, respectively, and $35 million of non-cash collateral in U.S. Treasury securities at December 31, 2016. There were no non-cash collateral balances in U.S. Treasury securities at September 30, 2017. At September 30, 2017 and December 31, 2016, the net exposure related to derivative assets recorded in the Consolidated Statement of Financial Position was $559 million and $834 million, respectively. At September 30, 2017 and December 31, 2016, the net position related to derivative liabilities recorded in the Consolidated Statement of Financial Position was $78 million and $90 million, respectively.

In the Consolidated Statement of Financial Position, the company does not offset derivative assets against liabilities in master netting arrangements nor does it offset receivables or payables recognized upon payment or receipt of cash collateral

against the fair values of the related derivative instruments. No amount was recognized in other receivables at September 30, 2017 or December 31, 2016 for the right to reclaim cash collateral. The amount recognized in accounts payable for the obligation to return cash collateral was $123 million and $141 million at September 30, 2017 and December 31, 2016, respectively. The company restricts the use of cash collateral received to rehypothecation, and therefore reports it in prepaid expenses and other current assets in the Consolidated Statement of Financial Position. No amount was rehypothecated at September 30, 2017 and December 31, 2016.

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

In its hedging programs, the company uses forward contracts, futures contracts, interest-rate swaps, cross-currency 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 uses 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 September 30, 2017 and December 31, 2016, the total notional amount of the company's interest rate swaps was $9.1 billion and $7.3 billion, respectively. The weighted-average remaining maturity of these instruments at September 30, 2017 and December 31, 2016 was approximately 5.0 years and 6.2 years, respectively.

Forecasted Debt Issuance

The company is exposed to interest rate volatility on future debt issuances. To manage this risk, the company may use forward starting interest-rate swaps to lock in the rate on the interest payments related to the forecasted debt issuance. These swaps are accounted for as cash flow hedges. The company did not have any derivative instruments relating to this program outstanding at September 30, 2017 and December 31, 2016.

At December 31, 2016, net gains of less than $1 million (before taxes) were recorded in accumulated other comprehensive income/(loss) in connection with cash flow hedges of the company's borrowings. During 2017, all gains and losses associated with this program that were recorded in other comprehensive income/(loss) were reclassified to net income and there are no gains and losses remaining in accumulated other comprehensive income/(loss) at September 30, 2017.

Foreign Exchange Risk

Long-Term Investments in Foreign Subsidiaries (Net Investment)

A large portion of the company's foreign currency denominated debt portfolio is designated as a hedge of net investment in foreign subsidiaries to reduce the volatility in stockholders' equity caused by changes in foreign currency exchange rates in the functional currency of major foreign subsidiaries with respect to the U.S. dollar. The company also uses cross-currency swaps and foreign exchange forward contracts for this risk management purpose. At September 30, 2017 and December 31, 2016, the total notional amount of derivative instruments designated as net investment hedges was $8.8 billion and $6.7 billion, respectively. At September 30, 2017 and December 31, 2016, the weighted-average remaining maturity of these instruments was approximately 0.1 years and 0.2 years, respectively.

Notes to Consolidated Financial Statements — (continued)

Anticipated Royalties and Cost Transactions

The company's operations generate significant nonfunctional currency, third-party vendor payments and intercompany payments for royalties and goods and services among the company's non-U.S. subsidiaries and with the company. In anticipation of these foreign currency cash flows and in view of the volatility of the currency markets, the company selectively employs foreign exchange forward contracts to manage its currency risk. These forward contracts are accounted for as cash flow hedges. The maximum length of time over which the company has hedged its exposure to the variability in future cash flows is four years. At September 30, 2017 and December 31, 2016, the total notional amount of forward contracts designated as cash flow hedges of forecasted royalty and cost transactions was $7.9 billion and $8.3 billion, respectively. The weighted-average remaining maturity of these instruments at September 30, 2017 and December 31, 2016 was 0.7 years at both periods.

At September 30, 2017 and December 31, 2016, in connection with cash flow hedges of anticipated royalties and cost transactions, the company recorded net losses of $70 million and net gains of $462 million (before taxes), respectively, in accumulated other comprehensive income/(loss). Within these amounts, $161 million of losses and $397 million of gains, respectively, are expected to be reclassified to net income within the next 12 months, providing an offsetting economic impact against the underlying anticipated transactions.

Foreign Currency Denominated Borrowings

The company is exposed to exchange rate volatility on foreign currency denominated debt. To manage this risk, the company employs cross-currency swaps to convert fixed-rate foreign currency denominated debt to fixed-rate debt denominated in the functional currency of the borrowing entity. These swaps are accounted for as cash flow hedges. The maximum length of time over which the company has hedged its exposure to the variability in future cash flows is approximately nine years. At September 30, 2017 and December 31, 2016, the total notional amount of cross-currency swaps designated as cash flow hedges of foreign currency denominated debt was $1.4 billion at both periods.

At September 30, 2017 and December 31, 2016, in connection with cash flow hedges of foreign currency denominated borrowings, the company recorded net gains of $16 million and net gains of $29 million (before taxes), respectively, in accumulated other comprehensive income/(loss). Within these amounts, $34 million of gains and $27 million of gains, respectively, are expected to 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 Statement of Earnings. At September 30, 2017 and December 31, 2016, the total notional amount of derivative instruments in economic hedges of foreign currency exposure was $10.8 billion and $12.7 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 selling, general and administrative (SG&A) expense in the Consolidated Statement of Earnings. Although not designated as accounting hedges, the company utilizes derivatives, including equity swaps and futures, to economically hedge the exposures related to its employee compensation obligations. The derivatives are linked to the total return on certain broad market indices or the total return on the company's common stock, and are recorded at fair value with gains or losses also reported in SG&A expense in the Consolidated Statement of Earnings. At September 30, 2017 and December 31, 2016, the total notional amount of derivative instruments in economic hedges of these compensation obligations was $1.2 billion at both periods.

Notes to Consolidated Financial Statements — (continued)

Other Risks

The company may hold warrants to purchase shares of common stock in connection with various investments that are deemed derivatives because they contain net share or net cash settlement provisions. The company records the changes in the fair value of these warrants in other (income) and expense in the Consolidated Statement of Earnings. The company did not have any warrants qualifying as derivatives outstanding at September 30, 2017 and December 31, 2016.

The company is exposed to a potential loss if a client fails to pay amounts due under contractual terms. The company may utilize credit default swaps to economically hedge its credit exposures. The swaps are recorded at fair value with gains and losses reported in other (income) and expense in the Consolidated Statement of Earnings. The company did not have any derivative instruments relating to this program outstanding at September 30, 2017 and December 31, 2016.

The company is exposed to market volatility on certain investment securities. The company may utilize options or forwards to economically hedge its market exposure. The derivatives are recorded at fair value with gains and losses reported in other (income) and expense in the Consolidated Statement of Earnings. At September 30, 2017 and December 31, 2016, the company did not have any derivative instruments relating to this program outstanding.

The following tables provide a quantitative summary of the derivative and non-derivative instrument-related risk management activity as of September 30, 2017 and December 31, 2016, as well as for the three and nine months ended September 30, 2017 and 2016, respectively.

Notes to Consolidated Financial Statements — (continued)

Fair Values of Derivative Instruments in the Consolidated Statement of Financial Position
As of September 30, 2017 and December 31, 2016

	Fair Value of Derivative Assets			Fair Value of Derivative Liabilities		
(Dollars in millions)	Balance Sheet Classification	9/30/2017	12/31/2016	Balance Sheet Classification	9/30/2017	12/31/2016
Designated as hedging instruments:						
Interest rate contracts:	Prepaid expenses and other current assets	$ —	$ —	Other accrued expenses and liabilities	$ 1	$ —
	Investments and sundry assets	517	555	Other liabilities	15	8
Foreign exchange contracts:	Prepaid expenses and other current assets	208	421	Other accrued expenses and liabilities	272	46
	Investments and sundry assets	170	17	Other liabilities	5	35
	Fair value of derivative assets	$ 896	$ 993	**Fair value of derivative liabilities**	$ 292	$ 89
Not designated as hedging instruments:						
Foreign exchange contracts:	Prepaid expenses and other current assets	$ 38	$ 100	Other accrued expenses and liabilities	$ 56	$ 89
	Investments and sundry assets	—	22	Other liabilities	—	18
Equity contracts:	Prepaid expenses and other current assets	23	11	Other accrued expenses and liabilities	4	10
	Investments and sundry assets	—	—	Other liabilities	—	—
	Fair value of derivative assets	$ 61	$ 133	**Fair value of derivative liabilities**	$ 60	$ 117
Total Derivatives		$ 957	$ 1,126		$ 352	$ 206
Total debt designated as hedging instruments (1):						
Short-term debt		N/A	N/A		$ 377	$ 1,125
Long-term debt		N/A	N/A		11,469	7,844
		N/A	N/A		$ 11,846	$ 8,969
Total		$ 957	$ 1,126		$ 12,198	$ 9,175

N/A - not applicable

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

Notes to Consolidated Financial Statements — (continued)

The Effect of Derivative Instruments in the Consolidated Statement of Earnings
For the three months ended September 30, 2017 and 2016

(Dollars in millions) For the three months ended September 30:	Consolidated Statement of Earnings Line Item	Gain (Loss) Recognized in Earnings: Recognized on Derivatives 2017	Recognized on Derivatives 2016	Attributable to Risk Being Hedged(2) 2017	Attributable to Risk Being Hedged(2) 2016
Derivative instruments in fair value hedges(1)(5):					
Interest rate contracts	Cost of financing	$ (3)	$ (20)	$ 20	$ 40
	Interest expense	(3)	(21)	20	43
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	(35)	30	N/A	N/A
Interest rate contracts	Other (income) and expense	—	0	N/A	N/A
Equity contracts	SG&A expense	31	45	N/A	N/A
	Other (income) and expense	—	0	N/A	N/A
Total		$ (10)	$ 34	$ 41	$ 83

(Dollars in millions) For the three months ended September 30:	Gain (Loss) Recognized in Earnings and Other Comprehensive Income: Effective Portion Recognized in OCI 2017	Effective Portion Recognized in OCI 2016	Consolidated Statement of Earnings Line Item	Effective Portion Reclassified from AOCI 2017	Effective Portion Reclassified from AOCI 2016	Ineffectiveness and Amounts Excluded from Effectiveness Testing(3) 2017	Ineffectiveness and Amounts Excluded from Effectiveness Testing(3) 2016
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ —	Interest expense	$ (7)	$ (7)	$ —	$ —
Foreign exchange contracts	(70)	35	Other (income) and expense	64	(6)	(1)	(1)
			Cost of sales*	1	(7)	—	—
			Cost of services*	20	3	—	—
			SG&A expense	(6)	2	—	—
Instruments in net investment hedges(4):							
Foreign exchange contracts	(507)	(131)	Cost of financing	—	—	0	—
			Interest expense	—	—	8	25
Total	$ (577)	$ (96)		$ 73	$ (15)	$ 7	$ 24

* Reclassified to conform to 2017 presentation

N/A - not applicable

Note: OCI represents other comprehensive income/(loss) in the Consolidated Statement of Comprehensive Income and AOCI represents accumulated other comprehensive income/(loss) in the Consolidated Statement of Changes in Equity.

(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 amount of gain/(loss) recognized in income represents ineffectiveness on hedge relationships.
(4) Instruments in net investment hedges include derivative and non-derivative instruments.
(5) For the three month periods ended September 30, 2017 and 2016, fair value hedges resulted in a loss of less than $1 million and a loss of $3 million in ineffectiveness, respectively.

Notes to Consolidated Financial Statements — (continued)

The Effect of Derivative Instruments in the Consolidated Statement of Earnings
For the nine months ended September 30, 2017 and 2016

(Dollars in millions) For the nine months ended September 30:	Consolidated Statement of Earnings Line Item	Gain (Loss) Recognized in Earnings: Recognized on Derivatives 2017	Recognized on Derivatives 2016	Attributable to Risk Being Hedged(2) 2017	Attributable to Risk Being Hedged(2) 2016
Derivative instruments in fair value hedges(1)(5):					
Interest rate contracts	Cost of financing	$ 37	$ 195	$ 22	$ (127)
	Interest expense	34	214	20	(140)
Derivative instruments not designated as hedging instruments:					
Foreign exchange contracts	Other (income) and expense	74	335	N/A	N/A
Interest rate contracts	Other (income) and expense	—	0	N/A	N/A
Equity contracts	SG&A expense	88	87	N/A	N/A
	Other (income) and expense	—	(1)	N/A	N/A
Total		$ 233	$ 830	$ 42	$ (267)

(Dollars in millions) For the nine months ended September 30:	Gain (Loss) Recognized in Earnings and Other Comprehensive Income: Effective Portion Recognized in OCI 2017	Effective Portion Recognized in OCI 2016	Consolidated Statement of Earnings Line Item	Effective Portion Reclassified from AOCI 2017	Effective Portion Reclassified from AOCI 2016	Ineffectiveness and Amounts Excluded from Effectiveness Testing(3) 2017	Ineffectiveness and Amounts Excluded from Effectiveness Testing(3) 2016
Derivative instruments in cash flow hedges:							
Interest rate contracts	$ —	$ —	Interest expense	$ (21)	$ (17)	$ —	$ —
Foreign exchange contracts	(198)	(221)	Other (income) and expense	275	6	2	(1)
			Cost of sales*	23	(5)	—	—
			Cost of services*	47	(9)	—	—
			SG&A expense	23	(1)	—	—
Instruments in net investment hedges(4):							
Foreign exchange contracts	(1,513)	(1,071)	Cost of financing	—	—	0	—
			Interest expense	—	—	34	51
Total	$ (1,712)	$ (1,292)		$ 347	$ (26)	$ 37	$ 49

* Reclassified to conform to 2017 presentation.

N/A-not applicable

Note: OCI represents other comprehensive income/(loss) in the Consolidated Statement of Comprehensive Income and AOCI represents accumulated other comprehensive income/(loss) in the Consolidated Statement of Changes in Equity.

(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 amount of gain/(loss) recognized in income represents ineffectiveness on hedge relationships.
(4) Instruments in net investment hedges include derivative and non-derivative instruments.
(5) For the nine month periods ended September 30, 2017 and 2016, fair value hedges resulted in a loss of less than $1 million and a gain of less than $1 million in ineffectiveness, respectively.

For the three and nine months ending September 30, 2017 and 2016, there were no significant gains or losses excluded from the assessment of hedge effectiveness (for fair value 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.

Notes to Consolidated Financial Statements — (continued)

4. Financing Receivables: The following table presents financing receivables, net of allowances for credit losses, including residual values.

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Current:		
Net investment in sales-type and direct financing leases	$ 3,092	$ 2,909
Commercial financing receivables	8,563	9,706
Client loan and installment payment receivables (loans)	6,395	6,390
Total	$ 18,050	$ 19,006
Noncurrent:		
Net investment in sales-type and direct financing leases	$ 3,579	$ 3,950
Client loan and installment payment receivables (loans)	4,879	5,071
Total	$ 8,459	$ 9,021

Net investment in sales-type and direct financing leases relates principally to the company's Systems products and are for terms ranging generally from two to six years. Net investment in sales-type and direct financing leases includes unguaranteed residual values of $567 million and $585 million at September 30, 2017 and December 31, 2016, respectively, and is reflected net of unearned income of $459 million and $513 million, and net of allowance for credit losses of $118 million and $133 million at those dates, respectively.

Commercial financing receivables, net of allowance for credit losses of $21 million and $28 million at September 30, 2017 and December 31, 2016, respectively, relate primarily to inventory and accounts receivable financing for dealers and remarketers of IBM and OEM products. Payment terms for inventory and accounts receivable financing generally range from 30 to 90 days.

Client loan and installment payment receivables (loans), net of allowance for credit losses of $215 million and $276 million at September 30, 2017 and December 31, 2016, respectively, are loans that are provided primarily to clients to finance the purchase of hardware, software and services. Payment terms on these financing arrangements are generally for terms up to seven years.

Client loan and installment payment financing contracts are priced independently at competitive market rates. The company has a history of enforcing the terms of these financing agreements.

The company utilizes certain of its financing receivables as collateral for nonrecourse borrowings. Financing receivables pledged as collateral for borrowings were $640 million and $689 million at September 30, 2017 and December 31, 2016, respectively.

The company did not have any financing receivables held for sale as of September 30, 2017 and December 31, 2016.

Financing Receivables by Portfolio Segment

The following tables present financing receivables on a gross basis, excluding the allowance for credit losses and residual value, by portfolio segment and by class, excluding commercial financing receivables and other miscellaneous financing receivables at September 30, 2017 and December 31, 2016. The company determines its allowance for credit losses based on two portfolio segments: lease receivables and loan receivables, and further segments the portfolio into three classes: Americas, Europe/Middle East/Africa (EMEA), and Asia Pacific. This portfolio segmentation was changed from growth markets and major markets in 2017 as the company no longer manages the business under those market delineations. There was no impact to segment reporting or the company's Consolidated Financial Statements.

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) At September 30, 2017	Americas	EMEA	Asia Pacific	Total
Financing receivables				
Lease receivables	$ 3,541	$ 1,297	$ 1,304	$ 6,142
Loan receivables	6,180	3,120	2,189	11,489
Ending balance	$ 9,721	$ 4,417	$ 3,493	$ 17,631
Collectively evaluated for impairment	$ 9,581	$ 4,386	$ 3,391	$ 17,358
Individually evaluated for impairment	$ 140	$ 31	$ 102	$ 273
Allowance for credit losses				
Beginning balance at January 1, 2017				
Lease receivables	$ 54	$ 4	$ 76	$ 133
Loan receivables	169	18	89	276
Total	$ 223	$ 22	$ 165	$ 410
Write-offs	$ (49)	$ 0	$ (63)	$ (112)
Recoveries	0	0	0	0
Provision	11	9	(4)	16
Other	12	5	2	19
Ending balance at September 30, 2017	$ 197	$ 36	$ 100	$ 333
Lease receivables	$ 77	$ 6	$ 35	$ 118
Loan receivables	$ 120	$ 29	$ 65	$ 215
Collectively evaluated for impairment	$ 66	$ 12	$ 6	$ 85
Individually evaluated for impairment	$ 131	$ 23	$ 94	$ 248

(Dollars in millions) At December 31, 2016:*	Americas	EMEA	Asia Pacific	Total
Financing receivables:				
Lease receivables	$ 3,830	$ 1,171	$ 1,335	$ 6,336
Loan receivables	6,185	3,309	2,243	11,737
Ending balance	$ 10,015	$ 4,480	$ 3,578	$ 18,073
Collectively evaluated for impairment	$ 9,847	$ 4,460	$ 3,419	$ 17,726
Individually evaluated for impairment	$ 168	$ 20	$ 159	$ 347
Allowance for credit losses				
Beginning balance at January 1, 2016				
Lease receivables	$ 52	$ 17	$ 143	$ 213
Loan receivables	122	55	200	377
Total	$ 175	$ 72	$ 343	$ 590
Write-offs	$ (36)	$ (48)	$ (154)	$ (237)
Recoveries	2	0	0	2
Provision	65	(1)	(6)	58
Other	17	(1)	(18)	(3)
Ending balance at December 31, 2016	$ 223	$ 22	$ 165	$ 410
Lease receivables	$ 54	$ 4	$ 76	$ 133
Loan receivables	$ 169	$ 18	$ 89	$ 276
Collectively evaluated for impairment	$ 62	$ 13	$ 15	$ 90
Individually evaluated for impairment	$ 161	$ 9	$ 150	$ 320

* Reclassified to conform to 2017 presentation.

When determining the allowances, financing receivables are evaluated either on an individual or a collective basis. For individually evaluated receivables, the company determines the expected cash flow for the receivable and calculates an estimate of the potential loss and the probability of loss. For those accounts in which the loss is probable, the company records a specific reserve. In addition, the company records an unallocated reserve that is determined by applying a reserve rate to its different portfolios, excluding accounts that have been specifically reserved. This reserve rate is based upon credit rating, probability of default, term, characteristics (lease/loan) and loss history.

Notes to Consolidated Financial Statements — (continued)

Financing Receivables on Non-Accrual Status

The following table presents the recorded investment in financing receivables which were on non-accrual status at September 30, 2017 and December 31, 2016.

(Dollars in millions)	At September 30, 2017	At December 31, 2016*
Americas	$ 25	$ 23
EMEA	0	2
Asia Pacific	4	14
Total lease receivables	$ 30	$ 40
Americas	$ 79	$ 128
EMEA	53	5
Asia Pacific	10	12
Total loan receivables	$ 142	$ 145
Total receivables	$ 172	$ 185

* Reclassified to conform to 2017 presentation.

Impaired Receivables

The company considers any receivable with an individually evaluated reserve as an impaired receivable. Depending on the level of impairment, receivables will also be placed on non-accrual status.

The following tables present impaired receivables. This presentation includes both loan and lease receivables.

	At September 30, 2017		At December 31, 2016*	
(Dollars in millions)	Recorded Investment	Related Allowance	Recorded Investment	Related Allowance
Americas	$ 140	$ 131	$ 168	$ 161
EMEA	31	23	20	9
Asia Pacific	102	94	159	150
Total	$ 273	$ 248	$ 347	$ 320

* Reclassified to conform to 2017 presentation.

(Dollars in millions) For the three months ended September 30, 2017:	Average Recorded Investment	Interest Income Recognized	Interest Income Recognized on Cash Basis
Americas	$ 156	$ 0	$ —
EMEA	31	0	—
Asia Pacific	101	0	—
Total	$ 288	$ 0	$ —

(Dollars in millions) For the three months ended September 30, 2016:*	Average Recorded Investment	Interest Income Recognized	Interest Income Recognized on Cash Basis
Americas	$ 182	$ 0	$ —
EMEA	61	0	—
Asia Pacific	302	0	—
Total	$ 545	$ 0	$ —

* Reclassified to conform to 2017 presentation.

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) For the nine months ended September 30, 2017:	Average Recorded Investment	Interest Income Recognized	Interest Income Recognized on Cash Basis
Americas	$ 165	$ 0	$ —
EMEA	27	0	—
Asia Pacific	131	0	—
Total	$ 323	$ 0	$ —

(Dollars in millions) For the nine months ended September 30, 2016:*	Average Recorded Investment	Interest Income Recognized	Interest Income Recognized on Cash Basis
Americas	$ 158	$ 0	$ —
EMEA	65	0	—
Asia Pacific	322	0	—
Total	$ 545	$ 0	$ —

* Reclassified to conform to 2017 presentation.

Credit Quality Indicators

The company's credit quality indicators, which are based on rating agency data, publicly available information and information provided by customers, are reviewed periodically based on the relative level of risk. The resulting indicators are a numerical rating system that maps to Moody's Investors Service credit ratings as shown below. The company uses information provided by Moody's, where available, as one of many inputs in its determination of customer credit ratings.

The following tables present the net recorded investment for each class of receivables, by credit quality indicator, at September 30, 2017 and December 31, 2016. Receivables with a credit quality indicator ranging from Aaa to Baa3 are considered investment grade. All others are considered non-investment grade. The credit quality indicators do not reflect mitigation actions that the company takes to transfer credit risk to third parties.

(Dollars in millions) At September 30, 2017:	Lease Receivables			Loan Receivables		
	Americas	EMEA	Asia Pacific	Americas	EMEA	Asia Pacific
Credit Ratings:						
Aaa – Aa3	$ 358	$ 52	$ 56	$ 626	$ 124	$ 94
A1 – A3	715	126	543	1,251	302	908
Baa1 – Baa3	807	404	329	1,412	968	550
Ba1 – Ba2	762	415	172	1,333	993	289
Ba3 – B1	421	197	86	736	473	143
B2 – B3	345	83	69	604	200	116
Caa – D	56	13	15	98	31	25
Total	$ 3,465	$ 1,290	$ 1,269	$ 6,059	$ 3,091	$ 2,124

At September 30, 2017, the industries which made up Global Financing's receivables portfolio consisted of: Financial (33 percent), Government (14 percent), Manufacturing (14 percent), Services (13 percent), Retail (8 percent), Communications (7 percent), Healthcare (6 percent) and Other (5 percent).

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) At December 31, 2016:*	Lease Receivables			Loan Receivables		
	Americas	EMEA	Asia Pacific	Americas	EMEA	Asia Pacific
Credit Ratings:						
Aaa – Aa3	$ 447	$ 51	$ 53	$ 712	$ 143	$ 90
A1 – A3	782	113	486	1,246	318	832
Baa1 – Baa3	772	366	330	1,230	1,032	565
Ba1 – Ba2	822	350	185	1,309	987	316
Ba3 – B1	574	208	106	914	585	182
B2 – B3	297	71	84	472	201	143
Caa – D	83	9	15	133	25	25
Total	$ 3,776	$ 1,167	$ 1,259	$ 6,016	$ 3,291	$ 2,154

* Reclassified to conform to 2017 presentation.

At December 31, 2016, the industries which made up Global Financing's receivables portfolio consisted of: Financial (34 percent), Government (14 percent), Manufacturing (13 percent), Services (12 percent), Retail (8 percent), Communications (7 percent), Healthcare (6 percent) and Other (6 percent).

Past Due Financing Receivables

(Dollars in millions) At September 30, 2017:	Total Past Due > 90 days (1)	Fully Reserved Financing Receivables	<90 Days or Unbilled Financing Receivables	Total Financing Receivables	Recorded Investment > 90 Days and Accruing (2)
Americas	$ 28	$ 51	$ 3,463	$ 3,541	$ 255
EMEA	9	4	1,283	1,297	15
Asia Pacific	5	32	1,266	1,304	19
Total lease receivables	$ 42	$ 87	$ 6,012	$ 6,142	$ 290
Americas	$ 43	$ 80	$ 6,057	$ 6,180	$ 401
EMEA	26	19	3,076	3,120	46
Asia Pacific	6	61	2,122	2,189	9
Total loan receivables	$ 75	$ 160	$ 11,255	$ 11,489	$ 456
Total	$ 117	$ 247	$ 17,267	$ 17,631	$ 746

(1) Only the portion of a financing receivable which is greater than 90 days past due, excluding amounts that are fully reserved.
(2) At a contract level, which includes total billed and unbilled amounts for aged financing receivables greater than 90 days.

(Dollars in millions) At December 31, 2016:*	Total Past Due > 90 days (1)	Fully Reserved Financing Receivables	<90 Days or Unbilled Financing Receivables	Total Financing Receivables	Recorded Investment > 90 Days and Accruing (2)
Americas	$ 17	$ 20	$ 3,793	$ 3,830	$ 66
EMEA	2	10	1,159	1,171	6
Asia Pacific	12	59	1,264	1,335	40
Total lease receivables	$ 31	$ 89	$ 6,216	$ 6,336	$ 111
Americas	$ 19	$ 90	$ 6,075	$ 6,185	$ 80
EMEA	5	5	3,299	3,309	15
Asia Pacific	6	87	2,150	2,243	46
Total loan receivables	$ 31	$ 182	$ 11,524	$ 11,737	$ 141
Total	$ 62	$ 271	$ 17,740	$ 18,073	$ 253

(1) Only the portion of a financing receivable which is greater than 90 days past due, excluding amounts that are fully reserved.
(2) At a contract level, which includes total billed and unbilled amounts for aged financing receivables greater than 90 days.
* Reclassified to conform to 2017 presentation.

Notes to Consolidated Financial Statements — (continued)

Troubled Debt Restructurings

The company did not have any significant troubled debt restructurings during the nine months ended September 30, 2017 or for the year ended December 31, 2016.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
(Dollars in millions)	2017	2016	2017	2016
Cost	$ 22	$ 23	$ 68	$ 67
Selling, general and administrative	88	105	277	295
Research, development and engineering	13	14	43	41
Pre-tax stock-based compensation cost	123	142	388	403
Income tax benefits	(41)	(47)	(128)	(131)
Total net stock-based compensation cost	$ 82	$ 95	$ 260	$ 272

Pre-tax stock-based compensation cost for the three months ended September 30, 2017 decreased $19 million compared to the corresponding period in the prior year. This was due to decreases related to performance share units ($11 million), the conversion of stock-based awards previously issued by acquired entities ($7 million) and restricted stock units ($2 million).

Pre-tax stock-based compensation cost for the nine months ended September 30, 2017 decreased $15 million compared to the corresponding period in the prior year. This was due to decreases related to the conversion of stock-based awards previously issued by acquired entities ($20 million) and performance share units ($17 million), partially offset by an increase in restricted stock units ($22 million).

The implementation of the new FASB guidance for share-based payment transactions resulted in an immaterial impact to income tax benefits as of the three months and nine months ended September 30, 2017. Refer to note 2, “Accounting Changes,” for additional information.

As of September 30, 2017, the total unrecognized compensation cost of $905 million related to non-vested awards was expected to be recognized over a weighted-average period of approximately 2.6 years.

There was no significant capitalized stock-based compensation cost at September 30, 2017 and 2016.

6. Segments: The tables on pages 29 and 30 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 operating pre-tax income from continuing operations. The segments represent components of the company for which separate financial information is available that is utilized on a regular basis by the chief operating decision maker (the chief executive officer) in determining how to allocate resources and evaluate performance.

Notes to Consolidated Financial Statements — (continued)

SEGMENT INFORMATION

(Dollars in millions)	Cognitive Solutions & Industry Services: Cognitive Solutions	Cognitive Solutions & Industry Services: Global Business Services	Technology Services & Cloud Platforms	Systems	Global Financing	Total Segments
For the three months ended September 30, 2017:						
External revenue	$ 4,400	$ 4,093	$ 8,457	$ 1,721	$ 427	$ 19,098
Internal revenue	629	92	164	227	272	1,384
Total revenue	$ 5,030	$ 4,185	$ 8,621	$ 1,948	$ 698	$ 20,482
Pre-tax income from continuing operations	$ 1,649	$ 453	$ 1,192	$ 339	$ 244	$ 3,876
Revenue year-to-year change	2.6%	(2.3)%	(3.4)%	12.3%	(8.5)%	(0.6)%
Pre-tax income year-to-year change	4.8%	(16.8)%	(7.5)%	149.7%	(31.4)%	(0.5)%
Pre-tax income margin	32.8%	10.8%	13.8%	17.4%	34.9%	18.9%
For the three months ended September 30, 2016:						
External revenue	$ 4,235	$ 4,191	$ 8,748	$ 1,558	$ 412	$ 19,145
Internal revenue	667	93	180	176	352	1,468
Total revenue	$ 4,902	$ 4,284	$ 8,929	$ 1,734	$ 763	$ 20,613
Pre-tax income from continuing operations	$ 1,574	$ 544	$ 1,288	$ 136	$ 355	$ 3,897
Pre-tax income margin	32.1%	12.7%	14.4%	7.8%	46.5%	18.9%

Reconciliations to IBM as Reported:

(Dollars in millions) For the three months ended September 30:	2017	2016
Revenue:		
Total reportable segments	$ 20,482	$ 20,613
Eliminations of internal transactions	(1,384)	(1,468)
Other revenue	56	81
Total consolidated revenue	$ 19,153	$ 19,226
Pre-tax income from continuing operations:		
Total reportable segments	$ 3,876	$ 3,897
Amortization of acquired intangible assets	(238)	(265)
Acquisition-related (charges)/income	0	(4)
Non-operating retirement-related (costs)/income	(306)	(139)
Eliminations of internal transactions	(126)	(185)
Unallocated corporate amounts	(141)	(42)
Total pre-tax income from continuing operations	$ 3,065	$ 3,263

Notes to Consolidated Financial Statements — (continued)

SEGMENT INFORMATION

(Dollars in millions)	Cognitive Solutions & Industry Services: Cognitive Solutions	Cognitive Solutions & Industry Services: Global Business Services	Technology Services & Cloud Platforms	Systems	Global Financing	Total Segments
For the nine months ended September 30, 2017:						
External revenue	$ 13,021	$ 12,196	$ 25,079	$ 4,863	$ 1,246	$ 56,405
Internal revenue	2,001	271	497	571	925	4,265
Total revenue	$ 15,022	$ 12,467	$ 25,576	$ 5,434	$ 2,171	$ 60,670
Pre-tax income from continuing operations	$ 4,539	$ 1,065	$ 2,888	$ 227	$ 836	$ 9,555
Revenue year-to-year change	1.4%	(3.3)%	(3.6)%	(6.0)%	(16.0)%	(3.1)%
Pre-tax income year-to-year change	12.4%	(12.0)%	2.2%	(35.9)%	(30.7)%	(0.8)%
Pre-tax income margin	30.2%	8.5%	11.3%	4.2%	38.5%	15.7%
For the nine months ended September 30, 2016:						
External revenue	$ 12,889	$ 12,578	$ 26,029	$ 5,184	$ 1,245	$ 57,926
Internal revenue	1,929	310	501	594	1,340	4,673
Total revenue	$ 14,818	$ 12,888	$ 26,530	$ 5,778	$ 2,585	$ 62,599
Pre-tax income from continuing operations	$ 4,039	$ 1,210	$ 2,825	$ 354	$ 1,208	$ 9,636
Pre-tax income margin	27.3%	9.4%	10.6%	6.1%	46.7%	15.4%

Reconciliations to IBM as Reported:

(Dollars in millions) For the nine months ended September 30:	2017	2016
Revenue:		
Total reportable segments	$ 60,670	$ 62,599
Eliminations of internal transactions	(4,265)	(4,673)
Other revenue	192	223
Total consolidated revenue	$ 56,597	$ 58,149
Pre-tax income from continuing operations:		
Total reportable segments	$ 9,555	$ 9,636
Amortization of acquired intangible assets	(731)	(742)
Acquisition-related (charges)/income	(19)	(1)
Non-operating retirement-related (costs)/income	(1,065)	(444)
Eliminations of internal transactions	(515)	(873)
Unallocated corporate amounts	(294)	(230)
Total pre-tax income from continuing operations	$ 6,931	$ 7,345

Notes to Consolidated Financial Statements — (continued)

7. Equity Activity:

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the three months ended September 30, 2017:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 89	$ 195	$ 284
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (1)	$ 1	$ 0
Reclassification of (gains)/losses to other (income) and expense	0	0	0
Total net changes related to available-for-sale securities	$ (2)	$ 1	$ (1)
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ (70)	$ 20	$ (50)
Reclassification of (gains)/losses to:			
Cost of sales	(1)	1	(1)
Cost of services	(20)	8	(12)
SG&A expense	6	(1)	4
Other (income) and expense	(64)	25	(39)
Interest expense	7	(3)	4
Total unrealized gains/(losses) on cash flow hedges	$ (143)	$ 49	$ (94)
Retirement-related benefit plans(1):			
Prior service costs/(credits)	$ 0	$ 0	$ 0
Net (losses)/gains arising during the period	1	0	1
Curtailments and settlements	2	(1)	1
Amortization of prior service (credits)/costs	(22)	7	(15)
Amortization of net (gains)/losses	733	(242)	491
Total retirement-related benefit plans	$ 713	$ (235)	$ 479
Other comprehensive income/(loss)	$ 658	$ 11	$ 669

(1) These AOCI components are included in the computation of net periodic pension cost. (See note 8, “Retirement-Related Benefits,” for additional information.)

Notes to Consolidated Financial Statements — (continued)

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the three months ended September 30, 2016:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ (99)	$ 50	$ (49)
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (1)	$ 0	$ (1)
Reclassification of (gains)/losses to other (income) and expense	(1)	0	(1)
Total net changes related to available-for-sale securities	$ (2)	$ 1	$ (1)
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ 35	$ (14)	$ 21
Reclassification of (gains)/losses to:			
Cost of sales*	7	(3)	4
Cost of services*	(3)	1	(2)
SG&A expense	(2)	(1)	(3)
Other (income) and expense	6	(2)	4
Interest expense	7	(3)	4
Total unrealized gains/(losses) on cash flow hedges	$ 50	$ (22)	$ 29
Retirement-related benefit plans(1):			
Net (losses)/gains arising during the period	$ 11	$ (5)	$ 6
Curtailments and settlements	4	(1)	3
Amortization of prior service (credits)/costs	(28)	9	(19)
Amortization of net (gains)/losses	696	(225)	471
Total retirement-related benefit plans	$ 683	$ (222)	$ 461
Other comprehensive income/(loss)	$ 632	$ (192)	$ 440

* Reclassified to conform to 2017 presentation.

(1) These AOCI components are included in the computation of net periodic pension cost. (See note 8, “Retirement-Related Benefits,” for additional information.)

Notes to Consolidated Financial Statements — (continued)

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the nine months ended September 30, 2017:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ 213	$ 581	$ 794
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ 2	$ 0	$ 1
Reclassification of (gains)/losses to other (income) and expense	1	0	0
Total net changes related to available-for-sale securities	$ 2	$ 0	$ 2
Unrealized gains/(losses) on cash flow hedges:			
Unrealized gains/(losses) arising during the period	$ (198)	$ 53	$ (146)
Reclassification of (gains)/losses to:			
Cost of sales	(23)	6	(17)
Cost of services	(47)	18	(29)
SG&A expense	(23)	6	(17)
Other (income) and expense	(275)	106	(169)
Interest expense	21	(8)	13
Total unrealized gains/(losses) on cash flow hedges	$ (545)	$ 180	$ (365)
Retirement-related benefit plans(1):			
Prior service costs/(credits)	$ 0	$ 0	$ 0
Net (losses)/gains arising during the period	106	(36)	70
Curtailments and settlements	3	(1)	2
Amortization of prior service (credits)/costs	(66)	23	(43)
Amortization of net (gains)/losses	2,156	(739)	1,417
Total retirement-related benefit plans	$ 2,200	$ (754)	$ 1,446
Other comprehensive income/(loss)	$ 1,869	$ 7	$ 1,877

(1) These AOCI components are included in the computation of net periodic pension cost. (See note 8, “Retirement-Related Benefits,” for additional information.)

Notes to Consolidated Financial Statements — (continued)

Reclassifications and Taxes Related to Items of Other Comprehensive Income

(Dollars in millions) For the nine months ended September 30, 2016:	Before Tax Amount	Tax (Expense)/ Benefit	Net of Tax Amount
Other comprehensive income/(loss):			
Foreign currency translation adjustments	$ (109)	$ 411	$ 303
Net changes related to available-for-sale securities:			
Unrealized gains/(losses) arising during the period	$ (36)	$ 14	$ (22)
Reclassification of (gains)/losses to other (income) and expense	36	(14)	22
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	$ (221)	$ 82	$ (139)
Reclassification of (gains)/losses to:			
Cost of sales*	5	(4)	2
Cost of services*	9	(3)	5
SG&A expense	1	(3)	(1)
Other (income) and expense	(6)	2	(4)
Interest expense	17	(6)	10
Total unrealized gains/(losses) on cash flow hedges	$ (195)	$ 68	$ (127)
Retirement-related benefit plans(1):			
Net (losses)/gains arising during the period	$ (57)	$ 20	$ (37)
Curtailments and settlements	19	(7)	12
Amortization of prior service (credits)/costs	(81)	29	(52)
Amortization of net (gains)/losses	2,079	(735)	1,344
Total retirement-related benefit plans	$ 1,960	$ (693)	$ 1,267
Other comprehensive income/(loss)	$ 1,656	$ (213)	$ 1,442

* Reclassified to conform to 2017 presentation.

(1) These AOCI components are included in the computation of net periodic pension cost. (See note 8, “Retirement-Related Benefits,” for additional information.)

Notes to Consolidated Financial Statements — (continued)

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

(Dollars in millions)	Net Unrealized Gains/(Losses) on Cash Flow Hedges	Foreign Currency Translation Adjustments*	Net Change Retirement-Related Benefit Plans	Net Unrealized Gains/(Losses) on Available-For-Sale Securities	Accumulated Other Comprehensive Income/(Loss)
January 1, 2017	$ 319	$ (3,603)	$ (26,116)	$ 2	$ (29,398)
Other comprehensive income before reclassifications	(146)	794	72	1	721
Amount reclassified from accumulated other comprehensive income	(219)	0	1,374	0	1,155
Total change for the period	(365)	794	1,446	2	1,877
September 30, 2017	$ (46)	$ (2,809)	$ (24,670)	$ 4	$ (27,521)

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

(Dollars in millions)	Net Unrealized Gains/(Losses) on Cash Flow Hedges	Foreign Currency Translation Adjustments*	Net Change Retirement-Related Benefit Plans	Net Unrealized Gains/(Losses) on Available-For-Sale Securities	Accumulated Other Comprehensive Income/(Loss)
January 1, 2016	$ 100	$ (3,463)	$ (26,248)	$ 5	$ (29,607)
Other comprehensive income before reclassifications	(139)	303	(25)	(22)	117
Amount reclassified from accumulated other comprehensive income	12	0	1,292	22	1,326
Total change for the period	(127)	303	1,267	0	1,442
September 30, 2016	$ (28)	$ (3,161)	$ (24,981)	$ 4	$ (28,164)

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

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

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Retirement-related plans — cost			
Defined benefit and contribution pension plans — cost	$ 592	$ 421	40.6%
Nonpension postretirement plans — cost	61	64	(5.9)
Total	$ 653	$ 486	34.4%

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Retirement-related plans — cost			
Defined benefit and contribution pension plans — cost	$ 1,915	$ 1,315	45.6%
Nonpension postretirement plans — cost	182	185	(1.6)
Total	$ 2,097	$ 1,500	39.8%

Notes to Consolidated Financial Statements — (continued)

The following tables provide 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 September 30:	**2017**	**2016**	**2017**	**2016**
Service cost	$ —	$ —	$ 106	$ 108
Interest cost	478	512	215	257
Expected return on plan assets	(753)	(922)	(340)	(468)
Amortization of prior service costs/(credits)	4	3	(25)	(28)
Recognized actuarial losses	334	328	387	357
Curtailments and settlements	—	—	2	4
Multi-employer plans/other	—	—	(74)	8
Total net periodic pension (income)/cost of defined benefit plans	63	(79)	271	239
Cost of defined contribution plans	156	159	102	103
Total defined benefit and contribution plans cost recognized in the Consolidated Statement of Earnings	$ 219	$ 79	$ 373	$ 342

(Dollars in millions)	U.S. Plans		Non-U.S. Plans	
For the nine months ended September 30:	**2017**	**2016**	**2017**	**2016**
Service cost	$ —	$ —	$ 308	$ 318
Interest cost	1,435	1,536	622	787
Expected return on plan assets	(2,260)	(2,767)	(985)	(1,419)
Amortization of prior service costs/(credits)	12	8	(73)	(79)
Recognized actuarial losses	1,003	985	1,120	1,062
Curtailments and settlements	—	—	3	19
Multi-employer plan/other	—	—	(46)	64
Total net periodic pension (income)/cost of defined benefit plans	190	(238)	950	751
Cost of defined contribution plans	475	484	301	318
Total defined benefit and contribution plans cost recognized in the Consolidated Statement of Earnings	$ 665	$ 246	$ 1,250	$ 1,069

On October 12, 2012, the High Court in London issued a ruling against IBM United Kingdom Limited and IBM United Kingdom Holdings Limited, both wholly-owned subsidiaries of the company, in litigation involving one of IBM UK's defined benefit plans. As a result of the ruling, the company recorded a pre-tax retirement-related obligation of $162 million in the fourth quarter of 2012 in selling, general and administrative expense in the Consolidated Statement of Earnings. As a result of the final Court of Appeal ruling received in August 2017, the company adjusted its obligation under the plan. This adjustment resulted in a gain of $91 million recorded in selling, general and administrative expense in the Consolidated Statement of Earnings for the three and nine months ended September 30, 2017. This gain is reflected in "Non-U.S. Plans - Multi-employer plans/other" in the tables above. See note 12, "Contingencies" for additional information.

In March 2017, the company initiated a change to the investment strategy of its U.S. defined benefit plan. The 2017 target asset allocation was modified by reducing equity securities from 20 percent to 12 percent, increasing debt securities from 70 percent to 79 percent and other investments largely remained unchanged at 10 percent of total plan assets. This change was designed to reduce the risk associated with the potential negative impact that equity markets might have on the funded status of the U.S. defined benefit plan. The change is expected to reduce the 2018 expected long-term rate of return on assets from 5.75 percent to approximately 5.25 percent. See note S, "Retirement-Related Benefits," on page 144 in the company's 2016 Annual Report for additional information regarding the company's investment strategy.

Notes to Consolidated Financial Statements — (continued)

In 2017, the company expects to contribute approximately $400 million to its non-U.S. defined benefit and multi-employer plans, the largest of which will be contributed to the defined benefit pension plans in Japan, Spain and the UK. This amount generally represents the legally mandated minimum contribution. Total contributions to the non-U.S. plans in the first nine months of 2017 were $301 million, of which $124 million was in cash and $176 million in U.S. Treasury securities. Total net contributions to the non-U.S. plans in the first nine months of 2016 were $261 million, of which $97 million was in cash and $164 million in U.S. Treasury securities. The contribution of U.S. Treasury securities is considered a non-cash transaction in the Consolidated Statement of Cash Flows.

The following tables provide the components of the cost/(income) 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 September 30:	2017	2016	2017	2016
Service cost	$ 4	$ 4	$ 1	$ 1
Interest cost	38	41	14	15
Expected return on plan assets	—	—	(2)	(2)
Amortization of prior service costs/(credits)	(2)	(2)	0	(1)
Recognized actuarial losses	5	5	2	2
Curtailments and settlements	—	—	0	0
Total nonpension postretirement plan cost recognized in Consolidated Statement of Earnings	$ 45	$ 49	$ 16	$ 16

(Dollars in millions)	U.S. Plan		Non-U.S. Plans	
For the nine months ended September 30:	2017	2016	2017	2016
Service cost	$ 11	$ 13	$ 4	$ 4
Interest cost	115	124	43	37
Expected return on plan assets	—	—	(6)	(5)
Amortization of prior service costs/(credits)	(6)	(6)	0	(4)
Recognized actuarial losses	15	15	5	7
Curtailments and settlements	—	—	0	0
Total nonpension postretirement plan cost recognized in Consolidated Statement of Earnings	$ 135	$ 146	$ 47	$ 39

The company contributed $259 million in U.S. Treasury securities to the U.S. nonpension postretirement benefit plan during the nine months ended September 30, 2017, and $200 million in U.S. Treasury securities and $40 million in cash during the nine months ended September 30, 2016. The contribution of U.S. Treasury securities is considered a non-cash transaction in the Consolidated Statement of Cash Flows.

9. Acquisitions/Divestitures:

Acquisitions: During the nine months ended September 30, 2017, the company completed four acquisitions at an aggregate cost of $128 million.

The Technology Services & Cloud Platforms segment completed acquisitions of three businesses: in the first quarter, Agile 3 Solutions, LLC (Agile 3 Solutions), a privately held business; in the third quarter, the cloud and managed hosting services business from a large U.S. telecommunications company, and Cloudigo Ltd. (Cloudigo), a privately held business. The Cognitive Solutions segment completed the acquisition of one privately held business: in the second quarter, XCC Web Content & Custom Apps Extension (XCC) from TIMETOACT Software & Consulting GmbH.

Each acquisition is expected to enhance the company's portfolio of product and services capabilities. Agile 3 Solutions is a developer of software used by C-Suite and senior executives to better visualize, understand and manage risks associated with the protection of sensitive data and adds capabilities to the company's security portfolio. The acquisition of the cloud and managed hosting services business strengthens the company's services portfolio and aligns with its cloud strategy. Cloudigo brings talent and technology that aligns closely with the company's cloud platform investments in advanced

network processing. XCC's technology enhances IBM's Connections Cloud platform by providing a single, accessible engagement center for sharing content.

Purchase price consideration for all acquisitions as reflected in the following table, was paid in cash. All acquisitions are reported in the Consolidated Statement of Cash Flows net of acquired cash and cash equivalents.

The following table reflects the purchase price related to these acquisitions and the resulting purchase price allocations as of September 30, 2017.

(Dollars in millions)	Amortization Life (in yrs.)	Total Acquisitions
Current assets		$ 18
Fixed assets/noncurrent assets		69
Intangible assets:		
Goodwill	N/A	16
Completed technology	5	9
Client relationships	7	62
Patents/trademarks	1-5	1
Total assets acquired		175
Current liabilities		(47)
Total liabilities assumed		(47)
Total purchase price		$ 128

N/A - not applicable

The acquisitions were accounted for as business combinations using the acquisition method, and accordingly, the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquired entity were recorded at their estimated fair values at the date of acquisition. The primary items that generated the goodwill are the value of the synergies between the acquired businesses and IBM and the acquired assembled workforce, neither of which qualify as an amortizable intangible asset.

The overall weighted-average life of the identified amortizable intangible assets acquired is 6.6 years. These identified intangible assets will be amortized on a straight-line basis over their useful lives. Goodwill of $13 million has been assigned to the Technology Services & Cloud Platforms segment and goodwill of $3 million has been assigned to the Cognitive Solutions segment. It is expected that approximately 50 percent of the goodwill will be deductible for tax purposes. Each of the acquisitions was for 100 percent of the acquired businesses.

On October 4, 2017, the company announced its intent to acquire Vivant Digital (Vivant), a boutique digital and innovation agency. The acquisition extends the strategy and design expertise of IBM Interactive Experience (IBM iX) and will help accelerate clients' digital transformations. The transaction is expected to close in the fourth quarter of 2017 and the business will be integrated within the GBS segment.

Divestitures:

Microelectronics — On October 20, 2014, IBM and GLOBALFOUNDRIES announced a definitive agreement in which GLOBALFOUNDRIES would acquire the company's Microelectronics business, including existing semiconductor manufacturing assets and operations in East Fishkill, NY and Essex Junction, VT. The commercial OEM business acquired by GLOBALFOUNDRIES includes custom logic and specialty foundry, manufacturing and related operations. The transaction closed on July 1, 2015.

At September 30, 2014, the company concluded that the Microelectronics business met the criteria for discontinued operations reporting. The disposal group constituted a component under accounting guidance. The continuing cash inflows and outflows with the discontinued component are related to the manufacturing sourcing arrangement and the transition, packaging and test services. These cash flows are not direct cash flows as they are not significant and the company has no significant continuing involvement.

Notes to Consolidated Financial Statements — (continued)

All assets and liabilities of the business, classified as held for sale at June 30, 2015, were transferred at closing. The company transferred $515 million of net cash to GLOBALFOUNDRIES in the third quarter of 2015. This amount included $750 million of cash consideration, adjusted by the amount of working capital due from GLOBALFOUNDRIES and other miscellaneous items. A second cash payment in the amount of $500 million was transferred in December 2016. The remaining cash consideration of $250 million is expected to be transferred in December 2017.

Summarized financial information for discontinued operations is immaterial.

Industry Standard Server — On January 23, 2014, IBM and Lenovo Group Limited (Lenovo) announced a definitive agreement in which Lenovo would acquire the company's industry standard server portfolio (System x) for an adjusted purchase price of $2.1 billion, consisting of approximately $1.8 billion in cash, with the balance in Lenovo common stock. The stock represented less than 5 percent equity ownership in Lenovo. The company sold to Lenovo its System x, BladeCenter and Flex System blade servers and switches, x86-based Flex integrated systems, NeXtScale and iDataPlex servers and associated software, blade networking and maintenance operations. As of March 31, 2016, all Lenovo common stock was sold.

The initial closing was completed on October 1, 2014. A subsequent closing occurred in most other countries in which there was a large business footprint on December 31, 2014. The remaining countries closed on March 31, 2015. An assessment of the ongoing contractual terms of the transaction resulted in the recognition of pre-tax gains of $63 million, $57 million and $13 million in 2015, 2016 and the first nine months of 2017, respectively.

Overall, the company expects to recognize a total pre-tax gain on the sale of approximately $1.6 billion, which does not include associated costs related to transition and performance-based costs. Net of these charges, the pre-tax gain was approximately $1.3 billion, of which the cumulative gain recorded as of September 30, 2017 is $1.2 billion. The balance of the gain is expected to be recognized in 2019 upon conclusion of the maintenance agreement.

Others – In the first quarter of 2017, the company completed one research-related divestiture. The company completed two Cognitive Solutions divestitures in the second quarter of 2017 and one Cognitive Solutions divestiture in the third quarter of 2017. The financial terms related to these transactions were not material. Overall, the company recognized a pre-tax gain of $25 million related to these transactions in 2017.

Notes to Consolidated Financial Statements — (continued)

10. Intangible Assets Including Goodwill: The following table details the company's intangible asset balances by major asset class:

(Dollars in millions) Intangible asset class	At September 30, 2017 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Capitalized software	$ 1,586	$ (750)	$ 835
Client relationships	2,416	(1,054)	1,363
Completed technology	2,872	(1,562)	1,310
Patents/trademarks	707	(267)	440
Other*	52	(19)	32
Total	$ 7,633	$ (3,652)	$ 3,981

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

(Dollars in millions) Intangible asset class	At December 31, 2016 Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Capitalized software	$ 1,537	$ (661)	$ 876
Client relationships	2,831	(1,228)	1,602
Completed technology	3,322	(1,668)	1,654
Patents/trademarks	730	(205)	525
Other*	46	(15)	31
Total	$ 8,466	$ (3,778)	$ 4,688

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

The net carrying amount of intangible assets decreased $707 million during the first nine months of 2017, primarily due to intangible asset amortization, partially offset by additions resulting from capitalized software. The aggregate intangible amortization expense was $383 million and $1,161 million for the third quarter and first nine months of 2017, respectively, versus $403 million and $1,148 million for the third quarter and first nine months of 2016, respectively. In addition, in the first nine months of 2017, the company retired $1,255 million of fully amortized intangible assets, impacting both the gross carrying amount and accumulated amortization by this amount.

The amortization expense for each of the five succeeding years relating to intangible assets currently recorded in the Consolidated Statement of Financial Position is estimated to be the following at September 30, 2017:

(Dollars in millions)	Capitalized Software	Acquired Intangibles	Total
2017 (for Q4)	$ 144	$ 216	$ 359
2018	441	811	1,252
2019	202	671	873
2020	48	559	607
2021	—	446	446

The change in the goodwill balances by reportable segment, for the nine months ended September 30, 2017 and for the year ended December 31, 2016 are as follows:

Notes to Consolidated Financial Statements — (continued)

(Dollars in millions) Segment	Balance 01/01/17	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation And Other Adjustments*	Balance 9/30/17
Cognitive Solutions	$ 19,484	$ 3	$ (36)	$ (15)	$ 243	$ 19,679
Global Business Services	4,607	—	4	—	186	4,797
Technology Services & Cloud Platforms	10,258	13	(3)	—	175	10,444
Systems	1,850	—	—	—	13	1,863
Total	$ 36,199	$ 16	$ (36)	$ (15)	$ 618	$ 36,782

* Primarily driven by foreign currency translation.

(Dollars in millions) Segment	Balance 01/01/16	Goodwill Additions	Purchase Price Adjustments	Divestitures	Foreign Currency Translation And Other Adjustments*	Balance 12/31/16
Cognitive Solutions	$ 15,621	$ 3,821	$ 5	$ (12)	$ 48	$ 19,484
Global Business Services	4,396	303	4	(1)	(95)	4,607
Technology Services & Cloud Platforms	10,156	119	(12)	(5)	(1)	10,258
Systems	1,848	—	(4)	—	5	1,850
Total	$ 32,021	$ 4,244	$ (7)	$ (18)	$ (42)	$ 36,199

* Primarily driven by foreign currency translation.

There were no goodwill impairment losses recorded during the first nine months of 2017 or the full year of 2016 and the company has no accumulated impairment losses.

Purchase price adjustments recorded in the first nine months of 2017 and full year 2016 were related to acquisitions completed on or prior to June 30, 2017 or September 30, 2016, respectively, and 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 of $36 million were recorded during the first nine months of 2017, with the primary drivers being deferred tax assets, other taxes payable and other current liabilities associated with the Truven Health Analytics, Inc. and The Weather Company acquisitions. Net purchase price adjustments of $7 million were recorded during 2016, with the primary drivers being deferred tax assets, accounts receivable, deferred income, inventory and other current liabilities.

11. Borrowings:

Short-Term Debt

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Commercial paper	$ —	$ 899
Short-term loans	407	375
Long-term debt — current maturities	3,892	6,239
Total	$ 4,299	$ 7,513

The weighted-average interest rate for commercial paper at December 31, 2016 was 0.7 percent. The weighted-average interest rate for short-term loans was 5.4 percent and 9.5 percent at September 30, 2017 and December 31, 2016, respectively.

Notes to Consolidated Financial Statements — (continued)

Long-Term Debt

Pre-Swap Borrowing

(Dollars in millions)	Maturities	Balance 9/30/2017	Balance 12/31/2016
U.S. dollar debt (average interest rate at September 30, 2017):*			
2.7%	2017	$ 2	$ 5,104
3.0%	2018–2019	10,208	8,856
2.0%	2020–2021	7,416	4,941
2.4%	2022	3,492	1,901
3.4%	2023	1,529	1,500
3.6%	2024	2,000	2,000
7.0%	2025	600	600
3.5%	2026	1,350	1,350
4.7%	2027	969	469
6.5%	2028	313	313
5.9%	2032	600	600
8.0%	2038	83	83
5.6%	2039	745	745
4.0%	2042	1,107	1,107
7.0%	2045	27	27
4.7%	2046	650	650
7.1%	2096	316	316
		$ 31,408	$ 30,563
Other currencies (average interest rate at September 30, 2017, in parentheses):*			
Euros (1.5%)	2019–2029	$ 10,342	$ 7,122
Pound sterling (2.7%)	2020–2022	1,409	1,296
Japanese yen (0.9%)	2017–2026	1,669	1,576
Canadian (2.2%)	2017	—	373
Other (7.4%)	2018–2020	694	215
		$ 45,522	$ 41,145
Less: net unamortized discount		833	839
Less: net unamortized debt issuance costs		99	82
Add: fair value adjustment**		627	669
		$ 45,218	$ 40,893
Less: current maturities		3,892	6,239
Total		$ 41,327	$ 34,655

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

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

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

During the third quarter of 2017, IBM Credit LLC, a wholly owned subsidiary of the company, filed a shelf registration statement with the Securities and Exchange Commission (SEC) allowing it to offer for sale public debt securities. IBM Credit LLC issued fixed and floating rate debt securities in the aggregate amount of $3.0 billion with maturity dates ranging from 2019 to 2022. This debt is included in the long-term debt table above.

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.

Notes to Consolidated Financial Statements — (continued)

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

Pre-swap annual contractual maturities of long-term debt outstanding at September 30, 2017, are as follows:

(Dollars in millions)	Total
2017 (for Q4)	$ 468
2018	5,140
2019	7,034
2020	6,155
2021	5,155
2022 and beyond	21,569
Total	$ 45,522

Interest on Debt

(Dollars in millions) For the nine months ended September 30:	2017	2016
Cost of financing	$ 496	$ 432
Interest expense	485	523
Net investment derivative activity	(34)	(51)
Interest capitalized	(1)	3
Total interest paid and accrued	$ 947	$ 907

Lines of Credit

In 2016, the company increased the size of its five-year Credit Agreement (the “Credit Agreement”) from $10 billion to $10.25 billion and extended the term by one year to November 10, 2021. The Credit Agreement permits the company and its Subsidiary Borrowers to borrow up to $10.25 billion on a revolving basis. Borrowings of the Subsidiary Borrowers will be unconditionally backed by the company. The company may also, upon the agreement of either existing lenders, or of the additional banks not currently party to the Credit Agreement, increase the commitments under the Credit Agreement up to an additional $1.75 billion. Subject to certain terms of the Credit Agreement, the company and Subsidiary Borrowers may borrow, prepay and reborrow amounts under the Credit Agreement at any time during the Credit Agreement term. Interest rates on borrowings under the Credit Agreement will be based on prevailing market interest rates, as further described in the Credit Agreement. The Credit Agreement contains customary representations and warranties, covenants, events of default, and indemnification provisions. The company believes that circumstances that might give rise to breach of these covenants or an event of default, as specified in the Credit Agreement, are remote. As of September 30, 2017, there were no borrowings by the company, or its subsidiaries, under the Credit Agreement.

The company also has other committed lines of credit in some of the geographies which are not significant in the aggregate. Interest rates and other terms of borrowing under these lines of credit vary from country to country, depending on local market conditions.

On July 20, 2017, the company and IBM Credit LLC, (the Borrowers), entered into a $2.5 billion 364-Day Credit Agreement, and a $2.5 billion Three-Year Credit Agreement (the New Credit Agreements, and together with the Credit Agreement, the Credit Facilities). IBM also entered into the Third Amendment to its Credit Agreement. The New Credit Agreements permit the Borrowers to borrow up to an aggregate of $5 billion on a revolving basis. Neither Borrower is a guarantor or co-obligor of the other Borrower under the New Credit Agreements. Subject to certain conditions stated in the New Credit Agreements, the Borrowers may borrow, prepay and re-borrow amounts under the New Credit Agreements at any time during the term of the New Credit Agreements. Funds borrowed may be used for the general corporate purposes of the Borrowers. Interest rates on borrowings under the New Credit Agreements will be based on prevailing market interest rates, as further described in the New Credit Agreements. The New Credit Agreements contain customary representations and warranties, covenants, events of default, and indemnification provisions. The Amendment to the Credit Agreement adds and restates various provisions in order to provide the company with the opportunity in 2018 to request that the lenders extend the termination date of the Credit Agreement to July 20, 2023.

Notes to Consolidated Financial Statements — (continued)

12. Contingencies: As a company with a substantial employee population and with clients in more than 175 countries, IBM is involved, either as plaintiff or defendant, in a variety of ongoing claims, demands, suits, investigations, tax matters and proceedings that arise from time to time in the ordinary course of its business. The company is a leader in the information technology industry and, as such, has been and will continue to be subject to claims challenging its IP rights and associated products and offerings, including claims of copyright and patent infringement and violations of trade secrets and other IP rights. In addition, the company enforces its own IP against infringement, through license negotiations, lawsuits or otherwise. Also, as is typical for companies of IBM's scope and scale, the company is party to actions and proceedings in various jurisdictions involving a wide range of labor and employment issues (including matters related to contested employment decisions, country-specific labor and employment laws, and the company's pension, retirement and other benefit plans), as well as actions with respect to contracts, product liability, securities, foreign operations, competition law and environmental matters. These actions may be commenced by a number of different parties, including competitors, clients, current or former employees, government and regulatory agencies, stockholders and representatives of the locations in which the company does business. Some of the actions to which the company is party may involve particularly complex technical issues, and some actions may raise novel questions under the laws of the various jurisdictions in which these matters arise.

The company records a provision with respect to a claim, suit, investigation or proceeding when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Any recorded liabilities, including any changes to such liabilities for the quarter ended September 30, 2017 were not material to the Consolidated Financial Statements.

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

With respect to certain of the claims, suits, investigations and proceedings discussed herein, the company believes at this time that the likelihood of any material loss is remote, given, for example, the procedural status, court rulings, and/or the strength of the company's defenses in those matters. With respect to the remaining claims, suits, investigations and proceedings discussed in this note, except as specifically discussed herein, the company is unable to provide estimates of reasonably possible losses or range of losses, including losses in excess of amounts accrued, if any, for the following reasons. Claims, suits, investigations and proceedings are inherently uncertain, and it is not possible to predict the ultimate outcome of these matters. It is the company's experience that damage amounts claimed in litigation against it are unreliable and unrelated to possible outcomes, and as such are not meaningful indicators of the company's potential liability. Further, the company is unable to provide such an estimate due to a number of other factors with respect to these claims, suits, investigations and proceedings, including considerations of the procedural status of the matter in question, the presence of complex or novel legal theories, and/or the ongoing discovery and development of information important to the matters. The company reviews claims, suits, investigations and proceedings at least quarterly, and decisions are made with respect to recording or adjusting provisions and disclosing reasonably possible losses or range of losses (individually or in the aggregate), to reflect the impact and status of settlement discussions, discovery, procedural and substantive rulings, reviews by counsel and other information pertinent to a particular matter.

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

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

The company is a defendant in an action filed on March 6, 2003 in state court in Salt Lake City, Utah by the SCO Group (SCO v. IBM). The company removed the case to Federal Court in Utah. Plaintiff is an alleged successor in interest to some of AT&T's UNIX IP rights, and alleges copyright infringement, unfair competition, interference with contract and breach of contract with regard to the company's distribution of AIX and Dynix and contribution of code to Linux and the company has asserted counterclaims. On September 14, 2007, plaintiff filed for bankruptcy protection, and all proceedings in this case were stayed. The court in another suit, the SCO Group, Inc. v. Novell, Inc., held a trial in March 2010. The jury found that Novell is the owner of UNIX and UnixWare copyrights; the judge subsequently ruled that SCO is obligated to recognize

Novell's waiver of SCO's claims against IBM and Sequent for breach of UNIX license agreements. On August 30, 2011, the Tenth Circuit Court of Appeals affirmed the district court's ruling and denied SCO's appeal of this matter. In June 2013, the Federal Court in Utah granted SCO's motion to reopen the SCO v. IBM case. In February 2016, the Federal Court ruled in favor of IBM on all of SCO's remaining claims, and SCO appealed. On October 30, 2017, the Tenth Circuit Court of Appeals affirmed the dismissal of all but one of SCO's remaining claims, which was remanded to the Federal Court in Utah.

On May 13, 2010, IBM and the State of Indiana (acting on behalf of the Indiana Family and Social Services Administration) sued one another in a dispute over a 2006 contract regarding the modernization of social service program processing in Indiana. After six weeks of trial, on July 18, 2012, the Indiana Superior Court in Marion County rejected the State's claims in their entirety and awarded IBM $52 million plus interest and costs. On February 13, 2014, the Indiana Court of Appeals reversed portions of the trial judge's findings, found IBM in material breach, and ordered the case remanded to the trial judge to determine the State's damages, if any. The Indiana Court of Appeals also affirmed approximately $50 million of the trial court's award of damages to IBM. On March 22, 2016, the Indiana Supreme Court affirmed the outcome of the Indiana Court of Appeals and remanded the case to the Indiana Superior Court. On August 7, 2017, the Indiana Superior Court awarded the State $128 million, which it then offset against IBM's previously affirmed award of $50 million, resulting in a $78 million award to the State, plus interest. IBM appealed to the Indiana Court of Appeals and the matter remains pending.

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

On October 29, 2013, Bridgestone Americas, Inc. (Bridgestone) sued IBM regarding a 2009 contract for the implementation of an SAP-based, enterprise-wide order management system. IBM counterclaimed against Bridgestone and its parent, Bridgestone Corp. The case is pending in the Middle District of Tennessee.

On April 16, 2014, Iusacell SA de C.V. (Iusacell) sued IBM, claiming that IBM made fraudulent misrepresentations that induced Iusacell to enter into an agreement with IBM Mexico. Iusacell claimed damages for lost profits. Iusacell's complaint related to a contractual dispute in Mexico, which was the subject of a pending arbitration proceeding in Mexico initiated by IBM Mexico against Iusacell for breach of the underlying agreement. On August 31, 2017, the parties entered into an agreement releasing all claims against each other, resolving both the lawsuit and the arbitration proceeding.

IBM United Kingdom Limited (IBM UK) initiated legal proceedings in May 2010 before the High Court in London against the IBM UK Pensions Trust (the UK Trust) and two representative beneficiaries of the UK Trust membership. IBM UK sought a declaration that it acted lawfully both in notifying the Trustee of the UK Trust that it was closing its UK defined benefit plans to future accruals for most participants and in implementing the company's new retirement policy. In April 2014, the High Court acknowledged that the changes made to its UK defined benefit plans were within IBM's discretion, but ruled that IBM breached its implied duty of good faith both in implementing these changes and in the manner in which it consulted with employees. Proceedings to determine remedies were held in July 2014, and in February 2015 the High Court held that for IBM to make changes to accruals under the plan would require a new consultation of the participants, but other changes (including to early retirement policy) would not require such consultation. IBM UK appealed both the breach and remedies judgments. In August 2017, the Appeal Court reversed the High Court, holding that IBM UK was not in breach of its implied duties of good faith and that the changes made to the plans were lawful. The time to appeal has expired and the Appeal Court judgment is final. In addition, IBM UK is a defendant in approximately 290 individual actions brought since early 2010 by participants of the defined benefits plans who left IBM UK. These actions, which allege constructive dismissal and age discrimination, are pending before the Employment Tribunal in Southampton UK.

In early 2012, IBM notified the SEC of an investigation by the Polish Central Anti-Corruption Bureau involving allegations of illegal activity by a former IBM Poland employee in connection with sales to the Polish government. IBM cooperated with the SEC and Polish authorities in this matter. In April 2013, IBM learned that the U.S. Department of Justice (DOJ) was also investigating allegations related to the Poland matter, as well as allegations relating to transactions in Argentina, Bangladesh and Ukraine. The DOJ was seeking information regarding the company's global FCPA compliance program and its public sector business. The company cooperated with the DOJ in this matter. In June 2017, the DOJ and the SEC each informed IBM that based on the information to date, they closed their respective investigations into these matters without pursuing any enforcement action against the company.

In May 2015, a putative class action was commenced in the United States District Court for the Southern District of New York related to the company's October 2014 announcement that it was divesting its global commercial semiconductor technology business, alleging violations of the Employee Retirement Income Security Act ("ERISA"). The company,

management's Retirement Plans Committee, and three current or former IBM executives were named as defendants. On September 7, 2016, the Court granted the company's motion to dismiss the plaintiffs' claims. On October 21, 2016, the plaintiffs filed an amended complaint, dropping the company as a defendant. On September 29, 2017, the Court granted the defendants' motion to dismiss. Plaintiffs have filed a notice of appeal to the Second Circuit Court of Appeals and the matter remains pending.

In August 2015, IBM learned that the SEC is conducting an investigation relating to revenue recognition with respect to the accounting treatment of certain transactions in the U.S., UK and Ireland. The company is cooperating with the SEC in this matter.

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 $1.1 billion. The company believes it will prevail on these matters and that this amount is not a meaningful indicator of liability.

13. Commitments: The company's extended lines of credit to third-party entities include unused amounts of $8,016 million and $6,542 million at September 30, 2017 and December 31, 2016, respectively. A portion of these amounts was available to the company's business partners to support their working capital needs. In addition, the company has committed to provide future financing to its clients in connection with client purchase agreements for approximately $3,063 million and $2,463 million at September 30, 2017 and December 31, 2016, respectively.

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

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

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

In addition, the company guarantees certain loans and financial commitments. The maximum potential future payment under these financial guarantees was $21 million and $34 million at September 30, 2017 and December 31, 2016, respectively. The fair value of the guarantees recognized in the Consolidated Statement of Financial Position is not material.

Notes to Consolidated Financial Statements — (continued)

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

Standard Warranty Liability

(Dollars in millions)	2017	2016
Balance at January 1	$ 156	$ 181
Current period accruals	107	107
Accrual adjustments to reflect actual experience	(3)	4
Charges incurred	(126)	(132)
Balance at September 30	$ 134	$ 160

Extended Warranty Liability

(Dollars in millions)	2017	2016
Aggregate deferred revenue at January 1	$ 531	$ 538
Revenue deferred for new extended warranty contracts	175	176
Amortization of deferred revenue	(198)	(198)
Other*	24	12
Aggregate deferred revenue at September 30	$ 533	$ 528
Current portion	$ 258	$ 287
Noncurrent portion	$ 275	$ 241

* Other primarily consists of foreign currency translation adjustments.

Notes to Consolidated Financial Statements — (continued)

14. Earnings Per Share of Common Stock: The following tables provide the computation of basic and diluted earnings per share of common stock for the three and nine months ended September 30, 2017 and 2016.

	For the Three Months Ended	
	September 30, 2017	September 30, 2016
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	929,437,441	953,995,828
Add — Incremental shares under stock-based compensation plans	2,236,234	2,357,365
Add — Incremental shares associated with contingently issuable shares	1,553,754	964,091
Number of shares on which diluted earnings per share is calculated	933,227,429	957,317,284
Income from continuing operations (millions)	$ 2,726	$ 2,854
Loss from discontinued operations, net of tax (millions)	0	(1)
Net income on which basic earnings per share is calculated (millions)	$ 2,726	$ 2,853
Income from continuing operations (millions)	$ 2,726	$ 2,854
Net income applicable to contingently issuable shares (millions)	0	—
Income from continuing operations on which diluted earnings per share is calculated (millions)	$ 2,726	$ 2,854
Loss from discontinued operations, net of tax, on which basic and diluted earnings per share is calculated (millions)	0	(1)
Net income on which diluted earnings per share is calculated (millions)	$ 2,726	$ 2,853
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 2.92	$ 2.98
Discontinued operations	0.00	0.00
Total	$ 2.92	$ 2.98
Basic		
Continuing operations	$ 2.93	$ 2.99
Discontinued operations	0.00	0.00
Total	$ 2.93	$ 2.99

Stock options to purchase 399,844 shares and 29,033 shares were outstanding as of September 30, 2017 and 2016, respectively, but were not included in the computation of diluted earnings per share because the options' exercise price during the respective period was greater than the average market price of the common shares, and, therefore, the effect would have been antidilutive.

Notes to Consolidated Financial Statements — (continued)

	For the Nine Months Ended	
	September 30, 2017	September 30, 2016
Number of shares on which basic earnings per share is calculated:		
Weighted-average shares outstanding during period	935,600,777	957,693,385
Add — Incremental shares under stock compensation plans	3,213,758	2,258,854
Add — Incremental shares associated with contingently issuable shares	1,394,930	771,943
Number of shares on which diluted earnings per share is calculated	940,209,466	960,724,182
Income from continuing operations (millions)	$ 6,811	$ 7,375
Loss from discontinued operations, net of tax (millions)	(3)	(4)
Net income on which basic earnings per share is calculated (millions)	$ 6,807	$ 7,371
Income from continuing operations (millions)	$ 6,811	$ 7,375
Net income applicable to contingently issuable shares (millions)	(2)	—
Income from continuing operations on which diluted earnings per share is calculated (millions)	$ 6,809	$ 7,375
Loss from discontinued operations, net of tax, on which basic and diluted earnings per share is calculated (millions)	(3)	(4)
Net income on which diluted earnings per share is calculated (millions)	$ 6,806	$ 7,371
Earnings/(loss) per share of common stock:		
Assuming dilution		
Continuing operations	$ 7.24	$ 7.67
Discontinued operations	0.00	0.00
Total	$ 7.24	$ 7.67
Basic		
Continuing operations	$ 7.28	$ 7.70
Discontinued operations	0.00	0.00
Total	$ 7.28	$ 7.70

Stock options to purchase 146,795 shares and 533,089 shares (average of first, second and third quarter share amounts) were outstanding as of September 30, 2017 and 2016, respectively, but were not included in the computation of diluted earnings per share because the options' exercise price during the respective periods was greater than the average market price of the common shares, and, therefore, the effect would have been antidilutive.

15. Subsequent Events: On October 31, 2017, the company announced that the Board of Directors approved a quarterly dividend of $1.50 per common share. The dividend is payable December 9, 2017 to shareholders of record on November 10, 2017.

On October 31, 2017, the company announced that the Board of Directors authorized $3.0 billion in additional funds for use in the company's stock repurchase program.

Item 2.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF RESULTS OF OPERATIONS AND FINANCIAL CONDITION FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2017

Snapshot

Financial Results Summary — Three Months Ended September 30:

(Dollars and shares in millions except per share amounts) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Revenue	$ 19,153	$ 19,226	(0.4)%*
Gross profit margin	45.9%	46.9%	(0.9)pts.
Total expense and other (income)	$ 5,735	$ 5,751	(0.3)%
Total expense and other (income)-to-revenue ratio	29.9%	29.9%	0.0pts.
Income from continuing operations, before income taxes	$ 3,065	$ 3,263	(6.1)%
Provision for income taxes from continuing operations	$ 339	$ 409	(17.1)%
Income from continuing operations	$ 2,726	$ 2,854	(4.5)%
Income from continuing operations margin	14.2%	14.8%	(0.6)pts.
Loss from discontinued operations, net of tax	$ 0	$ (1)	(79.3)%
Net income	$ 2,726	$ 2,853	(4.5)%
Earnings per share from continuing operations:			
Assuming dilution	$ 2.92	$ 2.98	(2.0)%
Basic	$ 2.93	$ 2.99	(2.0)%
Consolidated earnings per share - assuming dilution	$ 2.92	$ 2.98	(2.0)%
Weighted-average shares outstanding:			
Assuming dilution	933.2	957.3	(2.5)%
Basic	929.4	954.0	(2.6)%

* (1.0) percent adjusted for currency.

Organization of Information:

In October 2014, the company announced a definitive agreement to divest its Microelectronics business and manufacturing operations. The operating results of the Microelectronics business are reported as discontinued operations. The transaction closed on July 1, 2015.

Currency:

The references to "adjusted for currency" or "at constant currency" in the Management Discussion do not include operational impacts that could result from fluctuations in foreign currency rates. When the company refers to growth rates at constant currency or adjusts such growth rates for currency, it is done so that certain financial results can be viewed without the impact of fluctuations in foreign currency exchange rates, thereby facilitating period-to-period comparisons of its business performance. Financial results adjusted for currency are calculated by translating current period activity in local currency using the comparable prior year period's currency conversion rate. This approach is used for countries where the functional currency is the local currency. Generally, when the dollar either strengthens or weakens against other currencies, the growth at constant currency rates or adjusting for currency will be higher or lower than growth reported at actual exchange rates. See "Currency Rate Fluctuations" on page 81 for additional information.

Management Discussion — (continued)

Operating (non-GAAP) Earnings:

In an effort to provide better transparency into the operational results of the business, the company separates business results into operating and non-operating categories. Operating earnings from continuing operations is a non-GAAP measure that excludes the effects of certain acquisition-related charges, intangible asset amortization expense resulting from basis differences on equity method investments, retirement-related costs, discontinued operations and related tax impacts. For acquisitions, operating earnings exclude the amortization of purchased intangible assets and acquisition-related charges such as in-process research and development, transaction costs, applicable restructuring and related expenses and tax charges related to acquisition integration. These charges are excluded as they may be inconsistent in amount and timing from period to period and are dependent on the size, type and frequency of the company's acquisitions. All other spending for acquired companies is included in both earnings from continuing operations and in operating (non-GAAP) earnings. Throughout the Management Discussion & Analysis, the impact of acquisitions over the prior 12-month period may be a driver of higher expenses year to year. For retirement-related costs, the company characterizes certain items as operating and others as non-operating. The company includes defined benefit plan and nonpension postretirement benefit plan service cost, amortization of prior service cost and the cost of defined contribution plans in operating earnings. Non-operating retirement-related cost includes defined benefit plan and nonpension postretirement benefit plan interest cost, expected return on plan assets, amortized actuarial gains/losses, the impacts of any plan curtailments/settlements and multi-employer plan costs, pension insolvency costs and other costs. Non-operating retirement-related costs are primarily related to changes in pension plan assets and liabilities which are tied to financial market performance and the company considers these costs to be outside of the operational performance of the business.

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

The following table provides the company's (non-GAAP) operating earnings for the third quarter of 2017 and 2016.

(Dollars in millions except per share amounts) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Net income as reported	$ 2,726	$ 2,853	(4.5)%
Loss from discontinued operations, net of tax	0	(1)	(79.3)
Income from continuing operations	$ 2,726	$ 2,854	(4.5)%
Non-operating adjustments (net of tax):			
Acquisition-related charges	159	197	(19.1)
Non-operating retirement-related costs/(income)	193	99	96.1
Operating (non-GAAP) earnings*	$ 3,079	$ 3,149	(2.2)%
Diluted operating (non-GAAP) earnings per share	$ 3.30	$ 3.29	0.3%

* See page 85 for a more detailed reconciliation of net income to operating earnings.

Financial Performance Summary — Three Months Ended September 30:

In the third quarter of 2017, the company reported $19.2 billion in revenue, $2.7 billion in income from continuing operations and $3.1 billion in operating (non-GAAP) earnings, resulting in diluted earnings per share from continuing operations of $2.92 as reported and $3.30 on an operating (non-GAAP) basis. The company generated $3.6 billion in cash from operations and $2.5 billion in free cash flow in the third quarter of 2017 and shareholder returns of $2.3 billion in gross common stock repurchases and dividends.

Total consolidated revenue decreased 0.4 percent year to year as reported and 1.0 percent adjusted for currency in the third quarter of 2017, with sequential improvement of 4.3 points as reported and 2.3 points adjusted for currency from the second-quarter year-to-year rates. The Cognitive Solutions segment and the Systems segment both had revenue growth year to year in the third quarter as reported and adjusted for currency. The year-to-year effect of currency in the third quarter (0.6 points help) improved from the second quarter impact (1.4 points hurt).

Management Discussion — (continued)

The company is embedding cloud and cognitive capabilities across the business and the strategic imperatives are a signpost of the progress being made in helping enterprise clients extract value from data and become digital businesses. In the third quarter of 2017, the company continued to deliver solid revenue growth in its strategic imperatives - cloud, analytics, mobile, security and social, which together generated $8.8 billion of revenue and grew 11 percent as reported and 10 percent adjusted for currency, with double-digit growth in cloud and security. Strategic imperatives growth in the third quarter largely represented organic growth as the acquisitive content has leveled on a year-to-year basis. Total Cloud revenue of $4.1 billion increased 20 percent as reported and adjusted for currency, with as-a-Service revenue up 25 percent (24 percent adjusted for currency). The annual exit run rate for as-a-Service revenue increased to $9.4 billion in the third quarter of 2017 compared to $7.5 billion in the third quarter of 2016. Analytics revenue of $5.0 billion increased 5 percent both as reported and adjusted for currency. Mobile revenue increased 7 percent as reported and adjusted for currency and Security revenue increased 51 percent (49 percent adjusted for currency), driven by security software solutions and strong demand for the pervasive encryption capabilities in the new z14 mainframe.

From a segment perspective, in the third quarter, Cognitive Solutions revenue increased 3.9 percent as reported and 3 percent adjusted for currency with growth in Solutions Software and Transaction Processing Software as reported and adjusted for currency. Performance in the third quarter included growth in annuity revenue, including as-a-Service solutions, as well as growth in software transactional performance. Global Business Services (GBS) revenue decreased 2.3 percent as reported and 2 percent adjusted for currency, primarily driven by declines in both Application Management and Global Process Services, partially offset by growth in Consulting. The GBS business continued to shift resources and move into the high-value strategic areas of digital, cloud and analytics. GBS strategic imperatives revenue increased 10 percent (11 percent adjusted for currency) year to year. Technology Services & Cloud Platforms revenue decreased 3.3 percent as reported and 4 percent adjusted for currency, primarily driven by a decline in Infrastructure Services. However, within Technology Services & Cloud Platforms, strategic imperatives revenue was up 12 percent as reported and adjusted for currency year to year, driven by hybrid cloud services, security and mobile. Systems revenue increased 10.4 percent as reported and 10 percent adjusted for currency driven by strong contribution from the new z14 mainframe and continued growth in Storage Systems.

From a geographic perspective, Americas revenue decreased 2.0 percent (2 percent adjusted for currency) year to year, with the U.S. down 2.6 percent and Latin America down 1.5 percent (2 percent adjusted for currency). Canada was up 2.1 percent as reported, but down 2 percent adjusted for currency. Europe/Middle East/Africa (EMEA) revenue increased 2.4 percent as reported, but decreased 1 percent adjusted for currency, with growth in France, Germany and Spain and a decline in the UK. Asia Pacific revenue decreased 1.2 percent as reported, but increased 2 percent adjusted for currency. Within Asia Pacific, Japan decreased 4.0 percent as reported, but increased 4 percent adjusted for currency, and China increased 3.9 percent (4 percent adjusted for currency).

The consolidated gross profit margin of 45.9 percent decreased 0.9 points year to year driven by continued investments, mix and higher retirement-related costs, partially offset by benefits from productivity. The operating (non-GAAP) gross margin of 47.6 percent decreased 0.4 points compared to the prior year driven primarily by the same factors, excluding the impact of higher non-operating retirement-related costs. The consolidated gross margin and the operating (non-GAAP) gross margin both improved 0.4 points compared to the second-quarter 2017 gross margins.

Total expense and other (income) decreased 0.3 percent in the third quarter of 2017 compared to the prior year. The year-to-year decrease was primarily the result of lower operational spending (4 points), largely offset by lower intellectual property income (4 points) and spending related to acquisitions completed in the prior 12 months. The expense dynamics reflect continued efficiency in the underlying spending offset by continued investment to build and reinvent new solutions and platforms. Total operating (non-GAAP) expense and other (income) decreased 0.8 percent year to year driven primarily by the same factors.

Pre-tax income from continuing operations of $3.1 billion in the third quarter of 2017 decreased 6.1 percent year to year and the pre-tax margin was 16.0 percent, a decrease of 1.0 points compared to the third quarter of 2016. The continuing operations effective tax rate for the third quarter of 2017 was 11.0 percent, a decrease of 1.5 points compared to the third quarter of 2016, driven by an increase in foreign tax credits, partially offset by a benefit related to tax audit activity in the prior year period. Income from continuing operations of $2.7 billion decreased 4.5 percent and the net income margin was 14.2 percent, a decrease of 0.6 points. Losses from discontinued operations, net of tax, were $0.2 million in the third quarter of 2017 and $1.0 million in the third quarter of 2016. Net income of $2.7 billion decreased 4.5 percent year to year. Operating (non-GAAP) pre-tax income from continuing operations of $3.6 billion decreased 1.7 percent year to year. Operating (non-GAAP) pre-tax margin from continuing operations decreased 0.2 points to 18.8 percent. Operating (non-GAAP) income from continuing operations of $3.1 billion decreased 2.2 percent and the operating (non-GAAP) income

margin from continuing operations of 16.1 percent decreased 0.3 points. The operating (non-GAAP) effective tax rate from continuing operations in the third quarter of 2017 was 14.7 percent versus 14.2 percent in the prior year.

Diluted earnings per share from continuing operations of $2.92 in the third quarter of 2017 decreased 2.0 percent year to year. In the third quarter of 2017, the company repurchased 6.6 million shares of its common stock at a cost of $0.9 billion and had $1.5 billion remaining in the share repurchase authorization at September 30, 2017. Operating (non-GAAP) diluted earnings per share of $3.30 increased 0.3 percent versus the third quarter of 2016.

The company generated $3.6 billion in cash flow from operating activities in the third quarter of 2017, a decrease of $0.5 billion compared to the third quarter of 2016. Net cash used in investing activities of $1.9 billion was $1.0 billion higher than the prior year, primarily driven by a reduction in cash sourced from non-operating finance receivables ($0.4 billion) and an increase in cash used from net purchases of marketable securities and other investments ($0.4 billion). Net cash used in financing activities of $2.8 billion decreased $1.4 billion compared to the prior year, primarily driven by higher net debt issuances ($1.6 billion).

In January 2017, the company disclosed that it expected GAAP earnings per share from continuing operations of at least $11.95 and operating (non-GAAP) earnings of at least $13.80 per diluted share for 2017. The company also disclosed that it expected 2017 free cash flow to be consistent with 2016. Refer to page 82 in the Liquidity and Capital Resources section for additional information on this non-GAAP measure. In October 2017, the company disclosed that it continues to maintain these expectations. Refer to the Looking Forward section on pages 80 and 81 for additional information on the company's expectations.

Financial Results Summary - Nine Months Ended September 30:

(Dollars and shares in millions except per share amounts) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Revenue	$ 56,597	$ 58,149	(2.7)%*
Gross profit margin	44.8%	47.1%	(2.3)pts.
Total expense and other (income)	$ 18,434	$ 20,056	(8.1)%
Total expense and other (income)-to-revenue ratio	32.6%	34.5%	(1.9)pts.
Income from continuing operations, before income taxes	$ 6,931	$ 7,345	(5.6)%
Provision for/(benefit from) income taxes from continuing operations	$ 120	$ (31)	nm%
Income from continuing operations	$ 6,811	$ 7,375	(7.7)%
Income from continuing operations margin	12.0%	12.7%	(0.6)pts.
Loss from discontinued operations, net of tax	$ (3)	$ (4)	(17.5)%
Net income	$ 6,807	$ 7,371	(7.6)%
Earnings per share from continuing operations:			
Assuming dilution	$ 7.24	$ 7.67	(5.6)%
Basic	$ 7.28	$ 7.70	(5.5)%
Consolidated earnings per share - assuming dilution	$ 7.24	$ 7.67	(5.6)%
Weighted-average shares outstanding:			
Assuming dilution	940.2	960.7	(2.1)%
Basic	935.6	957.7	(2.3)%

	9/30/17	12/31/16	
Assets	$ 121,636	$ 117,470	3.5%
Liabilities	$ 101,879	$ 99,078	2.8%
Equity	$ 19,757	$ 18,392	7.4%

* (2.2) percent adjusted for currency

nm - not meaningful

The following table provides the company's (non-GAAP) operating earnings for the first nine months of 2017 and 2016.

Management Discussion — (continued)

(Dollars in millions except per share amounts) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Net income as reported	$ 6,807	$ 7,371	(7.6)%
Loss from discontinued operations, net of tax	(3)	(4)	(17.5)
Income from continuing operations	$ 6,811	$ 7,375	(7.7)%
Non-operating adjustments (net of tax):			
Acquisition-related charges	537	542	(0.7)
Non-operating retirement-related costs/(income)	777	338	129.9
Operating (non-GAAP) earnings*	$ 8,125	$ 8,255	(1.6)%
Diluted operating (non-GAAP) earnings per share	$ 8.64	$ 8.59	0.6%

* See page 86 for a more detailed reconciliation of net income to operating earnings.

Financial Performance Summary — Nine Months Ended September 30:

In the first nine months of 2017, the company reported $56.6 billion in revenue, and delivered $6.8 billion in income from continuing operations, resulting in diluted earnings per share from continuing operations of $7.24 as reported and $8.64 on an operating (non-GAAP) basis. The company generated $11.0 billion in cash from operations and $6.2 billion in free cash flow in the first nine months of 2017 and shareholder returns of $7.8 billion in gross common stock repurchases and dividends.

Total consolidated revenue decreased 2.7 percent year to year as reported and 2.2 percent adjusted for currency in the first nine months of 2017.

In the first nine months of 2017, the company's strategic imperatives revenue grew 9 percent year to year as reported and 10 percent adjusted for currency. Total Cloud revenue of $11.6 billion was up 22 percent year to year as reported and 23 percent adjusted for currency, with as-a-Service revenue up 36 percent (37 percent adjusted for currency). Analytics revenue of $14.5 billion increased 5 percent as reported and 6 percent adjusted for currency. Mobile revenue was up 17 percent year to year (19 percent adjusted for currency) and Security revenue increased 21 percent as reported and adjusted for currency.

From a segment perspective, for the first nine months, Cognitive Solutions revenue increased 1.0 percent as reported and 1 percent adjusted for currency. On an as reported and adjusted for currency basis, Solutions Software increased year to year, while Transaction Processing Software declined. GBS revenue decreased 3.0 percent as reported and 2 percent adjusted for currency with declines in Application Management , Consulting and Global Process Services. GBS strategic imperatives revenue increased 10 percent (11 percent adjusted for currency) year to year. Technology Services & Cloud Platforms revenue decreased 3.7 percent as reported and 3 percent adjusted for currency, primarily driven by Infrastructure Services which declined 4.4 percent (4 percent adjusted for currency). Technology Services & Cloud Platforms strategic imperatives revenue was up 20 percent (21 percent adjusted for currency) year to year, led by hybrid cloud services. Systems revenue decreased 6.2 percent as reported (6 percent adjusted for currency) with declines in z Systems and Power Systems, both due to product refresh cycle dynamics, partially offset by growth in Storage Systems.

From a geographic perspective, Americas revenue decreased 1.8 percent (2 percent adjusted for currency) year to year with the U.S. down 3.0 percent, partially offset by growth in Latin America (4.5 percent as reported, 1 percent adjusted for currency). EMEA revenue decreased 4.7 percent (3 percent adjusted for currency) driven primarily by declines in the UK and Germany. Asia Pacific revenue decreased 1.9 percent (1 percent adjusted for currency), with Japan down 1.8 percent as reported, but up 2 percent adjusted for currency.

The consolidated gross margin of 44.8 percent decreased 2.3 points year to year and reflects investments, mix and higher retirement-related costs, partially offset by benefits from productivity. The operating (non-GAAP) gross margin of 46.5 percent decreased 1.7 points versus the prior year primarily driven by the same factors, excluding the impact of higher non-operational retirement-related costs.

Total expense and other (income) decreased $1.6 billion or 8.1 percent in the first nine months of 2017 compared to the prior year. The year-to-year decrease was primarily the result of continued focus on efficiency in spending and reduced expenses for workforce transformation. This included a lower level of workforce rebalancing charges (4 points), a prior-year charge for real estate actions (2 points) and lower operational spending (2 points). In addition, the effects of currency (1 point) contributed to the year-to-year decline. The year-to-year decrease in expense and other (income) was partially offset by

spending related to acquisitions (2 points) completed in the prior 12 months. Total operating (non-GAAP) expense and other (income) decreased 9.9 percent year to year, driven primarily by the same factors.

Pre-tax income from continuing operations of $6.9 billion decreased 5.6 percent and the pre-tax margin was 12.2 percent, a decrease of 0.4 points versus the first nine months of 2016. The continuing operations effective tax rate for the first nine months of 2017 was 1.7 percent compared to (0.4) percent in the prior year. The tax rate in the first nine months of 2017 benefitted from discrete tax items, including the first-quarter intra-entity transfer of assets ($0.6 billion) and certain second-quarter discrete items. The prior year negative tax rate was primarily the result of a refund ($1.2 billion) of previously paid non-U.S. taxes plus interest in the first quarter of 2016. Income from continuing operations of $6.8 billion decreased 7.7 percent and the net income margin was 12.0 percent, a decrease of 0.6 points compared to the first nine months of 2016. Losses from discontinued operations, net of tax, were $3.5 million in the first nine months of 2017 and $4.2 million in the prior-year period. Net income of $6.8 billion decreased 7.6 percent year to year. Operating (non-GAAP) pre-tax income from continuing operations of $8.7 billion increased 2.5 percent year to year and the operating (non-GAAP) pre-tax margin from continuing operations increased 0.8 points to 15.5 percent. Operating (non-GAAP) income from continuing operations of $8.1 billion decreased 1.6 percent and the operating (non-GAAP) income margin from continuing operations of 14.4 percent increased 0.2 points. The operating (non-GAAP) effective tax rate from continuing operations in the first nine months of 2017 was 7.1 percent versus 3.2 percent in the first nine months of 2016.

Diluted earnings per share from continuing operations of $7.24 decreased 5.6 percent year to year. In the first nine months of 2017, the company repurchased 22.9 million shares of its common stock and had $1.5 billion remaining in the current share repurchase authorization at September 30, 2017. Operating (non-GAAP) diluted earnings per share of $8.64 increased 0.6 percent versus the prior year.

At September 30, 2017, the balance sheet remains strong, and with the newly reorganized financing entity, IBM Credit LLC, the company is better positioned to support the business over the long term. Cash and marketable securities at quarter end were $11.5 billion, an increase of $3.0 billion from December 31, 2016. Key drivers in the balance sheet and total cash flows were:

Total assets increased $4.2 billion (decreased $0.4 billion adjusted for currency) from December 31, 2016 driven by:

- Increases in cash and marketable securities ($3.0 billion), deferred taxes ($2.1 billion), retirement plan assets ($1.5 billion) and goodwill ($0.6 billion); partially offset by
- Decreases in total receivables ($2.7 billion) and intangible assets ($0.7 billion).

Total liabilities increased $2.8 billion (decreased $1.5 billion adjusted for currency) from December 31, 2016 driven by:

- Increases in total debt ($3.5 billion); partially offset by
- Decreases in accounts payable ($0.8 billion).

Total equity of $19.8 billion increased $1.4 billion from December 31, 2016 as a result of:

- Increases from net income ($6.8 billion), retirement-related ($1.4 billion) and equity translation adjustments ($0.8 billion); partially offset by
- Decreases from dividends ($4.1 billion) and share repurchases ($3.7 billion).

The company generated $11.0 billion in cash flow provided by operating activities, a decrease of $2.1 billion compared to the first nine months of 2016, driven primarily by the prior-year tax refund and a decrease in cash provided by financing receivables. Net cash used in investing activities of $3.3 billion was $4.0 billion lower than the prior year, primarily driven by a decrease in cash used for acquisitions ($5.0 billion). Net cash used in financing activities of $5.5 billion increased $0.9 billion compared to the first nine months of 2016, driven primarily by increased gross common share repurchases ($1.0 billion).

Management Discussion — (continued)

Third Quarter and First Nine Months in Review

Results of Continuing Operations

Segment Details

The following is an analysis of the third quarter and first nine months of 2017 versus the third quarter and first nine months of 2016 reportable segment external revenue and gross margin results. Segment pre-tax income includes transactions between the segments that are intended to reflect an arm's-length transfer price and excludes certain unallocated corporate items.

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Cognitive Solutions	$ 4,400	$ 4,235	3.9%	3.0%
Gross margin	78.7%	80.4%	(1.7)pts.	
Global Business Services	4,093	4,191	(2.3)%	(2.2)%
Gross margin	27.3%	28.8%	(1.5)pts.	
Technology Services & Cloud Platforms	8,457	8,748	(3.3)%	(4.1)%
Gross margin	41.1%	42.0%	(1.0)pts.	
Systems	1,721	1,558	10.4%	9.6%
Gross margin	53.6%	51.1%	2.6pts.	
Global Financing	427	412	3.7%	2.8%
Gross margin	25.2%	37.8%	(12.6)pts.	
Other	56	81	(31.8)%	(32.8)%
Gross margin	(511.4)%	(279.2)%	(232.2)pts.	
Total consolidated revenue	$ 19,153	$ 19,226	(0.4)%	(1.0)%
Total consolidated gross profit	$ 8,800	$ 9,013	(2.4)%	
Total consolidated gross margin	45.9%	46.9%	(0.9)pts.	
Non-operating adjustments:				
Amortization of acquired intangible assets	114	129	(12.2)%	
Retirement-related costs/(income)	203	79	158.7%	
Operating (non-GAAP) gross profit	$ 9,116	$ 9,221	(1.1)%	
Operating (non-GAAP) gross margin	47.6%	48.0%	(0.4)pts.	

Management Discussion — (continued)

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/Margin Change	Yr. to Yr. Percent Change Adjusted For Currency
Revenue:				
Cognitive Solutions	$ 13,021	$ 12,889	1.0%	1.3%
Gross margin	78.4%	81.5%	(3.1)pts.	
Global Business Services	12,196	12,578	(3.0)%	(1.9)%
Gross margin	25.3%	27.0%	(1.7)pts.	
Technology Services & Cloud Platforms	25,079	26,029	(3.7)%	(3.3)%
Gross margin	40.2%	41.5%	(1.3)pts.	
Systems	4,863	5,184	(6.2)%	(5.9)%
Gross margin	51.5%	55.1%	(3.6)pts.	
Global Financing	1,246	1,245	0.1%	(0.4)%
Gross margin	29.2%	39.6%	(10.4)pts.	
Other	192	223	(14.2)%	(14.3)%
Gross margin	(456.0)%	(295.2)%	(160.8)pts.	
Total consolidated revenue	$ 56,597	$ 58,149	(2.7)%	(2.2)%
Total consolidated gross profit	$ 25,365	$ 27,401	(7.4)%	
Total consolidated gross margin	44.8%	47.1%	(2.3)pts.	
Non-operating adjustments:				
Amortization of acquired intangible assets	349	371	(5.7)%	
Retirement-related costs/(income)	591	238	148.2%	
Operating (non-GAAP) gross profit	$ 26,305	$ 28,010	(6.1)%	
Operating (non-GAAP) gross margin	46.5%	48.2%	(1.7)pts.	

Cognitive Solutions

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Cognitive Solutions external revenue:	$ 4,400	$ 4,235	3.9%	3.0%
Solutions Software	$ 3,029	$ 2,919	3.8%	2.9%
Transaction Processing Software	1,371	1,316	4.2	3.2

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Cognitive Solutions external revenue:	$ 13,021	$ 12,889	1.0%	1.3%
Solutions Software	$ 9,015	$ 8,842	2.0%	2.3%
Transaction Processing Software	4,006	4,048	(1.0)	(0.8)

Cognitive Solutions revenue of $4,400 million grew 3.9 percent as reported and 3 percent adjusted for currency in the third quarter of 2017 compared to the prior year with growth in both Solutions Software and Transaction Processing Software. For the first nine months of the year, Cognitive Solutions revenue of $13,021 million grew 1.0 percent as reported and 1 percent adjusted for currency with growth in Solutions Software, partially offset by declines in Transaction Processing Software both as reported and adjusted for currency.

Cognitive Solutions third-quarter annuity revenue grew as reported and adjusted for currency including strong Software-as-a-Service (SaaS) performance with continued double-digit revenue growth as reported and adjusted for currency. There was growth, as reported and adjusted for currency, in software services which support solutions offerings through industry and product expertise. Transactional revenue also grew this quarter as reported and adjusted for currency compared to the

prior year as clients commit to the platform long term. Within the segment, third-quarter revenue growth was driven by organic performance as acquisitive content has leveled on a year-to-year basis.

In the third quarter, Solutions Software revenue of $3,029 million grew 3.8 percent as reported (3 percent adjusted for currency) compared to the prior year. Transaction Processing Software revenue of $1,371 million grew 4.2 percent as reported (3 percent adjusted for currency) compared to the third quarter of 2016. Within Solutions Software, third quarter year-to-year growth was led by offerings in security and analytics. Security software grew double digits as reported and adjusted for currency year to year in the third quarter with strong performance across the portfolio as cognitive capabilities continue to be embedded into these offerings. Analytics revenue growth was broad-based as the company continues to reinvent these offerings. With new offerings and new clients added to the platform this quarter, Internet of Things (IoT) revenue grew double digits in the third quarter both as reported and adjusted for currency. Within Transaction Processing Software, the year-to-year growth reflects clients' ongoing long-term commitment and the value the company's platform provides to them. This portfolio predominately runs on-premise mission critical workloads running on z Systems in industries such as banking, airlines and retail.

Cognitive Solutions total third-quarter strategic imperatives revenue of $2.9 billion grew 5 percent year to year as reported and adjusted for currency. Cloud revenue of $0.6 billion grew 10 percent as reported and adjusted for currency, with an as-a-Service exit run rate of $2.0 billion. For the first nine months of the year, total strategic imperatives revenue of $8.5 billion grew 4 percent as reported and adjusted for currency year to year. Cloud revenue of $1.8 billion grew 24 percent as reported and adjusted for currency.

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Cognitive Solutions:			
External gross profit	$ 3,465	$ 3,407	1.7%
External gross profit margin	78.7%	80.4%	(1.7)pts.
Pre-tax income	$ 1,649	$ 1,574	4.8%
Pre-tax margin	32.8%	32.1%	0.7pts.

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Cognitive Solutions:			
External gross profit	$ 10,207	$ 10,509	(2.9)%
External gross profit margin	78.4%	81.5%	(3.1)pts.
Pre-tax income	$ 4,539	$ 4,039	12.4%
Pre-tax margin	30.2%	27.3%	3.0pts.

Cognitive Solutions gross profit margin decreased 1.7 points to 78.7 percent in the third quarter of 2017 compared to the prior year. For the first nine months of the year, gross profit margin decreased 3.1 points to 78.4 percent. The gross profit margin decline year to year is driven by continued investment and an increasing mix toward SaaS.

In the third quarter, pre-tax income of $1,649 million increased 4.8 percent compared to the prior year with a pre-tax margin improvement of 0.7 points to 32.8 percent. For the first nine months of the year, pre-tax income of $4,539 million increased 12.4 percent compared to the prior year with a pre-tax margin improvement of 3.0 points to 30.2 percent. The company continues to embed cognitive into offerings, scale platforms and build high value vertical solutions. The year-to-year benefit in the nine-month period also reflects a lower level of charges related to workforce rebalancing and real estate actions year to year.

Management Discussion — (continued)

Global Business Services

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Business Services external revenue:	$ 4,093	$ 4,191	(2.3)%	(2.2)%
Consulting	$ 1,803	$ 1,799	0.2%	0.9%
Global Process Services	314	354	(11.3)	(11.9)
Application Management	1,976	2,038	(3.0)	(3.2)

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Global Business Services external revenue:	$ 12,196	$ 12,578	(3.0)%	(1.9)%
Consulting	$ 5,394	$ 5,520	(2.3)%	(0.9)%
Global Process Services	948	1,048	(9.6)	(9.2)
Application Management	5,855	6,011	(2.6)	(1.6)

Global Business Services revenue of $4,093 million decreased 2.3 percent as reported and 2 percent adjusted for currency in the third quarter of 2017 compared to the prior year. The company continues to transform this business and shift its practices to where there is opportunity, which is around digital, cognitive, cloud and automation. GBS signings grew for the third consecutive quarter as reported and adjusted for currency, and strategic imperatives revenue grew double digits year to year as reported and adjusted for currency. However, this growth continues to be more than offset by declines in the more traditional areas that the company is shifting away from. For the first nine months of the year, Global Business Services revenue of $12,196 million decreased 3.0 percent as reported and 2 percent adjusted for currency.

In the third quarter, Consulting revenue of $1,803 million increased 0.2 percent as reported (1 percent adjusted for currency) with continued improvement on a sequential basis led by the company's digital strategy and iX platform. The Consulting backlog returned to growth as reported and adjusted for currency in the third quarter versus the prior year. Global Process Services (GPS) revenue of $314 million decreased 11.3 percent as reported (12 percent adjusted for currency) compared to the prior year. Application Management revenue of $1,976 million decreased 3.0 percent as reported (3 percent adjusted for currency). The company continues to help clients implement new cloud-centric architectures in their critical applications. Overall performance was impacted by areas of this business that are not as differentiated and are experiencing pricing pressure.

Third-quarter 2017 GBS strategic imperatives revenue of $2.5 billion grew 10 percent as reported (11 percent adjusted for currency) year to year. Cloud revenue of $1.0 billion grew 35 percent as reported and adjusted for currency, with an as-a-Service exit run rate of $1.2 billion. For the first nine months of the year, total strategic imperatives revenue of $7.2 billion grew 10 percent as reported (11 percent adjusted for currency) year to year. Cloud revenue of $2.9 billion grew 41 percent as reported (43 percent adjusted for currency).

Management Discussion — (continued)

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Global Business Services:			
External gross profit	$ 1,117	$ 1,206	(7.4)%
External gross profit margin	27.3%	28.8%	(1.5)pts.
Pre-tax income	$ 453	$ 544	(16.8)%
Pre-tax margin	10.8%	12.7%	(1.9)pts.

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Global Business Services:			
External gross profit	$ 3,083	$ 3,393	(9.2)%
External gross profit margin	25.3%	27.0%	(1.7)pts.
Pre-tax income	$ 1,065	$ 1,210	(12.0)%
Pre-tax margin	8.5%	9.4%	(0.8)pts.

GBS third quarter gross profit margin decreased 1.5 points to 27.3 percent year to year with a decline similar to the second quarter 2017. In the third quarter of 2017, pre-tax income of $453 million decreased 16.8 percent year to year. The pre-tax margin declined 1.9 points to 10.8 percent, however it improved more than 3 points sequentially compared to the second quarter 2017. For the first nine months of the year, pre-tax income of $1,065 million decreased 12.0 percent and the pre-tax margin declined 0.8 points to 8.5 percent. Pre-tax income performance for the first nine months of 2017 includes a lower level of charges related to workforce rebalancing and real estate actions as compared to the prior year.

The GBS margin has been impacted by investments to drive transformation and reflects pricing and profit pressure in the more traditional IT services. The company will continue to focus on improving productivity with a streamlined practice model and new project management approaches. As it grows its practices around cloud, analytics and mobility services, the company will continue to invest in skills necessary to drive this transformation.

Technology Services & Cloud Platforms

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Technology Services & Cloud Platforms external revenue:	$ 8,457	$ 8,748	(3.3)%	(4.1)%
Infrastructure Services	$ 5,665	$ 5,901	(4.0)%	(4.8)%
Technical Support Services	1,801	1,831	(1.6)	(2.1)
Integration Software	990	1,016	(2.6)	(3.4)

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Technology Services & Cloud Platforms external revenue:	$ 25,079	$ 26,029	(3.7)%	(3.3)%
Infrastructure Services	$ 16,695	$ 17,458	(4.4)%	(3.9)%
Technical Support Services	5,357	5,446	(1.6)	(1.5)
Integration Software	3,027	3,126	(3.2)	(2.7)

Technology Services & Cloud Platforms revenue of $8,457 million decreased 3.3 percent as reported and 4 percent adjusted for currency in the third quarter of 2017 compared to the prior year. In the third quarter, there were declines across

all lines of business, however there was double-digit growth as reported and adjusted for currency in strategic imperatives revenue. Global Technology Services (GTS) signings also grew more than 25 percent year to year. For the first nine months of the year, Technology Services and Cloud Platforms revenue of $25,079 million decreased 3.7 percent as reported and 3 percent adjusted for currency.

In the third quarter, Infrastructure Services revenue of $5,665 million declined 4.0 percent as reported (5 percent adjusted for currency) compared to the prior year. This decline reflects the continued impact associated with contract conclusions at the end of 2016 and the shift away from certain lower value work within this business. The full year-to-year benefit from certain larger contracts signed in second-quarter 2017 are not yet providing offsetting growth. However, in the third quarter, there was strong signings performance both as reported and adjusted for currency as clients contract to implement hybrid cloud environments.

Technical Support Services third-quarter revenue of $1,801 million decreased 1.6 percent as reported (2 percent adjusted for currency) year to year. Within this line of business, the company is focused on growing its multi-vendor support services which provide clients with a single source of expertise and visibility across different vendor solutions. Integration Software third quarter revenue of $990 million decreased 2.6 percent as reported (3 percent adjusted for currency) compared to the prior year. There was continued growth in SaaS across the portfolio as the company helps clients implement hybrid cloud environments. This growth was offset by declines in areas such as on premise DevOps and IT service management.

Technology Services & Cloud Platforms third-quarter 2017 strategic imperatives revenue of $2.6 billion grew 12 percent year to year as reported and adjusted for currency. Cloud revenue of $1.8 billion grew 16 percent as reported and adjusted for currency, with an as-a-Service exit run rate of $6.2 billion. For the first nine months of the year, total strategic imperatives revenue of $7.4 billion grew 20 percent as reported (21 percent adjusted for currency) year to year. Cloud revenue of $5.1 billion grew 24 percent as reported (25 percent adjusted for currency).

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Technology Services & Cloud Platforms:			
External Technology Services gross profit	$ 2,667	$ 2,825	(5.6)%
External Technology Services gross profit margin	35.7%	36.5%	(0.8)pts.
External Integration Software gross profit	$ 805	$ 851	(5.4)%
External Integration Software gross profit margin	81.3%	83.8%	(2.4)pts.
External total gross profit	$ 3,473	$ 3,676	(5.5)%
External total gross profit margin	41.1%	42.0%	(1.0)pts.
Pre-tax income	$ 1,192	$ 1,288	(7.5)%
Pre-tax margin	13.8%	14.4%	(0.6)pts.

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Technology Services & Cloud Platforms:			
External Technology Services gross profit	$ 7,630	$ 8,176	(6.7)%
External Technology Services gross profit margin	34.6%	35.7%	(1.1)pts.
External Integration Software gross profit	$ 2,450	$ 2,630	(6.9)%
External Integration Software gross profit margin	80.9%	84.2%	(3.2)pts.
External total gross profit	$ 10,080	$ 10,806	(6.7)%
External total gross profit margin	40.2%	41.5%	(1.3)pts.
Pre-tax income	$ 2,888	$ 2,825	2.2%
Pre-tax margin	11.3%	10.6%	0.6pts.

Technology Services & Cloud Platforms gross profit margin decreased 1.0 points year to year in the third quarter to 41.1 percent and pre-tax income of $1,192 million decreased 7.5 percent. The pre-tax margin declined 0.6 points year to year to 13.8 percent, but improved sequentially by 2 points compared to the second quarter of 2017. For the first nine months of the year, pre-tax income of $2,888 million increased 2.2 percent and the pre-tax margin improved 0.6 points to 11.3 percent. The

year-to-year performance in the nine months of 2017 compared to the prior year includes a lower level of charges related to workforce and real estate actions.

The company continues to yield savings from prior-year workforce transformation, is focused on delivering productivity to clients, and continues to invest to expand its cloud infrastructure which is currently impacting margin. With over sixty cloud centers across nineteen countries, the IBM Cloud provides clients with flexibility in how and where they store their data.

Services Backlog and Signings

(Dollars in billions)	At September 30, 2017	At September 30, 2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total backlog	$ 119.3	$ 121.3	(1.6)%	(2.1)%

The estimated total services backlog at September 30, 2017 was $119 billion, a decrease of 1.6 percent as reported and 2 percent adjusted for currency with modest growth in GTS as reported (essentially flat adjusted for currency) and a decrease in GBS year to year as reported and adjusted for currency.

Total services backlog includes Infrastructure Services, Consulting, Global Process Services, Application Management and Technical Support Services. Total backlog is intended to be a statement of overall work under contract for these businesses and therefore includes Technical Support Services. It does not include as-a-Service offerings that have flexibility in contractual commitment terms. Backlog estimates are subject to change and are affected by several factors, including terminations, changes in the scope of contracts, periodic revalidations, adjustments for revenue not materialized and adjustments for currency.

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

Signings include Infrastructure Services, Consulting, Global Process Services and Application Management contracts. Contract extensions and increases in scope are treated as signings only to the extent of the incremental new value. Technical Support Services is not included in signings as maintenance contracts tend to be more steady state, where revenues equal renewals.

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

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total signings	$ 10,385	$ 8,955	16.0%	14.8%

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total signings	$ 29,178	$ 30,031	(2.8)%	(1.8)%

Management Discussion — (continued)

Systems

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Systems external revenue:	$ 1,721	$ 1,558	10.4%	9.6%
Systems Hardware	$ 1,301	$ 1,128	15.3%	14.4%
z Systems			63.8	61.9
Power Systems			(7.2)	(7.8)
Storage Systems			4.9	4.3
Operating Systems Software	420	430	(2.3)	(2.9)

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Systems external revenue:	$ 4,863	$ 5,184	(6.2)%	(5.9)%
Systems Hardware	$ 3,629	$ 3,852	(5.8)%	(5.5)%
z Systems			(13.4)	(13.3)
Power Systems			(12.7)	(12.6)
Storage Systems			6.1	6.6
Operating Systems Software	1,234	1,332	(7.4)	(7.1)

Systems revenue of $1,721 million grew 10.4 percent year to year as reported (10 percent adjusted for currency) in the third quarter of 2017 driven by a combination of strong z14 market acceptance and the third consecutive quarter of growth as reported and adjusted for currency in Storage Systems. Systems Hardware revenue of $1,301 million grew 15.3 percent as reported (14 percent adjusted for currency) with the growth in z Systems and Storage partially offset by a decrease in Power Systems as reported and adjusted for currency. Operating Systems Software revenue of $420 million decreased 2.3 percent as reported (3 percent adjusted for currency) compared to the prior year. For the first nine months of 2017, Systems revenue of $4,863 million decreased 6.2 percent as reported (6 percent adjusted for currency) with declines in both Systems Hardware and Operating Systems Software, both as reported and adjusted for currency.

Within Systems Hardware, third quarter z Systems revenue grew 63.8 percent as reported (62 percent adjusted for currency) year to year driven by the successful launch of the z14 mainframe in mid-September 2017. This success is due to strong demand for technology that helps address the growing threat of global data breaches and the need for clients to operate within regulated environments. The z14 mainframe has unprecedented encryption capabilities that are widely appealing and the company has already experienced good traction across a broad mix of industries and geographies in the quarter.

Power Systems third quarter revenue decreased 7.2 percent as reported (8 percent adjusted for currency) year to year. This reflects the company's continued shift to a growing Linux market while continuing to serve a high value, but declining UNIX market. Linux had continued revenue growth as reported and adjusted for currency in the third quarter. Although there was growth in UNIX high-end systems this quarter, overall UNIX declined as reported and adjusted for currency.

Storage Systems third quarter revenue increased by 4.9 percent as reported (4 percent adjusted for currency) year to year with growth as reported and adjusted for currency across the major hardware product areas. There was continued growth as reported and adjusted for currency in all-flash array offerings in line with this high-growth market.

Third-quarter Systems strategic imperatives revenue of $0.9 billion grew 26 percent year to year as reported (25 percent adjusted for currency). Cloud revenue of $0.7 billion grew 24 percent as reported (23 percent adjusted for currency). For the first nine months of the year, total strategic imperatives revenue of $2.2 billion decreased 3 percent as reported and adjusted for currency year to year, primarily a reflection of product cycle dynamics. Cloud revenue of $1.7 billion decreased 5 percent as reported and adjusted for currency.

Management Discussion — (continued)

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Systems:			
External Systems Hardware gross profit	$ 557	$ 416	33.8%
External Systems Hardware gross profit margin	42.9%	36.9%	5.9pts.
External Operating Systems Software gross profit	$ 366	$ 380	(3.7)%
External Operating Systems Software gross profit margin	87.0%	88.3%	(1.2)pts.
External total gross profit	$ 923	$ 796	16.0%
External total gross profit margin	53.6%	51.1%	2.6pts.
Pre-tax income/(loss)	$ 339	$ 136	149.7%
Pre-tax margin	17.4%	7.8%	9.6pts.

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent/ Margin Change
Systems:			
External Systems Hardware gross profit	$ 1,432	$ 1,676	(14.6)%
External Systems Hardware gross profit margin	39.5%	43.5%	(4.0)pts.
External Operating Systems Software gross profit	$ 1,074	$ 1,182	(9.2)%
External Operating Systems Software gross profit margin	87.0%	88.7%	(1.7)pts.
External total gross profit	$ 2,506	$ 2,858	(12.3)%
External total gross profit margin	51.5%	55.1%	(3.6)pts.
Pre-tax income/(loss)	$ 227	$ 354	(35.9)%
Pre-tax margin	4.2%	6.1%	(1.9)pts.

The Systems gross profit margin increased 2.6 points to 53.6 percent in the third quarter of 2017 compared to the prior year, with sequential improvement compared to the second quarter of 2017. The overall increase year-to-year was driven by product mix primarily toward the high-margin z Systems. There was also margin improvement in z Systems and Storage Systems, with Power Systems essentially flat year to year. For the first nine months of the year, the Systems gross profit margin decreased 3.6 points to 51.5 percent compared to the prior year, with margin declines across all hardware brands and Operating Systems Software, as well as an impact from mix.

In the third quarter of 2017, pre-tax income of $339 million grew 149.7 percent and pre-tax margin increased 9.6 points year to year to 17.4 percent driven by the strong performance in z Systems. For the first nine months of the year, pre-tax income of $227 million decreased 35.9 percent compared to the prior year which also included a higher level of charges related to workforce rebalancing and real estate actions. The company remains focused on continually reinventing this portfolio to address new workloads.

Global Financing

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

Management Discussion — (continued)

Results of Operations

(Dollars in millions)	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
External revenue	$ 427	$ 412	$ 1,246	$ 1,245
Internal revenue	272	352	925	1,340
Total revenue	$ 698	$ 763	$ 2,171	$ 2,585
Pre-tax income	$ 244	$ 355	$ 836	$ 1,208

In the third quarter of 2017, Global Financing total revenue of $698 million decreased 8.5 percent compared to the prior year. This was due to a decline in internal revenue of 22.8 percent, driven by a decrease in internal used equipment sales (down 31.2 percent to $184 million), partially offset by an increase in internal financing (up 4.4 percent to $88 million). External revenue increased 3.7 percent as reported (2.8 percent adjusted for currency), due to an increase in external used equipment sales (up 31.6 percent to $141 million), partially offset by a decrease in external financing (down 6.1 percent to $286 million).

The decrease in total revenue in the first nine months of 2017 compared to the same period in 2016 was due to a decline in internal revenue of 30.9 percent, driven by a decrease in internal used equipment sales (down 39.9 percent to $662 million), partially offset by an increase in internal financing (up 10.1 percent to $263 million). External revenue was flat (down 0.4 percent adjusted for currency), with a decline in financing (down 6.3 percent to $877 million), partially offset by an increase in external used equipment sales (up 19.3 percent to $370 million).

The year-to-year increase in internal financing revenue in the third quarter of 2017 was due to higher average asset balances, partially offset by lower asset yields. The year-to-year increase in internal financing revenue in the first nine months of 2017 was due to higher average asset balances and higher asset yields. The decrease in external financing revenue in the third quarter of 2017, compared to the same period in 2016, was due to lower asset yields, partially offset by higher average asset balances. The decrease in external financing revenue in the first nine months of 2017, compared to the same period in 2016 was due to lower asset yields.

Total sales of used equipment represented 46.5 percent and 47.5 percent of Global Financing's revenue in the third quarter and first nine months of 2017, respectively, and 49.1 percent and 54.6 percent in the third quarter and first nine months of 2016, respectively. The decreases in both periods were due to a lower volume of used equipment sales for internal transactions. The gross profit margin on used sales was 33.2 percent and 54.6 percent in the third quarter of 2017 and 2016, respectively, and 45.4 percent and 60.8 percent in the first nine months of 2017 and 2016, respectively. The decrease in the gross profit margin was driven by a shift in mix away from higher margin internal equipment sales and declines in internal sales margins.

Global Financing pre-tax income decreased 31.4 percent to $244 million in the third quarter of 2017, compared to the same period in 2016, due to lower gross profit ($118 million), partially offset by a decrease in total expenses ($6 million). Pre-tax income decreased 30.8 percent to $836 million in the first nine months of 2017, compared to the same period in 2016, due to lower gross profit ($426 million), partially offset by a decrease in total expense ($55 million), including a decrease in financing receivables provisions ($61 million), primarily due to higher Brazil reserve requirements in the prior year.

Global Financing return on equity was 23.8 percent and 24.6 percent for the three and nine months ended September 30, 2017, respectively, compared to 27.2 percent and 30.3 percent for the three and nine months ended September 30, 2016, respectively. The decrease in return on equity in the third quarter and first nine months of 2017 compared to the same periods of 2016, was due to the decrease in net income, partially offset by a decrease in equity. See page 84 for the details of the after-tax income and return on equity calculation.

Total unguaranteed residual value of leases was $668 million as of September 30, 2017. In addition to the unguaranteed residual value, on a limited basis, Global Financing will obtain guarantees of the future value of the equipment to be returned at end of lease. Third-party residual value guarantees increase the minimum lease payments as provided for by accounting standards that are utilized in determining the classification of a lease as a sales-type lease, direct financing lease or operating lease and provide protection against risk of loss arising from declines in equipment values for these assets. The aggregate asset values associated with the guarantees of sales-type leases were $79 million and $43 million for the financing

transactions originated during the quarters ended September 30, 2017 and 2016, respectively and $186 million and $201 million for the nine months ended September 30, 2017 and 2016, respectively.

Geographic Revenue

In addition to the revenue presentation by reportable segment, the company also measures revenue performance on a geographic basis. The following geographic, regional and country-specific revenue performance excludes OEM revenue.

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Revenue	$ 19,153	$ 19,226	(0.4)%	(1.0)%
Geographies:	$ 19,063	$ 19,159	(0.5)%	(1.1)%
Americas	8,887	9,070	(2.0)	(2.5)
Europe/Middle East/Africa (EMEA)	5,989	5,851	2.4	(1.4)
Asia Pacific	4,187	4,238	(1.2)	2.2

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change	Yr. to Yr. Percent Change Adjusted For Currency
Total Revenue	$ 56,597	$ 58,149	(2.7)%	(2.2)%
Geographies:	$ 56,343	$ 57,932	(2.7)%	(2.2)%
Americas	26,727	27,229	(1.8)	(2.3)
Europe/Middle East/Africa (EMEA)	17,186	18,032	(4.7)	(3.3)
Asia Pacific	12,430	12,671	(1.9)	(0.6)

Total geographic revenue of $19,063 million decreased 0.5 percent as reported and 1 percent adjusted for currency in the third quarter of 2017 compared to the prior year. Americas revenue of $8,887 million decreased 2.0 percent as reported and 2 percent adjusted for currency. EMEA revenue of $5,989 million increased 2.4 percent as reported, but declined 1 percent adjusted for currency. Asia Pacific revenue of $4,187 million declined 1.2 percent as reported, but grew 2 percent adjusted for currency in the third quarter versus the prior year. Each of the three geographies had year-to-year revenue performance improvement (as reported and at constant currency) compared to the second-quarter 2017 year-to-year performance.

Within Americas, third-quarter revenue in the U.S. decreased 2.6 percent compared to the prior year. Canada increased 2.1 percent as reported but declined 2 percent year to year adjusted for currency. Latin America decreased 1.5 percent as reported and 2 percent adjusted for currency. Within Latin America, Brazil decreased 11.3 percent as reported and 13 percent adjusted for currency while Mexico increased 31.0 percent as reported and 27 percent adjusted for currency.

In the third quarter, within EMEA, the UK declined 9.3 percent (9 percent adjusted for currency). France increased 14.2 percent (8 percent adjusted for currency), Germany increased 8.4 percent (3 percent adjusted for currency), Spain increased 10.9 percent (5 percent adjusted for currency), Norway increased 30.0 percent (24 percent adjusted for currency) and Italy increased 7.3 percent (2 percent adjusted for currency) compared to the same period in the prior year. The Middle East and Africa region increased 3.1 percent as reported and 2 percent adjusted for currency.

Within Asia Pacific, Japan revenue decreased 4.0 percent as reported, but grew 4 percent adjusted for currency compared to the same period in the prior year. India grew 14.1 percent as reported (10 percent adjusted for currency) while Australia declined 7.8 percent (11 percent adjusted for currency). China revenue grew 3.9 percent as reported (4 percent adjusted for currency) and Taiwan grew 19.2 percent as reported (14 percent adjusted for currency).

Total geographic revenue of $56,343 million decreased 2.7 percent as reported and 2 percent adjusted for currency in the first nine months of 2017 compared to the prior year. Americas revenue of $26,727 million decreased 1.8 percent as reported and 2 percent adjusted for currency. EMEA revenue of $17,186 million decreased 4.7 percent as reported and 3 percent adjusted for currency. Asia Pacific revenue of $12,430 million decreased 1.9 percent as reported and 1 percent adjusted for currency.

Management Discussion — (continued)

Within Americas, U.S. revenue decreased 3.0 percent compared to the first nine months of the prior year. Canada increased 0.9 percent as reported, which was essentially flat year to year on an adjusted for currency basis. Latin America increased 4.5 percent as reported and 1 percent adjusted for currency. Within Latin America, Brazil increased 5.7 percent as reported, but declined 2 percent adjusted for currency while Mexico increased 11.3 percent as reported and 13 percent adjusted for currency.

Within EMEA, the UK decreased 15.6 percent as reported and 8 percent adjusted for currency compared to the first nine months of the prior year. Germany decreased 4.7 percent as reported and 5 percent adjusted for currency. Switzerland decreased 12.3 percent as reported and 12 percent adjusted for currency. Spain increased 4.4 percent (5 percent adjusted for currency). The Central and Eastern European region declined 1.7 percent (2 percent adjusted for currency) and the Middle East and Africa region was essentially flat as reported, but down 2 percent adjusted for currency.

Within Asia Pacific, Japan declined 1.8 percent as reported, but grew 2 percent adjusted for currency compared to the first nine months of the prior year. Australia decreased 6.6 percent as reported and 9 percent adjusted for currency. China decreased 7.8 percent as reported and 6 percent adjusted for currency. India increased 8.9 percent as reported and 6 percent adjusted for currency. South Korea increased 5.4 percent as reported and 3 percent adjusted for currency.

Expense

Total Expense and Other (Income)

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Total consolidated expense and other (income)	$ 5,735	$ 5,751	(0.3)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (125)	$ (136)	(8.1)%
Acquisition-related charges	0	(4)	(101.8)
Non-operating retirement-related (costs)/income	(103)	(60)	71.9
Operating (non-GAAP) expense and other (income)	$ 5,507	$ 5,550	(0.8)%
Total consolidated expense-to-revenue ratio	29.9%	29.9%	0.0pts.
Operating (non-GAAP) expense-to-revenue ratio	28.8%	28.9%	(0.1)pts.

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Total consolidated expense and other (income)	$ 18,434	$ 20,056	(8.1)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (382)	$ (371)	2.8%
Acquisition-related charges	(19)	(1)	nm
Non-operating retirement-related (costs)/income	(474)	(206)	130.0
Operating (non-GAAP) expense and other (income)	$ 17,559	$ 19,478	(9.9)%
Total consolidated expense-to-revenue ratio	32.6%	34.5%	(1.9)pts.
Operating (non-GAAP) expense-to-revenue ratio	31.0%	33.5%	(2.5)pts.

nm - not meaningful

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

Management Discussion — (continued)

Selling, General and Administrative Expense

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 3,898	$ 3,983	(2.1)%
Advertising and promotional expense	337	341	(1.4)
Workforce rebalancing charges	17	25	(31.1)
Retirement-related costs	175	174	0.7
Amortization of acquired intangible assets	125	136	(8.1)
Stock-based compensation	88	105	(16.5)
Bad debt expense	7	(32)	nm
Total consolidated selling, general and administrative expense	$ 4,648	$ 4,732	(1.8)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (125)	$ (136)	(8.1)%
Acquisition-related charges	0	(3)	nm
Non-operating retirement-related (costs)/income	(53)	(53)	(0.5)
Operating (non-GAAP) selling, general and administrative expense	$ 4,470	$ 4,541	(1.6)%

nm — not meaningful

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Selling, general and administrative expense:			
Selling, general and administrative — other	$ 12,293	$ 12,697	(3.2)%
Advertising and promotional expense	1,090	1,051	3.7
Workforce rebalancing charges	188	1,038	(81.9)
Retirement-related costs	690	551	25.3
Amortization of acquired intangible assets	382	371	2.8
Stock-based compensation	277	295	(6.1)
Bad debt expense	40	90	(56.0)
Total consolidated selling, general and administrative expense	$ 14,959	$ 16,093	(7.0)%
Non-operating adjustments:			
Amortization of acquired intangible assets	$ (382)	$ (371)	2.8%
Acquisition-related charges	(12)	6	nm
Non-operating retirement-related (costs)/income	(326)	(183)	78.0
Operating (non-GAAP) selling, general and administrative expense	$ 14,240	$ 15,545	(8.4)%

nm - not meaningful

Total selling, general and administrative (SG&A) expense decreased 1.8 percent in the third quarter of 2017 driven primarily by the following factors:

- Lower spending from increased focus on driving expense efficiency (3 points); partially offset by
- The effects of currency (1 point); and
- The impact of acquisitions completed in the prior 12-month period (1 point).

Operating (non-GAAP) expense decreased 1.6 percent year to year driven primarily by the same factors, excluding higher non-operating retirement-related costs net of the one-time non-operating UK gain.

SG&A expense decreased 7.0 percent in the first nine months of 2017 versus the first nine months of 2016 driven primarily by the following factors:

- Lower workforce rebalancing charges (5 points);
- Lower spending (2 points); and
- The effects of currency (1 point); partially offset by
- The impact of acquisitions completed in the prior 12-month period (1 point).

Operating (non-GAAP) expense decreased 8.4 percent year to year driven primarily by the same factors.

Third-quarter SG&A reflects a year-to-year impact of $105 million related to several commercial disputes and a benefit of $91 million resulting from the favorable resolution of pension-related litigation in the UK. Operating (non-GAAP) SG&A does not include the benefit from the pension litigation.

Bad debt expense decreased $51 million year to year in the first nine months of 2017, primarily driven by increased reserves in Brazil in the prior year. The receivables provision coverage was 1.9 percent at September 30, 2017, a decrease of 10 basis points compared to December 31, 2016 and a decrease of 100 basis points from September 30, 2016. The decrease year to year in the receivables provision coverage was due primarily to write-offs of previously reserved receivables in December 2016.

Research, Development and Engineering

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Total consolidated research, development and engineering expense	$ 1,342	$ 1,397	(3.9)%
Non-operating adjustment:			
Non-operating retirement-related (costs)/income	$ (51)	$ (7)	615.0%
Operating (non-GAAP) research, development and engineering expense	$ 1,291	$ 1,390	(7.1)%

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Total consolidated research, development and engineering expense	$ 4,360	$ 4,320	0.9%
Non-operating adjustment:			
Non-operating retirement-related (costs)/income	$ (148)	$ (23)	547.8%
Operating (non-GAAP) research, development and engineering expense	$ 4,212	$ 4,297	(2.0)%

Research, development and engineering (RD&E) expense was 7.0 percent and 7.7 percent of revenue in the third quarter and first nine months of 2017, respectively, compared to 7.3 percent and 7.4 percent in prior year periods, respectively. The company continues to invest in research and development as it builds new markets and maintains its leadership in enterprise IT.

RD&E expense in the third quarter of 2017 decreased 3.9 percent year to year primarily driven by:

- Lower spending, net of higher retirement-related costs (5 points); partially offset by
- The effects of currency (1 point).

Operating (non-GAAP) RD&E expense decreased 7.1 percent in the third quarter of 2017 compared to the prior year, driven primarily by the same factors, excluding higher non-operating retirement-related costs.

RD&E expense in the first nine months of 2017 increased 0.9 percent year to year primarily driven by:

- The impact of acquisitions completed in the prior 12-month period (2 points); partially offset by

Management Discussion — (continued)

- Lower spending, net of higher retirement-related costs.

Operating (non-GAAP) RD&E expense decreased 2.0 percent in the first nine months of 2017 compared to the prior year, driven primarily by the same factors, excluding higher non-operating retirement-related costs.

Intellectual Property and Custom Development Income

(Dollars in millions) For the three months ended September 30:	2017	2016*	Yr. to Yr. Percent Change
Intellectual Property and Custom Development Income:			
Licensing of intellectual property including royalty-based fees	$ 236	$ 474	(50.1)%
Custom development income	62	53	16.4
Sales/other transfers of intellectual property	10	1	607.5
Total	$ 308	$ 528	(41.7)%

* Reclassified to conform to 2017 presentation.

(Dollars in millions) For the nine months ended September 30:	2017	2016*	Yr. to Yr. Percent Change
Intellectual Property and Custom Development Income:			
Licensing of intellectual property including royalty-based fees	$ 921	$ 935	(1.5)%
Custom development income	186	158	18.2
Sales/other transfers of intellectual property	11	17	(38.4)
Total	$ 1,118	$ 1,110	0.7%

* Reclassified to conform to 2017 presentation.

Licensing of intellectual property including royalty-based fees decreased 50.1 percent year to year in the third quarter of 2017 and decreased 1.5 percent in the first nine months of 2017 compared to the prior-year period. The company entered into new partnership agreements in the first nine months of 2017, which included two transactions with period income greater than $100 million. The company is licensing IP to partners who are allocating their skills to extend the value of assets that are high value, but may be in mature markets. The licensing of intellectual property for the first nine months of 2016 included three transactions with period income greater than $100 million. 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.

Management Discussion — (continued)

Other (Income) and Expense

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ 37	$ 93	(60.3)%
(Gains)/losses on derivative instruments	(29)	(23)	22.0
Interest income	(38)	(22)	72.7
Net (gains)/losses from securities and investment assets	(6)	(5)	20.9
Other	(79)	(51)	54.9
Total consolidated other (income) and expense	$ (114)	$ (8)	nm%
Non-operating adjustment:			
Acquisition-related charges	$ 0	$ (2)	(100.0)%
Operating (non-GAAP) other (income) and expense	$ (114)	$ (10)	nm%

nm - not meaningful

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Other (income) and expense:			
Foreign currency transaction losses/(gains)	$ 374	$ 514	(27.2)%
(Gains)/losses on derivative instruments	(351)	(339)	3.5
Interest income	(102)	(76)	35.5
Net (gains)/losses from securities and investment assets	(16)	29	nm
Other	(123)	153	nm
Total consolidated other (income) and expense	$ (218)	$ 281	nm%
Non-operating adjustment:			
Acquisition-related charges	$ (7)	$ (7)	(1.0)%
Operating (non-GAAP) other (income) and expense	$ (225)	$ 274	nm%

nm - not meaningful

Total consolidated other (income) and expense was income of $114 million in the third quarter of 2017 compared to income of $8 million in the third quarter of 2016. The increase in income of $106 million year to year was primarily driven by:

- Lower foreign currency transaction losses ($56 million);
- Higher gains on real estate transactions (reflected in Other in the table above) ($19 million); and
- Higher interest income ($16 million).

The consolidated other (income) and expense was income of $218 million in the first nine months of 2017 compared to expense of $281 million in the first nine months of 2016. The increase in income of $499 million year over year was primarily driven by:

- Real estate capacity charges (reflected in Other in the table above) in the prior year related to workforce transformation ($328 million);
- Lower foreign currency transaction losses ($140 million);
- Reduced losses from securities and investment assets ($45 million), primarily related to the sale of Lenovo shares in the first quarter of 2016; and
- Higher interest income ($27 million); partially offset by
- Lower gains on divestitures ($42 million).

Management Discussion — (continued)

Interest Expense

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Interest expense	$ 168	$ 158	6.4%

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Interest expense	$ 451	$ 473	(4.6)%

Interest expense increased $10 million year to year in the third quarter, but decreased $22 million in the first nine months of 2017. Interest expense is presented in cost of financing in the Consolidated Statement of Earnings if the related external borrowings are to support the Global Financing external business. Overall interest expense (excluding capitalized interest) for the third quarter and first nine months of 2017 was $335 million and $947 million, respectively, an increase of $29 million and $43 million, respectively, versus the comparable prior-year periods, primarily driven by higher average interest rates and higher average debt balance.

Retirement-Related Plans

The following tables provide the total pre-tax cost for all retirement-related plans. These amounts are included in the Consolidated Statement of Earnings within the caption (e.g., Cost, SG&A, RD&E) relating to the job function of the plan participants.

(Dollars in millions) For the three months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 111	$ 114	(2.5)%
Amortization of prior service costs/(credits)	(22)	(28)	(21.3)
Cost of defined contribution plans	258	262	(1.4)
Total operating costs/(income)	$ 347	$ 347	(0.2)%
Interest cost	$ 746	$ 826	(9.6)%
Expected return on plan assets	(1,096)	(1,392)	(21.3)
Recognized actuarial losses	728	692	5.2
Curtailments/settlements	2	4	(55.8)
Multi-employer plan/other	(74)	8	nm
Total non-operating costs/(income)	$ 306	$ 139	121.1%
Total retirement-related plans — cost	$ 653	$ 486	34.4%

nm - not meaningful

Management Discussion — (continued)

(Dollars in millions) For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Retirement-related plans — cost:			
Service cost	$ 323	$ 335	(3.6)%
Amortization of prior service costs/(credits)	(66)	(81)	(18.5)
Cost of defined contribution plans	776	802	(3.3)
Total operating costs/(income)	$ 1,033	$ 1,056	(2.2)%
Interest cost	$ 2,215	$ 2,483	(10.8)%
Expected return on plan assets	(3,250)	(4,190)	(22.4)
Recognized actuarial losses	2,143	2,069	3.5
Curtailments/settlements	3	19	(81.6)
Multi-employer plans/other	(46)	64	nm
Total non-operating costs/(income)	$ 1,065	$ 444	139.8%
Total retirement-related plans — cost	$ 2,097	$ 1,500	39.8%

nm - not meaningful

In the third quarter of 2017, total pre-tax retirement-related plan cost increased by $167 million compared to the third quarter of 2016, primarily driven by lower expected return on plan assets ($296 million) and an increase in recognized actuarial losses ($36 million); partially offset by lower interest costs ($79 million) and a reduction in other ($83 million), driven by the pension obligation adjustment recorded related to the UK pension litigation ($91 million). Total cost for the first nine months of 2017 increased by $597 million versus the first nine months of 2016, primarily driven by lower expected return on plan assets ($940 million) and an increase in recognized actuarial losses ($73 million); partially offset by lower interest costs ($268 million) and other costs ($109 million).

As discussed in the “Snapshot” on page 51, the company characterizes certain retirement-related costs as operating and others as non-operating. Utilizing this characterization, operating retirement-related costs in the third quarter of 2017 were $347 million, flat compared to the third quarter of 2016. Non-operating costs of $306 million in the third quarter of 2017 increased $168 million year to year, driven primarily by lower expected return on plan assets ($296 million) and an increase in recognized actuarial losses ($36 million); partially offset by lower interest costs ($79 million) and other costs ($83 million). For the first nine months of 2017, operating retirement-related costs were $1,033 million, a decrease of $24 million compared to the first nine months of 2016, primarily driven by lower defined contribution plan costs ($26 million). Non-operating costs of $1,065 million increased $621 million in the first nine months of 2017 compared to the prior year, driven primarily by lower expected return on plan assets ($940 million) and an increase in recognized actuarial losses ($73 million); partially offset by lower interest costs ($268 million) and other costs ($109 million), driven by the third-quarter pension obligation adjustment in the UK.

Taxes

The continuing operations effective tax rate for the third quarter of 2017 was 11.0 percent, a decrease of 1.5 points compared to the third quarter of 2016. The continuing operations effective tax rate for the first nine months of 2017 was 1.7 percent, an increase of 2.2 points compared to the first nine months of 2016. The operating (non-GAAP) tax rate for the third quarter of 2017 was 14.7 percent, an increase of 0.5 points compared to the third quarter of 2016. The operating (non-GAAP) tax rate for the first nine months of 2017 was 7.1 percent, an increase of 3.9 points compared to the first nine months of 2016.

The change in the continuing operations effective tax rate for the third quarter of 2017 compared to 2016 was driven by an increase in foreign tax credits, partially offset by a prior year tax benefit related to foreign tax audit activity. The change in the operating (non-GAAP) tax rate for the third quarter was driven by the same factors.

The change in the continuing operations effective tax rate for the first nine months of 2017 compared to 2016 was primarily driven by the year-to-year benefits above, as well as a discrete tax benefit related to the intra-entity transfer recognized in the first quarter of 2017 and other net discrete period impacts in the first two quarters of 2017 primarily related to foreign tax audit activity. These benefits were more than offset by a prior year tax benefit related to the Japan tax matter (a refund of $1.0 billion plus interest of $0.2 billion). The change in the operating (non-GAAP) tax rate was driven by the same factors.

Management Discussion — (continued)

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 2012. 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 and interest have been provided for any adjustments that are expected to result for these years.

In the first quarter of 2016, the IRS commenced its audit of the company's U.S. tax returns for 2013 and 2014. The company anticipates that this audit will be completed by the end of the first quarter of 2018.

The amount of unrecognized tax benefits at December 31, 2016 increased by $108 million in the third quarter of 2017 and increased by $466 million in the first nine months of 2017 to $4,206 million. The overall increase for the nine months ended September 30, 2017 was primarily related to potential U.S. audit matters. The total amount of unrecognized tax benefits that, if recognized, would favorably affect the effective tax rate was $3,107 million at September 30, 2017.

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 September 30, 2017, the company has recorded $566 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 Indian Tax Authorities. The company believes it will prevail on these matters.

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 September 30:	2017	2016	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 2.92	$ 2.98	(2.0)%
Basic	$ 2.93	$ 2.99	(2.0)%
Diluted operating (non-GAAP)	$ 3.30	$ 3.29	0.3%
Weighted-average shares outstanding: (in millions)			
Assuming dilution	933.2	957.3	(2.5)%
Basic	929.4	954.0	(2.6)%

For the nine months ended September 30:	2017	2016	Yr. to Yr. Percent Change
Earnings per share of common stock from continuing operations:			
Assuming dilution	$ 7.24	$ 7.67	(5.6)%
Basic	$ 7.28	$ 7.70	(5.5)%
Diluted operating (non-GAAP)	$ 8.64	$ 8.59	0.6%
Weighted-average shares outstanding: (in millions)			
Assuming dilution	940.2	960.7	(2.1)%
Basic	935.6	957.7	(2.3)%

Actual shares outstanding at September 30, 2017 were 925.8 million. The weighted-average number of common shares outstanding assuming dilution during the third quarter and first nine months of 2017 were 24.1 million and 20.5 million shares lower than the same periods of 2016. The decrease was primarily the result of the common stock repurchase program.

Management Discussion — (continued)

Financial Position

Dynamics

At September 30, 2017, the balance sheet remains strong, and with the newly reorganized financing entity, IBM Credit LLC, the company is better positioned to support the business over the long term. Cash and marketable securities at quarter end were $11,515 million. The company continues to manage the investment portfolio to meet its capital preservation and liquidity objectives. Total debt of $45,625 million increased $3,457 million from December 31, 2016, driven by new debt issuances of $9,336 million, partially offset by maturities of $6,259 million. Within total debt, $29,390 million, or approximately 64 percent, is in support of the Global Financing business. This includes IBM Credit LLC's first public debt issuance of $3,000 million in September 2017. In the first nine months of 2017, the company generated $10,991 million in cash from operations. The company has consistently generated strong cash flow from operations and continues to have access to additional sources of liquidity through the capital markets and its Credit Facilities.

The assets and debt associated with the Global Financing business are a significant part of the company's financial position. The financial position amounts appearing on pages 5 and 6 are the consolidated amounts including Global Financing.

Global Financing Financial Position Key Metrics:

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Cash and cash equivalents	$ 1,919	$ 1,844
Net investment in sales-type and direct financing leases	6,700	6,893
Equipment under operating leases — external clients (1)	504	548
Client loans	11,269	11,478
Total client financing assets	18,473	18,920
Commercial financing receivables	8,561	9,700
Intercompany financing receivables (2) (3)	4,897	4,959
Total assets	$ 36,498	$ 36,492
Debt	$ 29,390	$ 27,859
Total equity	$ 3,278	$ 3,812

(1) Includes intercompany mark-up, priced on an arm's-length basis, on products purchased from the company's product divisions which is eliminated in IBM's consolidated results.
(2) Entire amount eliminated for purposes of IBM's consolidated results and therefore does not appear on pages 5 and 6.
(3) These assets, along with all other financing assets in this table, are leveraged at the value in the table using Global Financing debt.

At September 30, 2017, substantially all client and commercial financing assets were IT related assets, and approximately 52 percent of the total external portfolio was with investment grade clients with no direct exposure to consumers. The increase in investment grade year to year (2 points) was driven primarily by rating changes within the existing portfolio, not by changing the company's approach to the market. This investment grade percentage is based on the credit ratings of the companies in the portfolio. Additionally, the company takes actions to transfer exposure to third parties. On that basis, the investment grade content would increase by 15 points to 67 percent, an increase of 2 points year to year.

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

Management Discussion — (continued)

IBM Working Capital

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Current assets	$ 44,742	$ 43,888
Current liabilities	31,697	36,275
Working capital	$ 13,045	$ 7,613
Current ratio	1.41:1	1.21:1

Working capital increased $5,432 million from the year-end 2016 position. The key changes are described below:

Current assets increased $854 million (decreased $1,534 million adjusted for currency) due to:

- An increase in cash and cash equivalents of $3,089 million ($2,214 million adjusted for currency); partially offset by
- A decline in receivables of $2,118 million ($3,365 million adjusted for currency) primarily as a result of collections of higher year-end balances.

Current liabilities decreased $4,578 million ($6,173 million adjusted for currency) as a result of:

- A decrease in short-term debt of $3,214 million ($3,230 million adjusted for currency) primarily as a result of maturities of $6,258 million; partially offset by reclassifications of $3,670 million from long-term debt to reflect upcoming maturities and a decrease in commercial paper of $899 million; and
- A decrease in accounts payable of $767 million ($969 million adjusted for currency) reflecting declines from typically higher year-end balances.

Receivables and Allowances

Roll Forward of Total IBM Receivables Allowance for Credit Losses

(Dollars in millions) January 1, 2017	Additions *	Write-offs **	Other***	September 30, 2017
$ 776	$ 37	$ (157)	$ 33	$ 689

* Additions for Allowance for Credit Losses are charged to expense.
** Refer to note A, “Significant Accounting Policies,” in the company’s 2016 Annual Report on pages 98 and 99 for additional information regarding allowance for credit loss write-offs.
*** Primarily represents translation adjustments.

The total IBM receivables provision coverage was 1.9 percent at September 30, 2017, a decrease of 10 basis points compared to December 31, 2016. The majority of the write-offs during the nine months ended September 30, 2017 related to Global Financing receivables, which had been previously reserved.

Global Financing Receivables and Allowances

The following table presents external financing receivables, excluding residual values, and the allowance for credit losses.

Management Discussion — (continued)

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Gross financing receivables	$ 26,405	$ 28,043
Specific allowance for credit losses	258	335
Unallocated allowance for credit losses	96	103
Total allowance for credit losses	354	438
Net financing receivables	$ 26,051	$ 27,605
Allowance for credit losses coverage	1.3%	1.6%

The percentage of Global Financing receivables reserved decreased from 1.6 percent at December 31, 2016, to 1.3 percent at September 30, 2017. The decline was driven by the 2017 write-offs of $119 million of receivables previously reserved, partially offset by the overall decline in gross receivables. Specific reserves decreased 23 percent from $335 million at December 31, 2016, to $258 million at September 30, 2017. Unallocated reserves decreased 7 percent from $103 million at December 31, 2016, to $96 million at September 30, 2017.

Roll Forward of Global Financing Receivables Allowance for Credit Losses

(Dollars in millions) January 1, 2017	Additions *	Write-offs **	Other ***	September 30, 2017
$ 438	$ 14	$ (119)	$ 20	$ 354

* Additions for Allowance for Credit Losses are charged to expense.
** Refer to note A, “Significant Accounting Policies,” in the company’s 2016 Annual Report on pages 98 and 99 for additional information regarding allowance for credit loss write-offs.
*** Primarily represents translation adjustments.

Global Financing’s bad debt expense was a release of $1 million for the three months ended September 30, 2017, compared to a release of $2 million for the same period in 2016. Global Financing’s bad debt expense was $14 million for the nine months ended September 30, 2017, compared to $75 million for the same period in 2016, due to higher reserve requirements in Brazil in the prior year.

Noncurrent Assets and Liabilities

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Noncurrent assets	$ 76,894	$ 73,582
Long-term debt	$ 41,327	$ 34,655
Noncurrent liabilities (excluding debt)	$ 28,856	$ 28,147

The increase in noncurrent assets of $3,313 million ($1,153 million adjusted for currency) was driven by:

- An increase of $2,065 million in deferred taxes ($1,731 million adjusted for currency) driven by increases in the U.S. ($998 million) and the first-quarter 2017 intra-entity transfer, including the cumulative effect of adoption of the new FASB guidance ($827 million); and
- An increase in retirement plans assets of $1,487 million ($1,262 million adjusted for currency) driven by the expected returns on plan assets, partially offset by interest costs; partially offset by
- A decrease of $562 million in long-term financing receivables ($888 million adjusted for currency) reflecting seasonal reductions from higher year-end balances.

Long-term debt increased $6,671 million ($5,662 million adjusted for currency) from the year-end balance primarily driven by:

- Issuances of $9,124 million; partially offset by
- Reclassification to short-term debt of $3,670 million to reflect upcoming maturities.

Management Discussion — (continued)

The increase in noncurrent liabilities (excluding debt) of $708 million (a decrease of $944 million adjusted for currency) was driven by:

- An increase in retirement and nonpension postretirement liabilities of $483 million (decreased $598 million adjusted for currency) driven by currency impacts and higher interest and service costs; partially offset by contributions.

Debt

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

(Dollars in millions)	At September 30, 2017	At December 31, 2016
Total company debt	$ 45,625	$ 42,169
Total Global Financing segment debt	$ 29,390	$ 27,859
Debt to support external clients	25,433	24,034
Debt to support internal clients	3,957	3,825
Non-Global Financing debt	$ 16,235	$ 14,309

Total debt of $45,625 million increased $3,457 million from December 31, 2016.

Global Financing provides financing predominantly for the company's external client assets, as well as for assets under contract by other IBM units. These assets, primarily for Technology Services & Cloud Platforms, generate long-term, stable revenue streams similar to the Global Financing asset portfolio. Based on their attributes, these Technology Services & Cloud Platforms assets are leveraged with the balance of the Global Financing asset base. The increase in debt is consistent with the company's expectations at year-end 2016 to increase leverage in the Global Financing business.

Non-Global Financing debt of $16,235 million was up $1,926 million from December 31, 2016 and down $116 million from September 30, 2016.

Consolidated debt-to-capitalization ratio at September 30, 2017 was 69.8 percent versus 69.6 percent at December 31, 2016 and 71.2 percent at September 30, 2016.

Given the significant leverage, the company also presents a debt-to-capitalization ratio which excludes Global Financing debt and equity as management believes this is more representative of the company's core business operations. This ratio can vary from period to period as the company manages its global cash and debt positions. "Core" debt-to-capitalization ratio (excluding Global Financing debt and equity) was 49.6 percent at September 30, 2017 compared to 49.5 percent at December 31, 2016 and 54.6 percent at September 30, 2016.

Global Financing debt-to-equity ratio

	At September 30, 2017	At December 31, 2016
Global Financing debt-to-equity ratio	9.0x	7.3x

The debt used to fund Global Financing assets is composed of intercompany loans and external debt. Total debt changes generally correspond with the level of client and commercial financing receivables, the level of cash and cash equivalents, the change in intercompany and external payables and the change in intercompany investment from IBM. The terms of the intercompany loans substantially match the term and currency underlying the financing receivable and are based on arm's-length pricing.

Global Financing provides financing predominantly for the company's external client assets, as well as for assets under contract by other IBM units. As previously stated, the company measures Global Financing as a stand-alone entity, and accordingly, interest expense relating to debt supporting Global Financing's external client and internal business is included in the "Global Financing Results of Operations" on page 65 and in "Segment Information" on pages 29 and 30.

Management Discussion — (continued)

In the company's Consolidated Statement of Earnings, the external debt-related interest expense supporting Global Financing's internal financing to the company is reclassified from cost of financing to interest expense.

Equity

Total equity increased by $1,365 million from December 31, 2016 as a result of an increase in retained earnings of $2,806 million, an increase in retirement-related amounts of $1,446 million and an increase of $794 million related to currency translation, partially offset by an increase in treasury stock of $3,762 million primarily due to common stock repurchases.

Cash Flow

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

(Dollars in millions) **For the nine months ended September 30:**	**2017**	**2016**
Net cash provided by/(used in) continuing operations:		
Operating activities	$ 10,991	$ 13,105* **
Investing activities	(3,278)	(7,289)*
Financing activities	(5,499)	(4,619)**
Effect of exchange rate changes on cash and cash equivalents	875	155
Net change in cash and cash equivalents	$ 3,089	$ 1,352

* Revised classification of certain financing receivables. Refer to note 1, "Basis of Presentation," for additional information.
** Reclassified to reflect adoption of the FASB guidance on share-based compensation.

Net cash provided by operating activities decreased by $2,114 million as compared to the first nine months of 2016 driven by the following factors:

- An increase in net income tax payments of $1,211 million, driven by the prior year Japan tax refund received;
- A decrease in cash provided by financing receivables of $868 million; and
- Performance-related declines within net income; partially offset by
- Working capital improvements of $1,009 million driven by strong cash collections.

Net cash used in investing activities decreased $4,011 million as compared to the first nine months of 2016 driven by:

- A decrease in net cash used related to acquisitions of $5,002 million.

Net cash used in financing activities increased $880 million as compared to the first nine months of 2016 driven by:

- An increase in common stock repurchases of $1,043 million; partially offset by
- An increase in net cash sourced from debt transactions of $422 million primarily driven by a higher level of issuances which exceeded higher maturities.

Management Discussion — (continued)

Looking Forward

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

Within the IT industry, there are major shifts occurring—driven by cognitive, including data and analytics, cloud and changes in the ways individuals and enterprises are engaging. The company is bringing together its cognitive technologies on cloud platforms to create industry-based solutions in order to solve enterprise clients' real problems. The company continues to address the higher value areas of enterprise IT and is amassing a unique set of capabilities and is differentiating itself from other technology providers as it moves into new spaces, and in some cases, creating entirely new markets. IBM is more than a hardware, software and services company; it has emerged as a cognitive solutions and cloud platform company, focused on industry differentiation. The company's strategic imperatives represent revenue from its cloud, analytics, mobile, social and security solutions, across its segments, and are a signpost of progress in addressing these market shifts.

In 2017, the company is continuing to embed cognitive and cloud across the business, to build new platforms and solutions and reinvent core capabilities. This is fueling the shift toward strategic imperatives revenue. Consistent with the long-term model, over the course of 2017, the company has continued to acquire and integrate key capabilities, remix skills, invest in areas of growth and return value to shareholders. This is all taken into account in the full-year view. Overall, the company continues to expect GAAP earnings per share from continuing operations for 2017 to be at least $11.95. Excluding acquisition-related charges of $0.75 per share and non-operating retirement-related items of $1.10 per share, operating (non-GAAP) earnings per share is expected to be at least $13.80.

Overall, looking forward to the fourth quarter of 2017, as a result of the typical large transactional base in the fourth quarter, there is a range of possible scenarios. In 2016, the company increased revenue by $2.5 billion from third to fourth quarter. In 2017, the company expects stronger sequential performance than the typical third to fourth quarter increase, with potentially $300 million to $400 million more revenue, depending on currency, due in part to the mainframe cycle. The company's GAAP and operating (non-GAAP) gross margins have shown good progression in recent quarters, driven by mix and some moderation in the headwinds from investment. In the fourth quarter of 2017, the company expects GAAP and operating (non-GAAP) gross margins to be consistent with the sequential improvement the company has experienced the last few years of an approximate 2.5 to 3.5 point increase in gross margins from third to fourth quarter. In expense, the company expects to continue to drive efficiency in spending, however with the weaker U.S. dollar, currency hedges are expected to have an impact. The company continues to have a strong pipeline of IP income opportunities. At mid-October spot rates, the currency impact to revenue growth for the fourth-quarter 2017 is expected to be approximately a three-point tailwind, which would result in a neutral to a one-point tailwind to full-year 2017.

Free cash flow realization, defined as free cash flow to income from continuing operations (GAAP), was 96 percent over the last twelve months and is again expected to be in line with the longer-term model of over 90 percent in 2017. The company continues to expect full year free cash flow to be relatively flat year to year, as the first half year-to-year headwind shifts to a tailwind driven by lower tax and workforce rebalancing payments in 2017. This also reflects the level of profit consistent with the company's full year expectations of earnings per share.

The company's tax rate reflects its mix of business, both country and product mix. The company continues to expect that the 2017 GAAP tax rate will be approximately 3 points lower than the operating (non-GAAP) tax rate expectation. Expectations for the operating (non-GAAP) tax rate are approximately 15 percent plus or minus three points, excluding discrete items. This range was widened in 2017 due to mix variables and tax reform discussions underway in the U.S, which could result in planning actions this year. The tax rates for the first nine months of 2017, excluding discrete items, were in line with the company's January 2017 expectations. The company may have discrete tax items in the fourth quarter of 2017, however the amount and timing is unknown and any benefits may be mitigated by other actions. The rate will change year to year based on nonrecurring events, such as the settlement of income tax audits and changes in tax laws, as well as recurring factors including the geographic mix of income before taxes, the timing and amount of foreign dividend repatriation, state and local taxes and the effects of various global income tax strategies.

In January 2017, the company reorganized its client and commercial financing business as a wholly owned subsidiary, IBM Credit LLC. As announced, the financing business target leverage was increased from 7:1 to 9:1. The subsidiary began accessing the capital markets directly in September 2017, with its first public debt issuance. At September 30, 2017, this business continues to be leveraged at a debt-to-equity ratio of 9:1.

The company expects 2017 pre-tax retirement-related plan cost to be approximately $2.9 billion, an increase of approximately $900 million compared to 2016. This estimate reflects current pension plan assumptions at December 31, 2016. Within total retirement-related plan cost, operating retirement-related plan cost is expected to be approximately $1.4 billion, approximately flat versus 2016. Non-operating retirement-related plan cost is expected to be approximately $1.5 billion, an increase of approximately $900 million compared to 2016, driven by lower income from expected return on assets. Contributions for all retirement-related plans are expected to be approximately $2.4 billion in 2017, approximately flat compared to 2016.

Currency Rate Fluctuations

Changes in the relative values of non-U.S. currencies to the U.S. dollar (USD) affect the company's financial results and financial position. At September 30, 2017, currency changes resulted in assets and liabilities denominated in local currencies being translated into more dollars than at year-end 2016. The company uses financial hedging instruments to limit specific currency risks related to financing transactions and other foreign currency-based transactions.

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

The company translates revenue, cost and expense in its non-U.S. operations at current exchange rates in the reported period. References to "adjusted for currency" or "constant currency" reflect adjustments based upon a simple mathematical formula. However, this constant currency methodology that the company utilizes to disclose this information does not incorporate any operational actions that management could take to mitigate fluctuating currency rates. Currency movements impacted the company's year-to-year revenue and earnings per share growth in the first nine months of 2017. Based on the currency rate movements in the first nine months of 2017, total revenue decreased 2.7 percent as reported and decreased 2.2 percent at constant currency versus the first nine months of 2016. On an income from continuing operations before income tax basis, these translation impacts offset by the net impact of hedging activities resulted in a theoretical maximum (assuming no pricing or sourcing actions) decrease of approximately $10 million in the first nine months of 2017 on an as-reported basis and a decrease of $20 million on an operating (non-GAAP) basis. The same mathematical exercise resulted in an increase of approximately $50 million in the first nine months of 2016 on an as-reported basis and an increase of $75 million on an operating (non-GAAP) basis. The company views these amounts as a theoretical maximum impact to its as-reported financial results. Considering the operational responses mentioned above, movements of exchange rates, and the nature and timing of hedging instruments, it is difficult to predict future currency impacts on any particular period, but the company believes it could be substantially less than the theoretical maximum given the competitive pressure in the marketplace.

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

The company continues to monitor the economic conditions in Venezuela. In mid-February 2016, changes to the currency exchange systems were announced which eliminated the SICAD exchange rate and replaced the SIMADI rate with DICOM, which is expected to be a floating exchange rate. The company recorded a pre-tax loss of $43 million in the first quarter of 2016 in other (income) and expense in the Consolidated Statement of Earnings as a result of the elimination of the SICAD and devaluation in the new exchange. Total pre-tax loss for the first nine months of 2017 was $9 million compared to $46 million in the first nine months of 2016. The company's net assets denominated in local currency were $8 million at September 30, 2017. The company's operations in Venezuela comprised less than 1 percent of total 2016 and 2015 revenue, respectively.

Liquidity and Capital Resources

In the company's 2016 Annual Report, on pages 68 to 71, there is a discussion of the company's liquidity including two tables that present five years of data. The table presented on page 68 includes net cash from operating activities, cash and marketable securities and the size of the company's global credit facilities for each of the past five years. For the nine months

ended, or as of, as applicable, September 30, 2017, those amounts are $11.0 billion for net cash from operating activities, $11.5 billion of cash and marketable securities and $10.25 billion in global credit facilities, respectively. On July 20, 2017, the company and IBM Credit entered into a $2.5 billion 364-day Credit Agreement and a $2.5 billion three-year Credit Agreement. These new agreements permit borrowings up to an aggregate of $5 billion on a revolving basis.

The major rating agencies' ratings on the company's debt securities at September 30, 2017 appear in the table below. The Fitch ratings were reaffirmed on September 30, 2016 and remain unchanged from December 31, 2016. On May 3, 2017, Moody's Investors Service lowered its rating on the company's senior long-term debt from Aa3 to A1, while reaffirming its rating on commercial paper. On May 5, 2017, Standard and Poor's lowered its ratings on the company's senior long-term debt to A+ from AA- and commercial paper to A-1 from A-1+. IBM remains a strong investment grade company with significant financial flexibility to execute its strategy and capital allocation plans. The company does not have "ratings trigger" provisions in its debt covenants or documentation, which would allow the holders to declare an event of default and seek to accelerate payments thereunder in the event of a change in credit rating. The company's contractual agreements governing derivative instruments contain standard market clauses which can trigger the termination of the agreement if the company's credit rating were to fall below investment grade. At September 30, 2017, the fair value of those instruments that were in a liability position was $352 million, before any applicable netting, and this position is subject to fluctuations in fair value period to period based on the level of the company's outstanding instruments and market conditions. The company has no other contractual arrangements that, in the event of a change in credit rating, would result in a material adverse effect on its financial position or liquidity.

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

The company prepares its Consolidated Statement of Cash Flows in accordance with applicable accounting standards for cash flow presentation on page 7 of this Form 10-Q and highlights causes and events underlying sources and uses of cash in that format on page 79. For the purpose of running its business, the company manages, monitors and analyzes cash flows in a different manner.

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

Management Discussion — (continued)

The following is management's view of cash flows for the first nine months of 2017 and 2016 prepared in a manner consistent with the description above.

(Dollars in millions) For the nine months ended September 30:	2017	2016
Net cash from operating activities per GAAP	$ 10,991	$ 13,105* **
Less: change in Global Financing receivables	2,468	3,336*
Net cash from operating activities, excluding Global Financing receivables	8,523	9,769**
Capital expenditures, net	(2,347)	(2,801)
Free cash flow (FCF)	6,176	6,969**
Acquisitions	(442)	(5,445)
Divestitures	35	35
Share repurchase	(3,674)	(2,632)
Common stock repurchases for tax withholdings	(153)	(115)**
Dividends	(4,119)	(3,927)
Non-Global Financing debt	1,896	3,365
Other (includes Global Financing receivables and Global Financing debt)	3,270	3,523
Change in cash, cash equivalents and short-term marketable securities	$ 2,988	$ 1,773

* Revised classification of certain financing receivables.
** Reclassified to reflect adoption of the FASB guidance on share-based compensation.

In the first nine months of 2017, the company generated free cash flow of $6.2 billion, a decrease of $0.8 billion versus the prior year. The year-to-year decrease was driven primarily by a cash tax refund related to the Japan tax matter in the prior year. In addition, working capital contributed to the free cash flow performance in the first nine months of 2017. Net capital expenditures of $2.3 billion included investments to expand the company's cloud and cognitive capabilities. In the first nine months of 2017, the company continued to focus its cash utilization on returning value to shareholders including $4.1 billion in dividends and $3.7 billion in gross common stock repurchases.

Events that could temporarily change the historical cash flow dynamics discussed previously and in the company's 2016 Annual Report include significant changes in operating results, material changes in geographic sources of cash, unexpected adverse impacts from litigation, future pension funding requirements during periods of severe downturn in the capital markets or the timing of tax payments. Whether any litigation has such an adverse impact will depend on a number of variables, which are more completely described in note 12, "Contingencies," in this Form 10-Q. With respect to pension funding, the company expects to make legally mandated pension plan contributions to certain non-U.S. plans of approximately $400 million in 2017. Contributions related to all retirement-related plans are expected to be approximately $2.4 billion in 2017. Financial market performance could increase the legally mandated minimum contributions in certain non-U.S. countries that require more frequent remeasurement of the funded status. The company is not quantifying any further impact from pension funding because it is not possible to predict future movements in the capital markets or pension plan funding regulations.

The company's U.S. cash flows continue to be sufficient to fund its current domestic operations and obligations, including investing and financing activities such as dividends and debt service. The company's U.S. operations generate substantial cash flows, and, in those circumstances where the company has additional cash requirements in the U.S., the company has several liquidity options available. These options may include the ability to borrow additional funds at reasonable interest rates, utilizing its Credit Facilities, repatriating certain foreign earnings and utilizing intercompany loans with certain foreign subsidiaries.

The company does earn a significant amount of its pre-tax income outside the U.S. The company's policy is to indefinitely reinvest the undistributed earnings of its foreign subsidiaries, and accordingly, no provision for federal income taxes has been made on accumulated earnings of foreign subsidiaries. The company periodically repatriates a portion of these earnings to the extent that it does not incur an additional U.S. tax liability. Quantification of the deferred tax liability, if any, associated with indefinitely reinvested earnings is not practicable. While the company currently does not have a need to repatriate funds held by its foreign subsidiaries, if these funds are needed for operations and obligations in the U.S., the company could elect to repatriate these funds which could result in a reassessment of the company's policy and increased tax expense.

Management Discussion — (continued)

Global Financing Return on Equity Calculation

(Dollars in millions)	Three Months Ended September 30, 2017	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2017	Nine Months Ended September 30, 2016
Numerator				
Global Financing after-tax income*	$ 194	$ 244	$ 621	$ 829
Annualized after-tax income (a)	$ 776	$ 977	$ 828	$ 1,106
Denominator				
Average Global Financing equity (b)**	$ 3,255	$ 3,595	$ 3,372	$ 3,647
Global Financing return on equity (a)/(b)	23.8%	27.2%	24.6%	30.3%

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

** Average of the ending equity for Global Financing for the last 2 quarters and 3 quarters, for the three months ended September 30, and for the nine months ended September 30, respectively.

Management Discussion — (continued)

GAAP Reconciliation

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

(Dollars in millions except per share amounts) For the three months ended September 30, 2017	GAAP	Acquisition-related adjustments	Retirement-related adjustments	Operating (Non-GAAP)
Gross profit	$ 8,800	$ 114	$ 203	$ 9,116
Gross profit margin	45.9%	0.6pts.	1.1pts.	47.6%
S,G&A	$ 4,648	$ (125)	$ (53)	$ 4,470
R,D&E	1,342	—	(51)	1,291
Other (income) and expense	(114)	—	—	(114)
Total expense and other (income)	5,735	(125)	(103)	5,507
Pre-tax income from continuing operations	3,065	238	306	3,609
Pre-tax margin from continuing operations	16.0%	1.2pts.	1.6pts.	18.8%
Provision for income taxes*	$ 339	$ 79	$ 113	$ 531
Effective tax rate	11.0%	1.5pts.	2.2pts.	14.7%
Income from continuing operations	$ 2,726	$ 159	$ 193	$ 3,079
Income margin from continuing operations	14.2%	0.8pts.	1.0pts.	16.1%
Diluted earnings per share from continuing operations	$ 2.92	$ 0.17	$ 0.21	$ 3.30

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

(Dollars in millions except per share amounts) For the three months ended September 30, 2016	GAAP	Acquisition-related adjustments	Retirement-related adjustments	Operating (Non-GAAP)
Gross profit	$ 9,013	$ 129	$ 79	$ 9,221
Gross profit margin	46.9%	0.7pts.	0.4pts.	48.0%
S,G&A	$ 4,732	$ (138)	$ (53)	$ 4,541
R,D&E	1,397	—	(7)	1,390
Other (income) and expense	(8)	(2)	—	(10)
Total expense and other (income)	5,751	(140)	(60)	5,550
Pre-tax income from continuing operations	3,263	269	139	3,671
Pre-tax margin from continuing operations	17.0%	1.4pts.	0.7pts.	19.1%
Provision for income taxes*	$ 409	$ 73	$ 40	$ 521
Effective tax rate	12.5%	1.1pts.	0.6pts.	14.2%
Income from continuing operations	$ 2,854	$ 197	$ 99	$ 3,149
Income margin from continuing operations	14.8%	1.0pts.	0.5pts.	16.4%
Diluted earnings per share from continuing operations	$ 2.98	$ 0.21	$ 0.10	$ 3.29

* 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.

Management Discussion — (continued)

(Dollars in millions except per share amounts) For the nine months ended September 30, 2017	GAAP	Acquisition-related adjustments	Retirement-related adjustments	Operating (Non-GAAP)
Gross profit	$ 25,365	$ 349	$ 591	$ 26,305
Gross profit margin	44.8%	0.6pts.	1.0pts.	46.5%
S,G&A	$ 14,959	$ (393)	$ (326)	$ 14,240
R,D&E	4,360	—	(148)	4,212
Other (income) and expense	(218)	(7)	—	(225)
Total expense and other (income)	18,434	(401)	(474)	17,559
Pre-tax income from continuing operations	6,931	750	1,065	8,746
Pre-tax margin from continuing operations	12.2%	1.3pts.	1.9pts.	15.5%
Provision for income taxes*	$ 120	$ 212	$ 288	$ 621
Effective tax rate	1.7%	2.3pts.	3.1pts.	7.1%
Income from continuing operations	$ 6,811	$ 537	$ 777	$ 8,125
Income margin from continuing operations	12.0%	0.9pts.	1.4pts.	14.4%
Diluted earnings per share from continuing operations	$ 7.24	$ 0.57	$ 0.83	$ 8.64

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

(Dollars in millions except per share amounts) For the nine months ended September 30, 2016	GAAP	Acquisition-related adjustments	Retirement-related adjustments	Operating (Non-GAAP)
Gross profit	$ 27,401	$ 371	$ 238	$ 28,010
Gross profit margin	47.1%	0.6pts.	0.4pts.	48.2%
S,G&A	$ 16,093	$ (365)	$ (183)	$ 15,545
R,D&E	4,320	—	(23)	4,297
Other (income) and expense	281	(7)	—	274
Total expense and other (income)	20,056	(372)	(206)	19,478
Pre-tax income from continuing operations	7,345	743	444	8,532
Pre-tax margin from continuing operations	12.6%	1.3pts.	0.8pts.	14.7%
Provision for/(benefit from) income taxes*	$ (31)	$ 201	$ 106	$ 277
Effective tax rate	(0.4)%	2.4pts.	1.3pts.	3.2%
Income from continuing operations	$ 7,375	$ 542	$ 338	$ 8,255
Income margin from continuing operations	12.7%	0.9pts.	0.6pts.	14.2%
Diluted earnings per share from continuing operations	$ 7.67	$ 0.57	$ 0.35	$ 8.59

* 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.

Management Discussion — (continued)

Forward-Looking and Cautionary Statements

Except for the historical information and discussions contained herein, statements contained in this Form 10-Q may constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on the company's current assumptions regarding future business and financial performance. These statements involve a number of risks, uncertainties and other factors that could cause actual results to differ materially, including the following: a downturn in the economic environment and client spending budgets; the company's failure to meet growth and productivity objectives; a failure of the company's innovation initiatives; risks from investing in growth opportunities; failure of the company's intellectual property portfolio to prevent competitive offerings and the failure of the company to obtain necessary licenses; cybersecurity and data privacy considerations; fluctuations in financial results; impact of local legal, economic, political and health conditions; adverse effects from environmental matters, tax matters and the company's pension plans; ineffective internal controls; the company's use of accounting estimates; the company's ability to attract and retain key personnel and its reliance on critical skills; impacts of relationships with critical suppliers; product quality issues; impacts of business with government clients; currency fluctuations and customer financing risks; impact of changes in market liquidity conditions and customer credit risk on receivables; reliance on third party distribution channels and ecosystems; the company's ability to successfully manage acquisitions, alliances and dispositions; risks from legal proceedings; risk factors related to IBM securities; and other risks, uncertainties and factors discussed in the company's Form 10-Qs, Form 10-K and in the company's other filings with the U.S. Securities and Exchange Commission (SEC) or in materials incorporated therein or herein by reference. The company assumes no obligation to update or revise any forward-looking statements.

Item 4. Controls and Procedures

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

Part II — Other Information

Item 1. Legal Proceedings

Refer to note 12, "Contingencies," on pages 44 to 46 of this Form 10-Q.

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

The following table provides information relating to the company's repurchase of common stock for the third quarter of 2017.

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*
July 1, 2017 - July 31, 2017	1,403,534	$ 149.09	1,403,534	$ 2,191,734,677
August 1, 2017 - August 31, 2017	3,167,041	$ 142.65	3,167,041	$ 1,739,970,319
September 1, 2017 - September 30, 2017	1,982,071	$ 144.56	1,982,071	$ 1,453,447,857
Total	6,552,646	$ 144.60	6,552,646	

* On October 25, 2016, the Board of Directors authorized $3.0 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.

Item 6. Exhibits

Exhibit Number	
4.1	Indenture dated as of October 1, 1993 between IBM and The Bank of New York Mellon, (as successor to The Chase Manhattan Bank (National Association)) as Trustee. *
4.2	First Supplemental Indenture to Indenture dated as of October 1, 1993 between IBM and The Bank of New York Mellon, (as successor to The Chase Manhattan Bank (National Association)) as Trustee, dated as of December 15, 1995. *
11	Statement re: computation of per share earnings.
	The statement re computation of per share earnings is note [14], "Earnings Per Share of Common Stock," in this Form 10-Q.
12	Statement re: computation of ratios.
31.1	Certification by principal executive officer pursuant to Rule 13A-14(a) or 15D-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by principal financial officer pursuant to Rule 13A-14(a) or 15D-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification by principal executive officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by principal financial officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

* Refiled by the company in electronic format in accordance with SEC Release Nos. 33-10322 and 34-80132 relating to exhibit hyperlinks, which became effective September 1, 2017.

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: October 31, 2017

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

EXHIBIT 4.1

INTERNATIONAL BUSINESS MACHINES CORPORATION

and

THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION),
as Trustee

INDENTURE

Dated as of October 1, 1993

Providing for the Issuance of
Debt Securities in Series

INTERNATIONAL BUSINESS MACHINES CORPORATION

*Reconciliation and Tie Between Trust Indenture Act of 1939 and Indenture Provisions**

Trust Indenture Act Section	**Indenture Section**
§ 310(a)(1)	709
(a)(2)	709
(a)(3)	Not Applicable
(a)(4)	Not Applicable
(b)	708
	710
§ 311(a)	713(a)
	713(c)
(b)	713(b)
(b)(2)	803(a)(2)
	803(b)
§ 312(a)	801
	802(a)
(b)	802(b)
(c)	802(c)
§ 313(a)	803(a)
(b)	803(b)
(c)	803(d)
(d)	803(c)
§ 314(a)	804
(b)	Not Applicable
(c)(1)	102
(c)(2)	102
(c)(3)	Not Applicable
(d)	Not Applicable
(e)	102

* This reconciliation and tie shall not, for any purpose, be deemed to be a part of the Indenture.

Trust Indenture Act Section	Indenture Section
§ 315(a)	701(a)
(b)	702
	803(a)(6)
(c)	701(b)
(d)	701(c)
(d)(1)	701(a)
(d)(2)	701(c)(2)
(d)(3)	701(c)(3)
(e)	614
§ 316(a)	101
(a) (1)(A)	602
	612
(a)(1)(B)	613
(a)(2)	Not Applicable
(b)	608
§ 317(a)(1)	603
(a)(2)	604
(b)	1103
§ 318(a)	107

TABLE OF CONTENTS(1)

ARTICLE ONE

Definitions and Other Provisions of General Application

(1)This table of contents shall not, for any purpose, be deemed to be part of the Indenture.

INDENTURE dated as of October 1, 1993, between INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation duly organized and existing under the laws of the State of New York (herein called the "Company"), having its principal office at One Old Orchard Road, Armonk, New York 10504, and THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), as Trustee (herein called the "Trustee"), the office of the Trustee at which at the date hereof its corporate trust business is principally administered being 4 Chase MetroTech Center, Brooklyn, New York 11245.

RECITALS OF THE COMPANY

The Company has duly authorized the execution and delivery of this Indenture to provide for the issuance from time to time of its unsecured debentures, notes or other evidences of indebtedness (herein called the "Securities"), to be issued in one or more series as in this Indenture provided.

All things necessary to make this Indenture a valid agreement of the Company, in accordance with its terms, have been done.

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

For and in consideration of the premises and the purchase of the Securities by the Holders thereof, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders of the Securities or of series thereof, as follows:

ARTICLE ONE

Definitions and Other Provisions of General Application

SECTION 101. *Definitions.* For all purposes of this Indenture, except as otherwise expressly provided or unless the context otherwise requires.

(1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;

(2) all other terms used herein which are defined in the Trust Indenture Act, either directly or by reference therein, have the meanings assigned to them therein;

(3) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with generally accepted accounting principles, and, except as otherwise herein expressly provided, the term "generally accepted accounting principles" with respect to any computation required or permitted hereunder shall mean such accounting principles as are generally accepted in the United States of America at the date of such computation; and

(4) the words "herein", "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision.

Certain terms, used principally within an Article of this Indenture, may be defined in that Article.

"Act", when used with respect to any Holder, has the meaning specified in Section 104.

“Affiliate” of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, “control” when used with respect to any specified Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms “controlling” and “controlled” have meanings correlative to the foregoing.

“Attributable Debt” means, as of the date of its determination, the present value (discounted semiannually at the Attributable Interest Rate) of the obligation of a lessee for rental payments pursuant to any Sale and Leaseback Transaction (reduced by the amount of the rental obligations of any sublessee of all or part of the same property) during the remaining term of such Sale and Leaseback Transaction (including any period for which the lease relating thereto has been extended), such rental payments not to include amounts payable by the lessee for maintenance and repairs, insurance, taxes, assessments and similar charges and for contingent rents (such as those based on sales). In the case of any Sale and Leaseback Transaction in which the lease is terminable by the lessee upon the payment of a penalty, such rental payments shall be considered for purposes of this definition to be the lesser of (a) the rental payments to be paid under such Sale and Leaseback Transaction until the first date (after the date of such determination) upon which it may be so terminated plus the then applicable penalty upon such termination and (b) the rental payments required to be paid during the remaining term of such Sale and Leaseback Transaction (assuming such termination provision is not exercised).

“Attributable Interest Rate” means, as of the date of its determination, the weighted average of the interest rates (or the effective rate in the case of Original Issue Discount Securities or discount securities) of all Outstanding Securities and all securities issued and outstanding (as defined in the 1985 Indenture) under the 1985 Indenture to which Sections 6.05 and 6.06 of the 1985 Indenture apply (and whose application has not been waived).

“Authenticating Agent” means any Person authorized by the Trustee pursuant to Section 715 to act on behalf of the Trustee to authenticate Securities of one or more series.

“Authorized Newspaper” means a newspaper of general circulation in the place of publication, printed in the official language of the country of publication and customarily published on each Business Day, whether or not published on Saturdays, Sundays or holidays. Whenever successive weekly publications in an Authorized Newspaper are authorized or required hereunder, they may be made (unless otherwise expressly provided herein) on the same or different days of the week and in the same or different Authorized Newspapers.

“Bearer Security” means any Security which is not registered in the Security Register as to both principal and interest (including without limitation any Security in temporary or definitive global bearer form).

“Board of Directors” means either the board of directors of the Company, any executive officer of the Company duly authorized to act in the name of or on behalf of that board or any committee consisting of two or more persons who need not be directors duly authorized to act in the name of or on behalf of that board.

“Board Resolution” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification.

“Business Day”, when used with respect to any Place of Payment or place of publication, means each day on which commercial banks and foreign exchange markets settle payments in the Place of Payment or place of publication, or as specified for a series of Securities pursuant to Section 202 or Section 301, as the case may be. Unless otherwise specified pursuant to Section 202 or Section 301, as the case may be, when used with respect to Securities bearing interest at a rate or rates determined by reference to London interbank offered rates for deposits in U.S. Dollars, “Business Day” shall exclude any day on which commercial banks and foreign exchange markets do not settle payments in London.

“Commission” means the Securities and Exchange Commission, as from time to time constituted, created under the Securities Exchange Act of 1934, or, if at any time after the execution of this instrument such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties at such time.

“Common Depositary” has the meaning specified in Section 403.

“Company” means the Person named as the “Company” in the first paragraph of this instrument until a successor corporation shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Company” shall mean such successor corporation.

“Company Request”, “Request of the Company”, “Company Order” or “Order of the Company” means a written request or order signed in the name of the Company by its Chairman of the Board, its President or a Vice President, and by its Treasurer, an Assistant Treasurer, its Controller, an Assistant Controller, its Secretary or an Assistant Secretary, and delivered to the Trustee.

“Component Currency” has the meaning specified in Section 410(i).

“Consolidated Net Tangible Assets” means, at any date, the total assets appearing on the most recently prepared consolidated balance sheet of the Company and the Subsidiaries as of the end of a fiscal quarter of the Company, prepared in accordance with generally accepted accounting principles, less (a) all current liabilities as shown on such balance sheet and (b) intangible assets. “Intangible assets” means the value (net of any applicable reserves), as shown on or reflected in such balance sheet, of: (i) all trade names, trademarks, licenses, patents, copyrights and goodwill; (ii) organizational and development costs; (iii) deferred charges (other than prepaid items such as insurance, taxes, interest, commissions, rents and similar items and tangible assets being amortized); and (iv) unamortized debt discount and expense, less unamortized premium; but in no event shall the term “intangible assets” include program products.

“Conversion Date” has the meaning specified in Section 410(e).

“Conversion Rate” has the meaning specified in Section 714.

“Corporate Trust Office” means the principal office of the Trustee in New York, New York, at which at any particular time its corporate trust business shall be principally administered, which office at the date hereof is 4 Chase MetroTech Center, Brooklyn, New York 11245, except that with respect to the presentation of Securities (or Coupons, if any, representing an installment of interest) for payment or for registration of transfer and exchange, such term shall mean the office or the agency of the Trustee in said city at which at any particular time its corporate agency business shall be conducted.

“corporation” includes corporations, associations, companies and business trusts.

“Coupon” or “coupon” means any interest coupon appertaining to a Bearer Security.

“Defaulted Interest” has the meaning specified in Section 406.

“Discharged” has the meaning specified in Section 505.

“Dollar” means the coin or currency of the United States of America as at the time of payment is legal tender for the payment of public and private debts,

“Dollar Equivalent of the Currency Unit” has the meaning specified in Section 410(h).

“Dollar Equivalent of the Foreign Currency” has the meaning specified in Section 410(g).

“ECU” means the European Currency Unit as defined and revised from time to time by the Council of the European Communities.

“Euro-clear” means the operator of the Euro-clear System.

“European Communities” means the European Economic Community, the European Coal and Steel Community and the European Atomic Energy Community.

“Event of Default” has the meaning specified in Section 601.

“Exchange Rate Agent” means the entity appointed by the Company pursuant to Section 104(g). Unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, the Luxembourg Stock Exchange shall act as Exchange Rate Agent for purposes of Section 410 in the case of each series of Securities listed on the Luxembourg Stock Exchange.

“Exchange Rate Officers’ Certificate” means a telecopy or tested telex or a certificate setting forth (i) the applicable Official Currency Unit Exchange Rate and (ii) the Dollar or Foreign Currency or currency unit amounts of principal, premium, if any, and interest, if any, respectively (on an aggregate basis and on the basis of a Security having a principal amount of 1,000 units in the relevant currency or currency unit), payable on the basis of such Official Currency Unit Exchange Rate, sent (in the case of a telecopy or telex) or executed (in the case of a certificate) by the Controller or any Assistant Controller or by the Treasurer or any Assistant Treasurer of the Company and delivered to the Trustee; such telecopy, tested telex or certificate need not comply with Section 102.

“Foreign Currency” means a currency issued by the government of any country other than the United States of America.

“Foreign Government Securities” has the meaning specified in Section 505.

“Funded Debt” means any Indebtedness maturing by its terms more than one year from the date of the issuance thereof, including any Indebtedness renewable or extendible at the option of the obligor to a date later than one year from the date of the original issuance thereof.

“Holder” or “holder” means, with respect to a Registered Security, the Person in whose name at the time a particular Registered Security is registered in the Security Register and, with respect to a Bearer Security and/or a Coupon, the bearer thereof.

“Indebtedness” of any corporation means all indebtedness representing money borrowed which is created, assumed, incurred or guaranteed in any manner by such corporation or for which such corporation is otherwise responsible or liable (whether by agreement to purchase indebtedness of, or to supply funds to or invest in, others).

“Indenture” means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into pursuant to the applicable provisions hereof and shall include the terms of particular series of Securities established as contemplated by Section 202 and Section 301, as the case may be.

“interest”, when used with respect to an Original Issue Discount Security which by its terms bears interest only after Maturity, means interest payable after Maturity.

“Interest Payment Date”, when used with respect to any Security, means the Stated Maturity of an installment of interest on such Security.

“Lien” means any mortgage, pledge, security interest, lien, charge or other encumbrance, but does not include any of the foregoing types of encumbrances that are incidental to the conduct of the business of the Company or any Restricted Subsidiary or the ownership of the property and assets of any of them and that were not incurred in connection with the incurrence of an Indebtedness. Such incidental encumbrances that are to be excluded from the term “Liens” include without limitation: pledges or deposits made to secure obligations of the Company or a Restricted Subsidiary under workmen’s compensation laws or similar legislation; liens imposed by law, such as materialmen’s, mechanics’, carriers’, workmen’s, vendors’, repairmen’s or other like liens incurred in the ordinary course of business; governmental (Federal, state or municipal) liens arising out of contracts for the purchase of products of the Company or a Restricted Subsidiary, and deposits or pledges to obtain the release of any of the foregoing liens; liens created by or resulting from any litigation or legal proceeding that is currently being contested in good faith by appropriate proceedings; leases made or existing on Principal Property entered into in the ordinary course of business by the Company or a Restricted Subsidiary; landlords’ liens under leases of Principal Property to which the Company or a Restricted Subsidiary is a party; zoning restrictions, easements, licenses or restrictions on the use of Principal Property or minor irregularities in the title thereto; deposits in connection with bids, tenders or contracts (other than for the payment of money) to which the Company or any Restricted Subsidiary is a party; deposits to secure public or statutory obligations of the Company or any Restricted Subsidiary; deposits in connection with obtaining or maintaining self-insurance or to obtain the benefits of any law, regulation or arrangement pertaining to unemployment insurance, old age pensions, social security or similar

matters; deposits of cash or obligations of the United States of America to secure surety, appeal or customs bonds to which the Company or any Restricted Subsidiary is a party; and liens for taxes or assessments or governmental charges or levies not yet due or delinquent, or which can thereafter be paid without penalty, or which are being contested in good faith by appropriate proceedings.

"Market Exchange Rate" has the meaning specified in Section 410(i).

"Maturity", when used with respect to any Security, means the date on which the principal of such Security or an installment of principal becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

"Medium-Term Debt Securities" has the meaning specified in Section 301.

"Medium-Term Debt Securities Certificate" shall mean a certificate signed by the Chairman of the Board, the President, any Vice President, the Treasurer, the Controller, any Secretary or Assistant Treasurer, Assistant Controller or Assistant Secretary of the Company, or any other employee of the Company designated by a Board Resolution as having the authority to deliver a Medium-Term Debt Securities Certificate hereunder.

"1985 Indenture" means the Indenture dated as of July 15, 1985, between the Company and The Bank of New York (successor to Morgan Guaranty Trust Company of New York), as Trustee, as supplemented and amended by the Instrument of Resignation, Appointment and Acceptance dated as of May 1, 1996, among the Company, Morgan Guaranty Trust Company of New York and The Bank of New York.

"Officers' Certificate" means a certificate signed by the Chairman of the Board, the President or any Vice President, and by the Treasurer, the Controller, the Secretary or any Assistant Treasurer, Assistant Controller or Assistant Secretary, of the Company, and delivered to the Trustee. Each such Officers' Certificate shall contain the statements provided in Section 102 if and to the extent required by the provisions of such Section.

"Official Currency Unit Exchange Rate" means, with respect to any payment to be made hereunder, the exchange rate between the relevant currency unit and the currency or currency unit of payment calculated by the Exchange Rate Agent for the Securities of the relevant series (in the case of ECU, reported by the Commission of the European Communities and on the date hereof based on the rates in effect at 2:30 p.m., Brussels time, on the exchange markets of the Component Currencies of ECU), on the Business Day (in the city in which such Exchange Rate Agent has its principal office) immediately preceding delivery of any Exchange Rate Officers' Certificate.

"Opinion of Counsel" means a written opinion of counsel, who may be counsel for or an employee of the Company. Each Opinion of Counsel shall contain the statements provided in Section 102 if and to the extent required by the provisions of such Section.

"Original Issue Discount Security" means any Security which provides for an amount less than the principal amount thereof to be due and payable upon a declaration of acceleration of the Maturity thereof pursuant to Section 602.

"Outstanding" or "outstanding", when used with respect to Securities, means, as of the date of determination, all Securities theretofore authenticated and delivered under this indenture, *except*:

(i) Securities theretofore canceled by the Trustee or delivered or deemed delivered to the Trustee for cancelation;

(ii) Securities for whose payment or redemption money in the necessary amount and in the required currency or currency unit has been theretofore deposited with the Trustee or any Paying Agent (other than the Company) in trust or set aside and segregated in trust by the Company (if the Company shall act as its own Paying Agent) for the Holders of such Securities; *provided* that, if such Securities are to be redeemed, notice of such redemption has been duly given pursuant to this Indenture or provision therefor satisfactory to the Trustee has been made; and

(iii) Securities which have been paid pursuant to Section 405 or in exchange for or in lieu of which other Securities have been authenticated and delivered pursuant to this Indenture, other than any such Securities in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Securities are held by a bona fide purchaser in whose hands such Securities are valid obligations of the Company;

provided, however, that in determining whether the Holders of the requisite principal amount of the Outstanding Securities have given any request, demand, authorization, direction, notice, consent or waiver hereunder or whether a quorum is present at a meeting of Holders of Outstanding Securities or the number of votes entitled to be cast by each Holder of a Security in respect of such Security at any such meeting, (i) the principal amount of an Original Issue Discount Security that shall be deemed to be Outstanding for such purposes shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the Maturity thereof pursuant to Section 602, (ii) the principal amount of a Security denominated in a Foreign Currency or currency unit shall be the Dollar equivalent obtained by converting the specified Foreign Currency or currency unit into Dollars at the Market Exchange Rate on the date of such determination (or, in the case of a Security denominated in a currency unit for which there is no Market Exchange Rate, the Dollar equivalent obtained by adding together the results obtained by converting the Specified Amount of each Component Currency into Dollars at the Market Exchange Rate for each such Component Currency on the date of such determination) of the principal amount (or, in the case of an Original Issue Discount Security, of the amount determined as provided in (i) above) of such Security, and (iii) Securities owned by the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in relying upon any such request, demand, authorization, direction, notice, consent or waiver, only Securities which the Trustee knows to be so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor.

“Paying Agent” means the Trustee or any other Person authorized by the Company to pay the principal of (and premium, if any) or interest, if any, on any Securities on behalf of the Company.

“Person” or “person” means any individual, corporation, partnership, joint venture, association, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof.

“Place of Payment”, when used with respect to the Securities of any series, means the place or places where the principal of (and premium, if any) and interest, if any, on the Securities of that series are payable as specified in accordance with Section 202 or Section 301, as the case may be.

“Predecessor Security” of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 405 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Security shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Security.

“Principal Property” means any land, land improvements, buildings and associated factory, laboratory and office equipment (excluding all products marketed by the Company or any Subsidiary) constituting a manufacturing facility, development facility, warehouse facility, service facility or office facility (including any portion thereof), which facility (a) is owned by or leased to the Company or any Restricted Subsidiary, (b) is located within the United States, and (c) has an acquisition cost plus capitalized improvements in excess of 0.15% of Consolidated Net Tangible Assets as of the date of such determination, other than (i) any such facility, or portion thereof, which has been financed by obligations issued by or on behalf of a state, a Territory or a possession of the United States, or any political subdivision of any of the foregoing, or the District of Columbia, the interest on which is, or at the time of issuance of such obligations was determined by counsel to be, excludable from the gross income of the holders thereof (other than a “substantial user” of such facility or a “related person” as those terms were used in Section 147 of the Internal Revenue Code of 1986 (the “Code”)) pursuant to the provisions of Section 103 and related Sections of the Code (or any similar provisions hereafter enacted) as in effect at the time of issuance of such obligations, (ii) any such facility which the Board of Directors may by Board Resolution declare is not of material importance to the Company and the Restricted Subsidiaries taken as a whole, and (iii) any such facility, or portion thereof, owned or leased jointly or in common with one or more Persons other than the Company and any Subsidiary and in which the interest of the Company and all Subsidiaries does not exceed 50%.

“Redemption Date”, when used with respect to any Security to be redeemed, means the date fixed for such redemption by or pursuant to this Indenture.

“Redemption Price”, when used with respect to any Security to be redeemed, means the price, in the currency or currency unit in which such Security is payable, at which it is to be redeemed pursuant to this Indenture.

“Registered Security” means any Security registered in the Security Register (including without limitation any Security in temporary or definitive global registered form).

“Regular Record Date” for the interest payable on any Interest Payment Date on the Registered Securities of any series means the date specified for that purpose as contemplated by Section 202 or Section 301, as the case may be, which date shall be, unless otherwise specified pursuant to Section 202 or Section 301, as the case may be, the fifteenth day preceding such Interest Payment Date, whether or not such day shall be a Business Day.

“Required Currency” has the meaning specified in Section 115.

“Responsible Trust Officer”, when used with respect to the Trustee, means the chairman or any vice chairman of the board of directors, the chairman or any vice chairman of the executive committee of the board of directors, the chairman of the trust committee, the president, any vice president, any assistant vice president, the secretary, any assistant secretary, the treasurer, any assistant treasurer, the cashier, any assistant cashier, any trust officer or assistant trust officer, the controller or any assistant controller or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of his knowledge of and familiarity with the particular subject.

“Restricted Securities” means any shares of the capital stock or Indebtedness of any Restricted Subsidiary.

“Restricted Subsidiary” means (a) any Subsidiary (i) which has substantially all its property within the United States of America, (ii) which owns or is a lessee of any Principal Property, and (iii) in which the investment of the Company and all other Subsidiaries exceeds 0.15% of Consolidated Net Tangible Assets as of the date of such determination; *provided, however,* that the term “Restricted Subsidiary” shall not include (A) any Subsidiary (x) primarily engaged in the business of purchasing, holding, collecting, servicing or otherwise dealing in and with installment sales contracts, leases, trust receipts, mortgages, commercial paper or other financing instruments, and any collateral or agreements relating thereto, including in the business, individually or through partnerships, of financing (whether through long- or short-term borrowings, pledges, discounts or otherwise) the sales, leasing or other operations of the Company and the Subsidiaries or any of them, or (y) engaged in the business of financing the assets and operations of third parties, and (z) in any case, not, except as incidental to such financing business, engaged in owning, leasing or operating any property which but for this proviso would qualify as Principal Property or (B) any Subsidiary acquired or organized after July 15, 1985, for the purpose of acquiring the stock or business or assets of any Person other than the Company or any Restricted Subsidiary, whether by merger, consolidation, acquisition of stock or assets or similar transaction analogous in purpose or effect, so long as such Subsidiary shall not have, since such date, and does not hereafter acquire by merger, consolidation, acquisition of stock or assets or similar transaction analogous in purpose or effect all or any substantial part of the business or assets of the Company or any Restricted Subsidiary; and (b) any other Subsidiary which is hereafter designated by the Board of Directors as a Restricted Subsidiary.

“Sale and Leaseback Transaction” means any arrangement with any Person providing for the leasing by the Company or any Restricted Subsidiary of any Principal Property (whether such Principal Property is now owned or hereafter acquired) that has been or is to be sold or transferred

by the Company or such Restricted Subsidiary to such Person, other than (a) temporary leases for a term, including renewals at the option of the lessee, of not more than three years; (b) leases between the Company and a Restricted Subsidiary or between Restricted Subsidiaries; and (c) leases of Principal Property executed by the time of, or within 180 days after the latest of, the acquisition, the completion of construction or improvement (including any improvements on property which will result in such property becoming Principal Property), or the commencement of commercial operation of such Principal Property.

"*Secured Indebtedness*" means (a) Indebtedness of the Company or a Restricted Subsidiary which is secured by any Lien upon any Principal Property or Restricted Securities and (b) Indebtedness of the Company or a Restricted Subsidiary in respect of any conditional sale or other title retention agreement covering Principal Property or Restricted Securities; but "Secured Indebtedness" shall not include any of the following:

(i) Indebtedness of the Company and the Restricted Subsidiaries outstanding on July 15, 1985, secured by then existing Liens upon, or incurred in connection with conditional sales agreements or other title retention agreements with respect to, Principal Property or Restricted Securities;

(ii) Indebtedness which is secured by (A) purchase money Liens upon Principal Property or Restricted Securities acquired after July 15, 1985, or (B) Liens placed on Principal Property after July 15, 1985, during construction or improvement thereof (including any improvements on property which resulted or will result in such property becoming Principal Property) or placed thereon within 180 days after the later of acquisition, completion of construction or improvement or the commencement of commercial operation of such Principal Property or improvement, or placed on Restricted Securities acquired after July 15, 1985, or (C) conditional sale agreements or other title retention agreements with respect to any Principal Property or Restricted Securities acquired after July 15, 1985, if (in each case referred to in this subparagraph (ii)) (x) such Lien or agreement secures all or any part of the Indebtedness incurred for the purpose of financing all or any part of the purchase price or cost of construction of such Principal Property or improvement or Restricted Securities and (y) such Lien or agreement does not extend to any Principal Property or Restricted Securities other than the Principal Property or Restricted Securities so acquired or the Principal Property, or portion thereof, on which the property so constructed, or such improvement, is located; *provided, however,* that the amount by which the aggregate principal amount of Indebtedness secured by any such Lien or agreement exceeds the cost to the Company or such Restricted Subsidiary of the related acquisition, construction or improvement shall be considered to be "Secured Indebtedness";

(iii) Indebtedness which is secured by Liens on Principal Property or Restricted Securities, which Liens exist at the time of acquisition (by any manner whatsoever) of such Principal Property or Restricted Securities by the Company or a Restricted Subsidiary;

(iv) Indebtedness of Restricted Subsidiaries owing to the Company or any other Restricted Subsidiary and Indebtedness of the Company owing to any Restricted Subsidiary;

(v) in the case of any corporation which shall have become or becomes (by any manner whatsoever), as the case may be, a Restricted Subsidiary after July 15, 1985, Indebtedness which is secured by Liens upon, or conditional sale agreements or other title retention agreements with respect to, its property which constitutes Principal Property or Restricted Securities, which Liens shall have existed or exist, as the case may be, at the time such corporation shall have become or becomes, as the case may be, a Restricted Subsidiary;

(vi) guarantees by the Company of Secured Indebtedness and Attributable Debt of any Restricted Subsidiaries and guarantees by a Restricted Subsidiary of Secured Indebtedness and Attributable Debt of the Company and any other Restricted Subsidiaries;

(vii) Indebtedness arising from any Sale and Leaseback Transaction;

(viii) Indebtedness secured by Liens on property of the Company or a Restricted Subsidiary in favor of the United States of America, any state, Territory or possession thereof, or the District of Columbia, or any department, agency or instrumentality or political subdivision of the United States of America or any state, Territory or possession thereof, or the District of Columbia, or in favor of any other country or any political subdivision thereof, if such Indebtedness was incurred for the purpose of financing all or any part of the purchase price or the cost of construction of the property subject to such Liens; *provided, however,* that the amount by which the aggregate principal amount of Indebtedness secured by any such Lien exceeds the cost to the Company or such Restricted Subsidiary of the related acquisition or construction shall be considered to be "Secured Indebtedness"; and

(ix) the replacement, extension or renewal (or successive replacements, extensions or renewals) of any Indebtedness (in whole or in part) excluded from the definition of "Secured Indebtedness" by subparagraphs (i) through (viii) above; *provided, however,* that no Lien securing, or conditional sale or title retention agreement with respect to, such Indebtedness shall extend to or cover any Principal Property or any Restricted Securities, other than such property which secured the Indebtedness so replaced, extended or renewed (plus improvements on or to any such Principal Property); *provided further, however,* that to the extent that such replacement, extension or renewal increased or increases the principal amount of Indebtedness secured by such Lien or was or is in a principal amount in excess of the principal amount of Indebtedness excluded from the definition of "Secured Indebtedness" by subparagraphs (i) through (viii) above, the amount of such increase or excess shall be considered to be "Secured Indebtedness".

In no event shall the foregoing provisions be interpreted to mean or their operation to cause the same Indebtedness to be included more than once in the calculation of "Secured Indebtedness" as that term is used in this Indenture.

"Securities" has the meaning stated in the first recital of this Indenture and more particularly means any Securities (including Medium-Term Debt Securities) authenticated and delivered under this Indenture and, in the case of any Bearer Security, shall include where appropriate any Coupons appertaining thereto.

"Security Register" has the meaning specified in Section 404.

“Security Registrar” means the Person appointed as the initial Security Registrar in Section 404 or any Person appointed by the Company as a successor or replacement Security Registrar.

“Special Record Date” for the payment of any Defaulted Interest means a date fixed by the Trustee pursuant to Section 406.

“Specified Amount” has the meaning specified in Section 410(i).

“Stated Maturity”, when used with respect to any Security (or Coupon, if any, representing an installment of interest) or any installment of principal thereof or interest thereon, means the date specified in such Security (or Coupon) as the fixed date on which the principal of such Security or such installment of principal or interest is due and payable.

“Subsidiary” means any corporation a majority of the Voting Shares of which are at the time owned or controlled, directly or indirectly, by the Company or by one or more Subsidiaries, or by the Company and one or more Subsidiaries.

“Trustee” means the Person named as the “Trustee” in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Trustee” shall mean or include each Person who is then a Trustee hereunder, and if at any time there is more than one such Person “Trustee” as used with respect to the Securities of any series shall mean the Trustee with respect to Securities of that series.

“Trust Indenture Act” means the Trust Indenture Act of 1939, as amended by the Trust Indenture Reform Act of 1990, and as in force at the date as of which this instrument was executed, except as provided in Section 1005.

“United States” means the United States of America (including the states and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction.

“U.S. Government Obligations” has the meaning specified in Section 505.

“Valuation Date” has the meaning specified in Section 410(e).

“Vice President”, when used with respect to the Company or the Trustee, means any vice president, whether or not designated by a number or a word or words added before or after the title “vice president”.

“Voting Shares” means, as to shares of a particular corporation, outstanding shares of stock of any class of such corporation entitled to vote in the election of directors, excluding shares entitled so to vote only upon the happening of some contingency.

SECTION 102. *Compliance Certificates and Opinions.* Upon any application or request by the Company to the Trustee to take any action under any provision of this Indenture, the Company shall furnish to the Trustee an Officers’ Certificate stating that all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent, if any, have been complied with, except that in the case of any such application or request as to which

the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or request, no additional certificate or opinion need be furnished.

Unless expressly otherwise specified with respect to any certificate or opinion provided for in this Indenture, every certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture (other than annual certificates provided pursuant to Section 1106) shall include:

(1) a statement that each individual signing such certificate or opinion has read such covenant or condition and the definitions herein relating thereto;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of each such individual, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(4) a statement as to whether or not, in the opinion of each such individual, such condition or covenant has been complied with.

SECTION 103. *Form of Documents Delivered to Trustee.* In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters. and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate or opinion of an officer of the Company may be based, insofar as it relates to legal matters, upon a certificate or opinion of, or representations by, counsel, unless such officer knows, or in the exercise of reasonable care should know, that the certificate or opinion or representations with respect to the matters upon which his certificate or opinion is based are erroneous. Any such certificate or Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate or opinion of, or representations by, an officer or officers of the Company stating that the information with respect to such factual matters is in the possession of the Company, unless such counsel knows, or in the exercise of reasonable care should know, that the certificate or opinion or representations with respect to such matters are erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

SECTION 104. *Acts of Holders.* (a) Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by Holders of Securities of any series may be embodied in and evidenced by (i) one or more instruments of substantially similar tenor signed by such Holders in person or by proxies duly appointed in writing, (ii) the record of such Holders voting in favor thereof, either in person or by proxies duly

appointed in writing, at any meeting of Holders of Securities of such series duly called and held in accordance with the provisions of Article Fourteen, or (iii) a combination of any such record and one or more instruments of substantially similar tenor signed by such Holders in person or by proxies duly appointed in writing. Except as herein otherwise expressly provided, such action shall become effective when such record and/or instrument or instruments are delivered to the Trustee and, where it is hereby expressly required, to the Company. Such record or instrument or instruments (and the action embodied therein and evidenced thereby) are herein sometimes referred to as the "Act" of the Holders signing such instrument or instruments or so voting at any such meeting. Proof of execution of any such instrument or of a writing appointing any such proxy shall be sufficient for any purpose of this Indenture and (subject to Section 701) conclusive in favor of the Trustee and the Company, if made in the manner provided in this Section. The record of any meeting of Holders of Securities shall be proved in the manner provided in Section 1406.

(b) The fact and date of the execution by any Person of any such instrument or writing may be proved by the affidavit of a witness of such execution or by a certificate of a notary public or other officer authorized by law to take acknowledgments of deeds, certifying that the individual signing such instrument or writing acknowledged to him the execution thereof. Where such execution is by a signer acting in a capacity other than his individual capacity, such certificate or affidavit shall also constitute sufficient proof of his authority.

(c) The principal amount and serial numbers of Bearer Securities held by any Person, and the date of holding the same, may be proved by the production of such Bearer Securities or by a certificate executed by any trust company, bank, banker or other depository, wherever situated, showing that at the date therein mentioned such Person had on deposit with such depository, or exhibited to it, the Bearer Securities therein described; or such facts may be proved by the certificate or affidavit of the Person holding such Bearer Securities, if such certificate or affidavit is deemed by the Trustee to be satisfactory. The Trustee and the Company may assume that such ownership of any Bearer Security continues until (1) another certificate or affidavit bearing a later date issued in respect of the same Bearer Security is produced, (2) such Bearer Security is produced to the Trustee by some other Person, (3) such Bearer Security is surrendered in exchange for a Registered Security, or (4) such Bearer Security is no longer Outstanding.

(d) The fact and date of execution of any such instrument or writing pursuant to clause (c) above, the authority of the Person executing the same and the principal amount and serial numbers of Bearer Securities held by the Person so executing such instrument or writing and the date of holding the same may also be proved in any other manner which the Trustee deems sufficient; and the Trustee may in any instance require further proof with respect to any of the matters referred to in this clause.

(e) The principal amount and serial numbers of Registered Securities held by any Person and the date of holding the same shall be proved by the Security Register.

(f) Any request, demand, authorization, direction, notice, consent, waiver or other Act of a Holder shall bind every future Holder of the same Security and/or Coupon and the Holder of every Security and/or Coupon issued upon the registration of transfer thereof or in exchange therefor or in lieu thereof in respect of anything done, omitted or suffered to be done by the Trustee or the

Company in reliance thereon, whether or not notation of such action is made upon such Security and/or Coupon.

(g) Whenever any Act is to be taken hereunder by the Holders of two or more series of Securities denominated in different currencies (or currency units), then, for the purpose of determining the principal amount of Securities held by such Holders, the aggregate principal amount of the Securities denominated in a Foreign Currency (or any currency unit) shall be deemed to be that amount determined by the Company or by an authorized Exchange Rate Agent and evidenced to the Trustee by an Officers' Certificate as of the date the taking of such Act by the Holders of the requisite percentage in principal amount of the Securities is evidenced to the Trustee to be equal to the Dollar equivalent obtained by converting the specified Foreign Currency or currency unit into Dollars at the Market Exchange Rate on such date (or, in the case of a Security denominated in a currency unit for which there is no Market Exchange Rate, the Dollar equivalent obtained by adding together the results obtained by converting the Specified Amount of each Component Currency into Dollars at the Market Exchange Rate for each such Component Currency on such date) of the principal amount (or, in the case of an Original Issue Discount Security, the principal amount thereof that would be due and payable as of the declaration of acceleration of the Maturity thereof pursuant to Section 602) of such Security. An Exchange Rate Agent may be authorized in advance or from time to time by the Company. Any such determination by the Company or by any such Exchange Rate Agent shall be conclusive and binding on all Holders, the Company and the Trustee, and neither the Company nor any such Exchange Rate Agent shall be liable therefor in the absence of bad faith.

(h) If the Company shall solicit from the Holders of Registered Securities any request, demand, authorization, direction, notice, consent, waiver or other Act, the Company may, at its option, by or pursuant to a Board Resolution, fix in advance a record date for the determination of Holders entitled to give such request, demand, authorization, direction, notice, consent, waiver or other Act, but the Company shall have no obligation to do so. If such a record date is fixed, such request, demand, authorization, direction, notice, consent, waiver or other Act may be given before or after such record date, but only the Holders of record at the close of business on such record date shall be deemed to be Holders for the purposes of determining whether Holders of the requisite proportion of Outstanding Securities have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other Act, and for that purpose the Outstanding Securities shall be computed as of such record date; *provided* that no such authorization, agreement or consent by the Holders on such record date shall be deemed effective unless it shall become effective pursuant to the provisions of this Indenture not later than six months after the record date.

SECTION 105. *Notices, etc., to Trustee and Company.* Any request, demand, authorization, direction, notice, consent, waiver or other Act of Holders or other document provided or permitted by this Indenture to be made upon, given or furnished to, or filed with,

(1) the Trustee by any Holder or by the Company shall be made, given, furnished or filed in writing to or with the Trustee at its Corporate Trust Office and unless otherwise herein expressly provided, any such document shall be deemed to be sufficiently made, given, furnished or filed upon its receipt by a Responsible Trust Officer of the Trustee, or

(2) the Company by the Trustee or by any Holder shall be sufficient for every purpose hereunder (unless otherwise herein expressly provided) if in writing and delivered in person, mailed, first-class postage prepaid, or sent by overnight courier or, until such time as the Company shall have notified the Trustee in writing that it shall no longer accept delivery of notice by telecopy or telex, given by telecopy or by telex (with answerback received) to the Company addressed to it at the address of its principal office specified in the first paragraph of this instrument or at any other address previously furnished in writing to the Trustee by the Company, or at its telecopy or telex number from time to time furnished in writing to the Trustee expressly for purposes of this Indenture, Attention: Secretary.

SECTION 106. *Notice to Holders: Waiver.* (a) Where this Indenture provides for notice to Holders of any event:

(i) if any of the Securities affected by such event are Registered Securities, such notice shall be sufficiently given (unless otherwise herein expressly provided or unless otherwise specified in such Securities) if in writing and delivered in person, mailed, first-class postage prepaid or sent by overnight courier, to each Holder affected by such event, at his address as it appears in the Security Register, within the time prescribed for the giving of such notice, and

(ii) if any of the Securities affected by such event are Bearer Securities, such notice shall be sufficiently given (unless otherwise herein expressly provided or unless otherwise specified in such Securities) if (A) published once in an Authorized Newspaper in New York City and London and, if applicable, in Luxembourg or such other place of publication as may be required pursuant to the rules and regulations of any securities exchange on which such Securities are listed, and (B) delivered in person, mailed, first-class postage prepaid or sent by overnight courier to such Persons whose names were previously filed with the Trustee, within the time prescribed for the giving of such notice.

In case by reason of the suspension of regular mail service or by reason of any other cause it shall be impracticable to give such notice to Holders of Registered Securities in the manner specified above, then such notification as shall be made with the approval of the Trustee shall constitute a sufficient notification for every purpose hereunder. In case by reason of the suspension of publication of any Authorized Newspaper or Authorized Newspapers or by reason of any other cause it shall be impracticable to publish any notice to Holders of Bearer Securities as provided above, then such notification to Holders of Bearer Securities as shall be given with the approval of the Trustee shall constitute sufficient notice to such Holders for every purpose hereunder.

(b) In any case where notice to a Holder of Registered Securities is given in any manner specified in paragraph (a) above, such notice shall be conclusively presumed to have been duly given, whether or not such Holder receives such notice. In any case where notice to Holders of Registered Securities is given in any manner specified in paragraph (a) above, neither the failure to deliver, mail or send such notice, nor any defect in any notice so mailed or sent, to any particular Holder of a Registered Security shall affect the sufficiency of such notice with respect to other Holders of Registered Securities or the sufficiency of any notice to Holders of Bearer Securities given as provided herein. Neither the failure to give notice by publication to Holders of

Bearer Securities as provided in paragraph (a) above, nor any defect in any notice so published, shall affect the sufficiency of any notice to Holders of Registered Securities given as provided herein.

(c) Where this Indenture provides for notice in any manner, such notice may be waived in writing by the Person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders of Securities shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

SECTION 107. *Conflict with Trust Indenture Act.* If any provision hereof limits, qualifies or conflicts with the duties imposed by any of Sections 310 to 317, inclusive, of the Trust Indenture Act through operation of Section 318(c) thereof, such imposed duties shall control.

SECTION 108. *Effect of Headings and Table of Contents.* The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

SECTION 109. *Successors and Assigns.* All covenants and agreements in this Indenture by the Company shall bind its successors and assigns, whether so expressed or not.

SECTION 110. *Separability Clause.* In case any provision in this Indenture or in the Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

SECTION 111. *Benefits of Indenture.* Nothing in this Indenture or in the Securities or Coupons, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder and the Holders, any benefit or any legal or equitable right, remedy or claim under this Indenture.

SECTION 112. *Governing Law.* **THIS INDENTURE AND THE SECURITIES AND COUPONS SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.**

SECTION 113. *Legal Holidays.* Except as otherwise specified as contemplated by Section 202 or Section 301, as the case may be, in any case where any Interest Payment Date, Redemption Date or Stated Maturity of any Security or Coupon shall not be a Business Day at any Place of Payment, then (notwithstanding any other provision of this Indenture or of such Security or Coupon) payment of interest or principal (and premium, if any) need not be made at such Place of Payment on such date, but may be made on the next succeeding Business Day at such Place of Payment with the same force and effect as if made on the Interest Payment Date or Redemption Date, or at the Stated Maturity, as the case may be, *provided* that no interest shall accrue for the period from and after such Interest Payment Date, Redemption Date or Stated Maturity, as the case may be, to the next succeeding Business Day at such Place of Payment.

SECTION 114. *Moneys of Different Currencies To Be Segregated.* The Trustee shall segregate moneys, funds and accounts held by the Trustee hereunder in one currency (or currency unit) from

any moneys, funds or accounts in any other currencies (or currency units), notwithstanding any provision herein which would otherwise permit the Trustee to commingle such amounts.

SECTION 115. *Payment To Be in Proper Currency.* In the case of any Security denominated in any particular currency or currency unit (the "Required Currency"), subject to applicable law and except as otherwise provided herein, therein or in or pursuant to the related Board Resolution, Medium-Term Debt Securities Certificate or supplemental indenture, the obligation of the Company to make any payment of principal, premium or interest thereon shall not be discharged or satisfied by any tender by the Company, or recovery by the Trustee, in any currency or currency unit other than the Required Currency, except to the extent that such tender or recovery shall result in the Trustee's timely holding the full amount of the Required Currency then due and payable. If any such tender or recovery is made in other than the Required Currency, the Trustee may take such actions as it considers appropriate to exchange such other currency or currency unit for the Required Currency. The costs and risks of any such exchange, including without limitation the risks of delay and exchange rate fluctuation, shall be borne by the Company, the Company shall be liable for any shortfall or delinquency in the full amount of the Required Currency then due and payable, and in no circumstances shall the Trustee be liable therefor. The Company hereby waives any defense of payment based upon any such tender or recovery which is not in the Required Currency, or which, when exchanged for the Required Currency by the Trustee, is less than the full amount of the Required Currency then due and payable

SECTION 116. *Language of Notices, etc.* Any request, demand, authorization, direction, notice, consent or waiver required or permitted under this Indenture shall be in the English language, except that any published notice may be in an official language of the country of publication.

SECTION 117. *Changes in Exhibits.* At any time and from time to time, the Company may substitute a new form, or add new forms, of the Exhibits hereto. Such substitution shall be effective upon receipt by the Trustee of such new form of Exhibit and a Board Resolution or Officers' Certificate adopting such new form of Exhibit, and thereafter all references in this Indenture to such Exhibit shall be deemed to refer to such new form of Exhibit.

ARTICLE TWO

Issuance of Securities

SECTION 201. *Creation of Securities in Amount Unlimited.* An unlimited aggregate principal amount of Securities may be issued pursuant to this Article Two and, in the case of Medium-Term Debt Securities, pursuant to Article Three. The Securities (including Medium-Term Debt Securities) may be authenticated and delivered, as authorized by the Board of Directors, in an unlimited number of series.

SECTION 202. *Documents Required for Issuance of Each Series of Securities Other than Medium-Term Debt Securities.* At any time and from time to time, Securities of each series created pursuant to the provisions of this Article Two may be executed by the Company and delivered to

the Trustee and shall be authenticated by the Trustee and shall be authenticated by the Trustee and delivered to, or upon the order of, the Company upon receipt by the Trustee of the following:

(a) A Board Resolution or Board Resolutions authorizing the execution, authentication and delivery of the Securities of the series, and specifying:

(1) the title of the Securities of the series (which shall distinguish the Securities of the series from all other Securities);

(2) any limit upon the aggregate principal amount of the Securities of the series which may be authenticated and delivered under this Article Two (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Section 403, 404, 405, 1006 or 1207 and except for any Securities which, pursuant to Section 402, are deemed never to have been authenticated and delivered hereunder);

(3) the date or dates on which the principal (and premium, if any) of any of the Securities of the series are payable or the method of determination thereof;

(4) the rate or rates, or the method of determination thereof, at which any of the Securities of the series shall bear interest, if any, the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest shall be payable and the Regular Record Date for the interest payable on any Registered Securities on any Interest Payment Date;

(5) the place or places where the principal of (and premium, if any) and interest, if any, on any of the Securities and Coupons, if any, of the series shall be payable and the office or agency for the Securities of the series maintained by the Company pursuant to Section 1102;

(6) the period or periods within which, the price or prices at which and the terms and conditions upon which any of the Securities of the series may be redeemed, in whole or in part, at the option of the Company;

(7) the terms of any sinking fund and the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund or analogous provisions or at the option of a Holder thereof and the period or periods within which, the price or prices at which and the terms and conditions upon which Securities of the series shall be redeemed or purchased, in whole or in part;

(8) the terms of the obligation of the Company, if any, to permit the conversion of the Securities of the series into stock or other securities of the Company or of any other corporation;

(9) the terms, if any, for the attachment to Securities of the series of warrants, options or other rights to purchase or sell stock or other securities of the Company;

(10) if other than denominations of $1,000 and in any integral multiple thereof, if Registered Securities, and $5,000, if Bearer Securities, for Securities denominated in Dollars, the denominations in which the Securities of the series shall be issuable;

(11) if other than the principal amount thereof, the portion of the principal amount of any of the Securities of the series which shall be payable upon declaration of acceleration of the Maturity thereof pursuant to Section 602;

(12) the application, if any, of Section 503, or such other means of satisfaction and discharge as may be specified for the Securities and Coupons, if any, for a series:

(13) any deletions or modifications of or additions to the Events of Default set forth in Section 601 or covenants of the Company set forth in Article Nine or Eleven pertaining to the Securities of the series (including without limitation whether the provisions of Section 1104 or Section 1105 shall not be applicable to the Securities of the series);

(14) the forms of the Securities and Coupons, if any, of the series;

(15) if other than Dollars, the currency or currencies, or currency unit or units, in which the Securities of such series will be denominated and/or in which payment of the principal of (and premium, if any) and interest, if any, on any of the Securities of the series shall be payable and the Exchange Rate Agent, if any, for such series;

(16) if the principal of (and premium, if any) or interest, if any, on any of the Securities of the series are to be payable at the election of the Company or a Holder thereof, or under some or all other circumstances, in a currency or currencies, or currency unit or units, other than that in which the Securities are denominated, the period or periods within which, and the terms and conditions upon which, such election may be made, or the other circumstances under which any of the Securities are to be so payable, including without limitation the application of Section 410(b) and any deletions to, modifications of or additions to the provisions thereof, and any provision requiring the Holder to bear currency exchange costs by deduction from such payments;

(17) if the amount of payments of principal of (and premium, if any) or interest. if any, on any of the Securities of the series may be determined with reference to an index based on (i) a currency or currencies or currency unit or units other than that in which such Securities are stated to be payable or (ii) any method, not inconsistent with the provisions of this Indenture, specified in or pursuant to such Board Resolution, then in each case (i) and (ii) the manner in which such amounts shall be determined;

(18) whether the Securities of the series are to be issued as Registered Securities or Bearer Securities (with or without Coupons), or any combination thereof, whether Bearer Securities may be exchanged for Registered Securities of the series and whether Registered Securities may be exchanged for Bearer Securities of the series (if permitted by applicable laws and regulations) and the circumstances under which and the place or places where any such exchanges, if permitted, may be made; and whether any Securities of the series are to be issuable initially in temporary global form and whether any

Securities of the series are to be issuable in definitive global form with or without Coupons and, if so, whether beneficial owners of interests in any such definitive global Security may exchange such interests for Securities of such series and of like tenor of any authorized form and denomination and the circumstances under which and the place or places where any such exchanges may occur, if other than in the manner provided in Section 404;

(19) if the Securities and Coupons, if any, of the series are to be issued upon the exercise of warrants, the time, manner and place for such Securities and Coupons, if any, to be authenticated and delivered;

(20) whether and under what circumstances and with what procedures and documentation the Company will pay additional amounts on any of the Securities and Coupons, if any, of the series to any Holder who is not a U.S. Person (including definition of such term), in respect of any tax assessment or governmental charge withheld or deducted and, if so, whether the Company will have the option to redeem such Securities rather than pay additional amounts (and the terms of any such option);

(21) the Person to whom any interest on any Registered Security of the series shall be payable, if other than the Person in whose name that Security (or one or more Predecessor Securities) is registered at the close of business on the Regular Record Date for such interest, the manner in which, or the Person to whom, any interest on any Bearer Security of the series shall be payable, if otherwise than upon presentation and surrender of the Coupons appertaining thereto as they severally mature and the extent to which, or the manner in which, any interest payable on a temporary global Security on an Interest Payment Date will be paid if other than in the manner provided in Section 403; and

(22) any other terms of any of the Securities of the series (which terms shall not be inconsistent with the provisions of this Indenture).

If any of the terms of the series are established by action taken pursuant to a Board Resolution or Board Resolutions, an Officers' Certificate certifying as to such action also shall be delivered to the Trustee.

(b) In case the Securities of the series to be authenticated and delivered are to be created pursuant to one or more supplemental indentures, such supplemental indenture or indentures, accompanied by a Board Resolution or Board Resolutions authorizing such supplemental indenture or indentures and designating the new series to be created and prescribing pursuant to paragraph (a) above, consistent with the applicable provisions of this Indenture, the terms and provisions relating to the Securities of the series.

(c) Either (i) a certificate or other official document evidencing the due authorization, approval or consent of any governmental body or bodies, at the time having jurisdiction in the premises, together with an Opinion of Counsel that the Trustee is entitled to rely thereon and that the authorization, approval or consent of no other governmental body is required, or (ii) an Opinion of Counsel that no authorization, approval or consent of any governmental body is required.

(d) An Opinion of Counsel that all instruments furnished the Trustee conform to the requirements of this Indenture and constitute sufficient authority hereunder for the Trustee to authenticate and deliver the Securities and to deliver the Coupons, if any, of the series; that all conditions precedent provided for in this Indenture relating to the authentication and delivery of the Securities and delivery of the Coupons, if any, of the series have been complied with and the Company is duly entitled to the authentication and delivery of the Securities and Coupons, if any, of the series in accordance with the provisions of this Indenture; that all laws and requirements with respect to the form and execution by the Company of the supplemental indenture, if any, and the execution and delivery by the Company of the Securities and Coupons, if any, of the series have been complied with; that the Company has corporate power to execute and deliver the supplemental indenture, if any, and to issue the Securities and Coupons, if any, of the series and has duly taken all necessary corporate action for those purposes; and that the supplemental indenture, if any, as executed and delivered and the Securities and Coupons, if any, of the series, when issued, will be the legal, valid and binding obligations of the Company enforceable against the Company in accordance with their terms (subject to applicable bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium or other laws affecting creditors' rights generally from time to time in effect, the enforceability of the Company's obligations also being subject to general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law); that the Securities and Coupons, if any, of the series, when issued, will be entitled to the benefits of this Indenture, equally and ratably with all other Securities and Coupons, if any, of such series theretofore issued and then outstanding hereunder; and that the amount of Securities then outstanding under this Indenture, including the Securities of the series, will not exceed the amount at the time permitted by law or this Indenture.

(e) An Officers' Certificate stating that the Company is not in default under this Indenture and that the issuance of the Securities and Coupons, if any, of the series will not result in any breach of any of the terms, conditions or provisions of, or constitute a default under, the Company's certificate of incorporation or by-laws or any indenture, mortgage, deed of trust or other agreement or instrument to which the Company is a party or by which it is bound, or any order of any court or administrative agency entered in any proceeding to which the Company is a party or by which it may be bound or to which it may be subject; and that all conditions precedent provided in this Indenture relating to the authentication and delivery of the Securities and Coupons, if any, of the series have been complied with.

(f) Such other documents as the Trustee may reasonably require.

ARTICLE THREE

Issuance of Medium-Term Debt Securities

SECTION 301. *Documents Required for Issuance of Each Series of Medium-Term Debt Securities.* At any time, and from time to time, Securities (sometimes referred to herein as "Medium-Term Debt Securities") of each series created pursuant to the provisions of this Article Three may be executed by the Company and delivered to the Trustee and shall be authenticated

by the Trustee and delivered to, or upon the order of, the Company upon receipt by the Trustee of the following:

(a) A Board Resolution or Board Resolutions authorizing the execution, authentication and delivery of Medium-Term Debt Securities up to a specified aggregate principal amount, in such series and subject to such terms as shall be established by officers of the Company authorized by such resolutions to establish such series and terms.

(b) A Medium-Term Debt Securities Certificate requesting the Trustee to authenticate and deliver Medium-Term Debt Securities of a series as contemplated by Section 402, and specifying the following terms with respect to the Medium-Term Debt Securities of the particular series, authorized pursuant to the Board Resolution or Board Resolutions referred to in paragraph (a) above:

(1) the title of the Medium-Term Debt Securities of the series (which shall distinguish the Medium-Term Debt Securities of the series from all other Securities);

(2) the date of the Medium-Term Debt Securities of the series;

(3) any limit upon the aggregate principal amount of the Medium-Term Debt Securities of the series which may be authenticated and delivered under this Article Three (except for Medium-Term Debt Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Medium-Term Debt Securities of the series pursuant to Section 403, 404, 405, 1006 or 1207 and except for any Medium-Term Debt Securities which, pursuant to Section 402, are deemed never to have been authenticated and delivered hereunder);

(4) the date or dates on which the principal (and premium, if any) of any of the Medium-Term Debt Securities of the series are payable or the method of determination thereof, which in any event may not be less than nine months subsequent to the date of the first authentication of Medium-Term Debt Securities of the series;

(5) the rate or rates. or the method of determination thereof, at which any of the Medium-Term Debt Securities of the series shall bear interest, if any, the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest shall be payable and the Regular Record Date for the interest payable on any Medium-Term Debt Securities of the series that are Registered Securities on any Interest Payment Date;

(6) the place or places where the principal of (and premium, if any) and interest, if any, on any of the Medium-Term Debt Securities and Coupons, if any, of the series shall be payable and the office or agency for the Medium-Term Debt Securities of the series maintained by the Company pursuant to Section 1102;

(7) the period or periods within which, the price or prices at which and the terms and conditions upon which any of the Medium-Term Debt Securities of the series may be redeemed, in whole or in part, at the option of the Company;

(8) the terms of any sinking fund and the obligation, if any, of the Company to redeem or purchase Medium-Term Debt Securities of the series pursuant to any sinking fund or analogous provisions or at the option of a Holder thereof and the period or periods within which, the price or prices at which and the terms and conditions upon which Medium-Term Debt Securities of the series shall be redeemed or purchased, in whole or in part;

(9) the terms of the obligation of the Company, if any, to permit the conversion of the Medium-Term Debt Securities of the series into stock or other securities of the Company or of any other corporation;

(10) the terms, if any, for the attachment to Medium-Term Debt Securities of the series of warrants, options or other rights to purchase or sell stock or other securities of the Company;

(11) if other than denominations of $1,000 and in any integral multiple thereof, if Registered Securities, and $5,000 if Bearer Securities, for Medium-Term Debt Securities denominated in Dollars, the denominations in which the Medium-Term Debt Securities of the series shall be issuable;

(12) if other than the principal amount thereof, the portion of the principal amount of any of the Medium-Term Debt Securities of the series which shall be payable upon declaration of acceleration of the Maturity thereof pursuant to Section 602;

(13) the application, if any, of Section 503, or such other means of satisfaction and discharge as may be specified for the Medium-Term Debt Securities and Coupons, if any, of the series;

(14) any deletions or modifications of or additions to the Events of Default set forth in Section 601 or covenants of the Company set forth in Article Nine or Eleven pertaining to the Medium-Term Debt Securities of the series (including without limitation whether the provisions of Section 1104 or Section 1105 shall not be applicable to the Medium-Term Debt Securities of the series);

(15) if other than Dollars, the currency or currencies, or currency unit or units, in which the Medium-Term Debt Securities of the series will be denominated and/or in which payment of the principal of (and premium, if any) and interest, if any, on any of the Medium-Term Debt Securities of the series shall be payable and the Exchange Rate Agent, if any, for such series;

(16) if the principal of (and premium, if any) or interest, if any, on any of the Securities of the series are to be payable at the election of the Company or Holder thereof, or under some or all other circumstances, in a currency or currencies, or currency unit or units, other than that in which the Medium-Term Debt Securities are stated to be payable, the period or periods within which, and the terms and conditions upon which, such election may be made, or the other circumstances under which any of the Medium-Term Debt Securities are to be so payable, including without limitation the application of

Section 410(b) and any deletions to, modification of or additions to the provisions thereof, and any provision requiring the Holder to bear currency exchange costs by deduction from such payments;

(17) if the amount of payments of principal of (and premium, if any) or interest, if any, on any of the Medium-Term Debt Securities of the series may be determined with reference to an index based on (i) a currency or currencies or currency unit or units other than that in which such Securities are stated to be payable or (ii) any method, not inconsistent with the provisions of this Indenture, specified in or pursuant to such Board Resolution, then in each case (i) and (ii) the manner in which such amounts shall be determined;

(18) whether the Medium-Term Debt Securities of the series are to be issued as Registered Securities or Bearer Securities (with or without Coupons), or any combination thereof, whether Bearer Securities may be exchanged for Registered Securities of the series and whether Registered Securities may be exchanged for Bearer Securities of the series (if permitted by applicable laws and regulations) and the circumstances under which and the place or places where any such exchanges, if permitted, may be made; and whether any Medium-Term Debt Securities of the series are to be issuable initially in temporary global form and whether any Medium-Term Debt Securities of the series are to be issuable in definitive global form with or without Coupons and, if so, whether beneficial owners of interests in any such definitive global Medium-Term Debt Security may exchange such interests for Medium-Term Debt Securities of such series and of like tenor of any authorized form and denomination and the circumstances under which and the place or places where any such exchange may occur, if other than in the manner provided in Section 404;

(19) if the Medium-Term Debt Securities and Coupons, if any, of the series are to be issued upon the exercise of warrants, the time, manner and place for such Medium-Term Debt Securities and Coupons, if any, of the series to be authenticated and delivered;

(20) whether and under what circumstances and with what procedures and documentation the Company will pay additional amounts on any of the Medium-Term Debt Securities of the series to any Holder who is not a U.S. Person (including a definition of such term), in respect of any tax assessment or governmental charge withheld or deducted and, if so, whether the Company will have the option to redeem such Medium-Term Debt Securities rather than pay additional amounts (and the terms of any such option);

(21) the Person to whom any interest on any Medium-Term Debt Security of the series shall be payable, if other than the Person in whose name that Medium-Term Debt Security (or one or more Predecessor Securities) is registered at the close of business on the Regular Record Date for such interest, the manner in which, or the person to whom, any interest on any Bearer Security of the series shall be payable, if otherwise than upon presentation and surrender of the Coupons appertaining thereto as they severally mature and the extent to which, or the manner in which, any interest payable on a temporary

global Medium-Term Debt Security on an Interest Payment Date will be paid if other than in the manner provided in Section 403;

(22) if other than the forms set forth in Exhibit A hereto, the forms of the Medium-Term Debt Securities and Coupons, if any, of the series; and

(23) any other terms of any of the Medium-Term Debt Securities of the series (which terms shall not be inconsistent with the provisions of this Indenture).

Unless the Company shall be required to deliver an Officers' Certificate pursuant to paragraph (d) below in connection with the authentication of the Medium-Term Debt Securities of the series, the delivery of such Medium-Term Debt Securities Certificate to the Trustee shall be deemed to be a certification by the Company that all matters certified in the most recent Officers' Certificate delivered to the Trustee pursuant to paragraph (d) below continue to be true and correct, as if such Officers' Certificate related to the Medium-Term Debt Securities covered by such Medium-Term Debt Securities Certificate, on and as of the date of such Medium-Term Debt Securities Certificate. The delivery of such Medium-Term Debt Securities Certificate also shall be deemed to be a certification that the Board Resolution or Board Resolutions referred to in paragraph (a) above are in full force and effect on and as of the date of such Medium-Term Debt Securities Certificate and that the terms and form or forms of the Medium-Term Debt Securities and Coupons, if any, of the series have been established by an officer or officers of the Company authorized by such Board Resolution or Board Resolutions in accordance with the provisions thereof and hereof.

(c) If (i) the Company shall not have previously delivered to the Trustee an Opinion of Counsel to the effect set forth in this paragraph (c) with respect to the Medium-Term Debt Securities authorized pursuant to the Board Resolution or Board Resolutions referred to in paragraph (a) above or (ii) if the Medium-Term Debt Securities Certificate referred to in paragraph (b) above specifies a means of satisfaction and discharge other than the application of Section 503 with respect to the series of Medium-Term Debt Securities to which such Medium-Term Debt Securities Certificate relates, an Opinion of Counsel that the Medium-Term Debt Securities have been duly authorized by resolutions of the Board of Directors of the Company, subject to the establishment of certain terms of the Medium-Term Debt Securities and Coupons, if any, of the series by officers of the Company authorized by such resolutions to establish such terms, that when the terms of the Medium-Term Debt Securities and Coupons, if any, of the series have been established as provided in such resolutions and in this Indenture and the Medium-Term Debt Securities and Coupons, if any, of the series have been executed, authenticated and delivered in accordance with the provisions of this Indenture, the Medium-Term Debt Securities and Coupons, if any, of the series, assuming they do not violate any applicable law then binding on the Company, will constitute legal, valid and binding obligations of the Company entitled to the benefits of this Indenture, equally and ratably with all other Securities and Coupons, if any, of such series theretofore issued and then outstanding hereunder, and that the amount of Securities then outstanding under this Indenture, including the Medium-Term Debt Securities of the series, will not exceed the amount at the time permitted by law or this Indenture.

(d) If the Company shall not have delivered an Officers' Certificate pursuant to the provisions of this paragraph (d) to the Trustee during the immediately preceding 12-month period, an Officers' Certificate stating that the Company is not in default under this Indenture, that the issuance of the Medium-Term Debt Securities and Coupons, if any, of the series will not result in any breach of any of the terms, conditions or provisions of, or constitute a default under, the Company's certificate of incorporation or By-laws or any indenture, mortgage, deed of trust or other agreement or instrument to which the Company is a party or by which it is bound, or any order of any court or administrative agency entered in any proceeding to which the Company is a party or by which it may be bound or to which it may be subject, that all laws and requirements with respect to the execution and delivery by the Company of the Medium-Term Debt Securities and Coupons, if any, of the series have been complied with and that all conditions precedent provided in this Indenture relating to the authentication and delivery of the Medium-Term Debt Securities and Coupons, if any, of the series have been complied with.

(e) Such other documents as the Trustee shall reasonably request.

SECTION 302. *Form of Medium-Term Debt Securities.* The Medium-Term Debt Securities and Coupons, if any, of each series shall be in such forms as shall be specified as contemplated by Section 301. In the absence of any such provisions with respect to the Medium-Term Debt Securities of any series, the Medium-Term Debt Securities and Coupons, if any, of such series shall be substantially in the applicable form or forms set forth in Exhibit A hereto, except with such additions, changes and deletions thereto as may be required to reflect the different provisions thereof as shall be specified as provided in Section 301.

ARTICLE FOUR

The Securities

SECTION 401. *Form and Denomination.* All Securities of any one series and the Coupons appertaining to any Bearer Securities of such series shall be substantially identical except, in the case of Registered Securities, as to denomination and except as may otherwise be provided in or pursuant to the Board Resolution referred to in Section 202 or Section 301, as the case may be, and (subject to Section 402) set forth in the Officers' Certificate or Medium-Term Debt Securities Certificate referred to in Section 202 or Section 301, as the case may be, or in any indenture supplemental hereto.

The Securities of each series shall be issuable in such denominations as shall be specified as contemplated by Section 202 or Section 301, as the case may be. In the absence of any such provisions with respect to the Securities of any series, the Securities of such series denominated in Dollars shall be issuable in denominations of $1,000 and in any integral multiple thereof, if registered, and in denominations of $5,000 if bearer. Securities of each series shall be numbered, lettered or otherwise distinguished in such manner or in accordance with such plan as the officers of the Company executing the same may determine with the approval of the Trustee. Each Security shall bear the appropriate legends, if any, as required by U.S. Federal tax law and regulations.

SECTION 402. *Execution, Delivery, Dating and Authentication.* The Securities shall be executed on behalf of the Company by a manual or facsimile signature of its Chairman, its President, any of its Vice Presidents, its Treasurer, any Assistant Treasurer, its Secretary or any Assistant Secretary, under its corporate seal reproduced thereon. Any Coupons shall be executed on behalf of the Company by the manual or facsimile signature of any such officer of the Company. In case any of the above referenced officers of the Company who shall have signed any of the Securities or Coupons shall cease to be such officer before the Securities so signed shall have been authenticated and delivered by the Trustee or disposed of by the Company, such Securities nevertheless may be authenticated and delivered or disposed of as though the person who signed such Securities and/or Coupons had not ceased to be such officer; and any Securities or Coupons may be signed on behalf of the Company by such persons as, at the actual date of the execution of such Security or Coupon, shall be such officers of the Company, although at the date of the execution of this Indenture any such person was not such officer.

At any time and from time to time, the Company may deliver Securities of any series, together with any Coupons appertaining thereto, executed by the Company to the Trustee for authentication, together (except in the case of any Medium-Term Debt Securities) with a Company Order for the authentication and delivery of such Securities, and the Trustee in accordance with the Company Order (or, in the case of Medium-Term Debt Securities of any series, upon receipt of a Medium-Term Debt Securities Certificate and in accordance with the terms thereof) shall authenticate and make available for delivery such Securities; *provided, however,* that, unless otherwise specified in the Board Resolution (or, in the case of any Bearer Securities that are Medium-Term Debt Securities in the Medium-Term Debt Securities Certificate) with respect to an Bearer Securities, in connection with its original issuance, no Bearer Security (including any temporary Bearer Security issued pursuant to Section 403 which is not in global form) shall be mailed or otherwise delivered to any location in the United States; and *provided further* that, unless otherwise specified in the Board Resolution (or, in the case of any Bearer Securities that are Medium-Term Debt Securities, in the Medium-Term Debt Securities Certificate) with respect to such Bearer Securities, such Bearer Security may be delivered in connection with its original issuance only if the Person entitled to receive such Bearer Security (including any temporary Bearer Security issued pursuant to Section 403 which is not in global form) shall have furnished to the Company or any agent, underwriter or selling group member a certificate substantially in the form set forth in Exhibit B.1 to this Indenture, dated no earlier than 15 days prior to the earlier of the date on which such Bearer Security is delivered and the date on which any temporary Security first becomes exchangeable for such Bearer Security in accordance with the terms of such temporary Security and this Indenture. In connection with the original issuance of any Bearer Security and unless otherwise specified in the Board Resolution (or, in the case of any Bearer Securities that are Medium-Term Debt Securities, in the Medium-Term Debt Securities Certificate) with respect to such Bearer Securities, a confirmation substantially in the form set forth in Exhibit B.5 to this Indenture shall be sent to each purchaser thereof. If any Security shall be represented by a definitive global Bearer Security, then, for purposes of this Section and Section 403, the notation of a beneficial owner's interest therein upon original issuance of such Security or upon exchange of a portion of a temporary global Security shall be deemed to be delivery in connection with its original issuance of such beneficial owner's interest in such definitive global Bearer Security. Except as permitted by

Section 405, the Trustee shall not authenticate and make available for delivery any Bearer Security unless all appurtenant Coupons for interest then matured have been detached and canceled.

The Trustee shall not be required to authenticate Securities of any series if the issue of such Securities pursuant to this Indenture will affect the Trustee's own rights, duties or immunities under the Securities and this Indenture or otherwise in a manner which is not reasonably acceptable to the Trustee, or if the Trustee determines that such action may not lawfully be taken.

Unless otherwise specified pursuant to Section 301(b)(2), each Registered Security shall be dated the date of its authentication, and each Bearer Security and any Bearer Security in global form shall be dated as of the date of original issuance of the first Security of such series to be issued.

No Security or Coupon shall be entitled to any benefit under this Indenture or be valid or obligatory for any purpose unless there appears on such Security a certificate of authentication substantially in the form provided for below executed by the Trustee by manual signature, and such certificate upon any Security shall be conclusive evidence, and the only evidence, that such Security has been duly authenticated and delivered hereunder. Notwithstanding the foregoing, if any Security shall have been duly authenticated and delivered hereunder but never issued and sold by the Company, and the Company shall deliver such Security to the Trustee for cancelation as provided in Section 408 together with a written statement (which need not comply with Section 102 and need not be accompanied by an Opinion of Counsel) stating that such Security has never been issued and sold by the Company, for all purposes of this Indenture such Security shall be deemed never to have been authenticated and delivered hereunder and shall never be entitled to the benefits of this Indenture.

The Trustee's certificate of authentication shall be in substantially the following form:

Dated:

This is one of the Securities of the series designated herein issued under the within-mentioned Indenture.

THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION),
as Trustee

By _____
Authorized Signatory

SECTION 403. *Temporary Securities.* Pending the preparation of definitive Securities of any series, the Company may execute, and upon Company Order (or, in the case of Medium-Term Debt Securities, receipt of the Medium-Term Debt Securities Certificate with respect to such Medium-Term Debt Securities) the Trustee shall authenticate and make available for delivery, temporary Securities which are printed, lithographed, typewritten, mimeographed or otherwise produced, in any authorized denomination, substantially of the tenor of the definitive Securities in lieu of which they are issued, in registered form or, if authorized, in bearer form with one or more Coupons or

without Coupons, and with such appropriate insertions, omissions, substitutions and other variations as the officers executing such Securities may determine, as evidenced conclusively by their execution of such Securities. Such temporary Securities may be in global form.

Except in the case of temporary Securities in global form (which shall be exchanged in accordance with the provisions of the following paragraphs), if temporary Securities of any series are issued, the Company will cause definitive Securities of that series to be prepared without unreasonable delay. After the preparation of definitive Securities of such series, the temporary Securities of such series shall be exchangeable for definitive Securities of such series upon surrender of the temporary Securities of such series at the office or agency of the Company maintained pursuant to Section 1102 in a Place of Payment for such series for the purpose of exchanges of Securities of such series, without charge to the Holder. Upon surrender for cancelation of any one or more temporary Securities of any series (accompanied by any unmatured Coupons) the Company shall execute and the Trustee shall authenticate and make available for delivery in exchange therefor a like aggregate principal amount of definitive Securities of the same series and of like tenor or authorized denominations; *provided, however,* that, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, no definitive Bearer Security shall be delivered in exchange for a temporary Registered Security; *provided further* that a definitive Bearer Security shall be delivered in exchange for a temporary Bearer Security only in compliance with the conditions set forth in Section 402.

If temporary Bearer Securities of any series are issued in global form, such temporary global Bearer Securities shall, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, be delivered to the London office of a depository or common depository (the "Common Depositary"), for the benefit of Euro-clear and CEDEL S.A., for credit to the respective accounts of the beneficial owners of interests in such Securities (or to such other accounts as they may direct).

Without unnecessary delay but in any event not later than the date specified in, or determined pursuant to the terms of, any such temporary global Security (the "Exchange Date"), the Company shall deliver to the Trustee definitive Securities, in aggregate principal amount equal to the principal amount of such temporary global Security, executed by the Company. On or after the Exchange Date such temporary global Security shall be surrendered by the Common Depositary to the Trustee, as the Company's agent for such purpose, to be exchanged, in whole or from time to time in part, for definitive Securities without charge and the Trustee shall authenticate and make available for delivery, in exchange for each portion of such temporary global Security, an equal aggregate principal amount of definitive Securities of the same series of authorized denominations and of like tenor as the portion of such temporary global Security to be exchanged. The definitive Securities to be delivered in exchange for any such temporary global Security shall be in bearer form, registered form, definitive global form or any combination thereof, as specified as contemplated by Section 202 or Section 301, as the case may be, and, if any combination thereof is so specified, as requested by the beneficial owner thereof; *provided, however,* that, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, upon such presentation by the Common Depositary, such temporary global Security shall be accompanied by a certificate dated the Exchange Date or a subsequent date and signed by Euro-clear as to the

portion of such temporary global Security held for its account then to be exchanged and a certificate dated the Exchange Date or a subsequent date and signed by CEDEL S.A. as to the portion of such temporary global Security held for its account then to be exchanged, each in the form set forth in Exhibit B.2 to this Indenture; *provided further* that definitive Bearer Securities (including a definitive global Bearer Security) shall be delivered in exchange for a portion of a temporary global Security only in compliance with the requirements of Section 402.

Unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, the interest of a beneficial owner of Securities of a series in a temporary global Bearer Security shall be exchanged for definitive Bearer Securities of the same series and of like tenor following the Exchange Date when the beneficial owner instructs Euro-clear or CEDEL S.A., as the case may be, to request such exchange on his behalf and delivers to Euro-clear or CEDEL S.A., as the case may be, a certificate substantially in the form set forth in Exhibit B.1 to this Indenture, dated no earlier than 15 days prior to the Exchange Date, copies of which certificate shall be available from the offices of Euro-clear, CEDEL S.A., the Trustee, any Authenticating Agent appointed for such series of Securities and any Paying Agent appointed for such series of Securities. Unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, any such exchange shall be made free of charge to the beneficial owners of such temporary global Security, except that a Person receiving definitive Securities must bear the cost of insurance, postage, transportation and the like in the event that such Person does not take delivery of such definitive Securities in person at the offices of Euro-clear or CEDEL S.A. The definitive Bearer Securities to be delivered in exchange for any portion of a temporary global Security shall be delivered only outside the United States.

Until exchanged in full as provided above, the temporary Securities of any series shall in all respects be entitled to the same benefits under this Indenture as definitive Securities of the same series and of like tenor authenticated and delivered hereunder, except that, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, interest payable on a temporary global Bearer Security on an Interest Payment Date for Securities of such series occurring prior to the applicable Exchange Date shall be payable to Euro-clear and CEDEL S.A. on such Interest Payment Date upon delivery by Euro-clear and CEDEL S.A. to the Trustee of a certificate or certificates substantially in the form set forth in Exhibit B.3 to this Indenture, for credit without further interest on or after such Interest Payment Date to the respective accounts of the Persons who are the beneficial owners of such temporary global Security (or to such other accounts as they may direct) on such Interest Payment Date and who have each delivered to Euro-clear or CEDEL S.A., as the case may be, a certificate substantially in the form set forth in Exhibit B.4 to this Indenture. Any interest so received by Euro-clear and CEDEL S.A. and not paid as herein provided shall be returned to the Trustee immediately prior to the expiration of two years after such Interest Payment Date in order to be repaid to the Company in accordance with Section 1103.

SECTION 404. *Registration. Registration of Transfer and Exchange.* The Company shall cause to be kept at an office or agency to be maintained by the Company in accordance with Section 1102 a register (being the combined register of the Security Registrar and all additional transfer agents designated pursuant to Section 1102 for the purpose of registration of transfer of

Securities and sometimes collectively referred to as the "Security Register") in which, subject to such reasonable regulations as it may prescribe, the Company shall provide for the registration of Registered Securities and the registration of transfers of Registered Securities. The Chase Manhattan Bank (National Association) is hereby appointed the initial Security Registrar, with the Security Register initially to be kept at One Chase Manhattan Plaza, New York, New York 10081. At all reasonable times each register maintained by the Security Registrar and any additional transfer agents shall be open for inspection by the Trustee.

Upon surrender for registration of transfer of any Registered Security of any series at the office or agency of the Company maintained pursuant to Section 1102 for such purpose in a Place of Payment for such series, the Company shall execute, and the Trustee shall authenticate and make available for delivery, in the name of the designated transferee or transferees, one or more new Registered Securities of the same series of any authorized denominations and of a like aggregate principal amount and tenor.

At the option of the Holder, Registered Securities of any series may be exchanged for other Registered Securities of the same series of any authorized denominations and of a like aggregate principal amount and tenor, upon surrender of the Securities to be exchanged at any such office or agency. Whenever any Securities are so surrendered for exchange. the Company shall execute, and the Trustee shall authenticate and make available for delivery, the Securities which the Holder making the exchange is entitled to receive. Unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, Bearer Securities may not be issued in exchange for Registered Securities.

At the option of the Holder and unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, Bearer Securities of any series may be exchanged for Registered Securities of the same series of any authorized denominations and of a like aggregate principal amount and tenor, upon surrender of the Bearer Securities to be exchanged at any such office or agency, with all unmatured Coupons and all matured Coupons in default appertaining thereto. If the Holder of a Bearer Security is unable to produce any such unmatured Coupon or Coupons or matured Coupon or Coupons in default, such exchange may be effected if the Bearer Securities are accompanied by payment in funds acceptable to the Company in an amount equal to the face amount of such missing Coupon or Coupons, or the surrender of such missing Coupon or Coupons may be waived by the Company and the Trustee if there is furnished to them such security or indemnity as they may require to save each of them and any Paying Agent harmless. If thereafter the Holder of such Security shall surrender to any Paying Agent any such missing Coupon in respect of which such a payment shall have been made, such Holder shall be entitled to receive the amount of such payment; *provided, however,* that, except as otherwise provided in Section 1102, interest represented by Coupons shall be payable only upon presentation and surrender of those Coupons at an office or agency located outside the United States. Notwithstanding the foregoing, in case a Bearer Security of any series is surrendered at any such office or agency in exchange for a Registered Security of the same series and like tenor after the close of business at such office or agency on (i) any Regular Record Date and before the opening of business at such office or agency on the relevant Interest Payment Date, or (ii) any Special Record Date and before the opening of business at such office or agency on the related proposed date for payment of Defaulted Interest, such Bearer Security shall be surrendered without the

Coupon relating to such Interest Payment Date or proposed date for payment, as the case may be, and interest or Defaulted Interest, as the case may be, will not be payable on such Interest Payment Date or proposed date for payment, as the case may be, in respect of the Registered Security issued in exchange for such Bearer Security, but will be payable only to the Holder of such Coupon when due in accordance with the provisions of this Indenture.

Whenever any Securities are so surrendered for exchange, the Company shall execute, and the Trustee shall authenticate and make available for delivery, the Securities which the Holder making the exchange is entitled to receive.

Notwithstanding the foregoing, except as otherwise specified as contemplated by Section 202 or Section 301, as the case may be, any definitive global Bearer Security shall be exchangeable only as provided in this paragraph. If the beneficial owners of interests in a definitive global Bearer Security are entitled to exchange such interests for Securities of such series and of like tenor and principal amount of another authorized form and denomination, as specified as contemplated by Section 202 or Section 301, as the case may be, then without unnecessary delay but in any event not later than the earliest date on which such interest may be so exchanged, the Company shall deliver to the Trustee definitive Securities in an aggregate principal amount equal to the principal amount of such definitive global Bearer Security, executed by the Company. On or after the earliest date on which such interests may be so exchanged, such definitive global Bearer Security shall be surrendered by the Common Depositary or such other depositary or Common Depositary) as shall be specified in the Company Order or Medium-Term Debt Securities Certificate, as the case may be, with respect thereto to the Trustee, as the Company's agent for such purpose, to be exchanged, in whole or from time to time in part, for definitive Securities without charge and the Trustee shall authenticate and make available for delivery, in exchange for each portion of such definitive global Bearer Security, an equal aggregate principal amount of definitive Securities of the same series of authorized denominations and of like tenor as the portion of such definitive global Bearer Security to be exchanged which, unless the Securities of the series are not issuable both as Bearer Securities and as Registered Securities, as specified as contemplated by Section 202 or Section 301, as the case may be, shall be in the form of Bearer Securities or Registered Securities, or any combination thereof, as shall be specified by the beneficial owner thereof; *provided, however,* that no such exchanges may occur during a period beginning at the opening of business 15 Business Days before any selection of Securities of that series to be redeemed and ending on the relevant Redemption Date; *provided further* that no Bearer Security delivered in exchange for a portion of a definitive global Security shall be mailed or otherwise delivered to any location in the United States. If a Registered Security is issued in exchange for any portion of a definitive global Bearer Security after the close of business at the office or agency where such exchange occurs on (i) any Regular Record Date and before the opening of business at such office or agency on the relevant Interest Payment Date, or (ii) any Special Record Date and before the opening of business at such office or agency on the related proposed date for payment of Defaulted Interest, interest or Defaulted Interest, as the case may be, will not be payable on such Interest Payment Date or proposed date for payment, as the case may be, in respect of such Registered Security, but will be payable on such Interest Payment Date or proposed date for payment, as the case may be, only to the Person to whom interest in respect of such portion of such definitive global Bearer Security is payable in accordance with the provisions of this Indenture.

All Securities issued upon any registration of transfer or exchange of Securities shall be the valid obligations of the Company, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered upon such registration of transfer or exchange.

Every Registered Security presented or surrendered for registration of transfer or for exchange shall (if so required by the Company or the Trustee or any transfer agent) be duly endorsed, or be accompanied by a written instrument of transfer in form satisfactory to the Company and the Security Registrar or any transfer agent duly executed, by the Holder thereof or his attorney duly authorized in writing.

No service charge shall be made for any registration of transfer or exchange of Securities, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any registration of transfer or exchange of Securities, other than exchanges pursuant to Section 403, 1006 or 1207 not involving any transfer.

The Company shall not be required (i) to issue, register the transfer of or exchange Securities of any series during a period beginning at the opening of business 15 Business Days before any selection of Securities of that series to be redeemed and ending at the close of business on (A) if Securities of the series are issuable only as Registered Securities, the day of the mailing of the relevant notice of redemption and (B) if Securities of the series are issuable as Bearer Securities, the day of the first publication of the relevant notice of redemption or, if Securities of the series are also issuable as Registered Securities and there is no publication, the day of mailing of the relevant notice of redemption, or (ii) to register the transfer of or exchange any Registered Security so selected for redemption, in whole or in part, except the unredeemed portion of any Security being redeemed in part, or (iii) to exchange any Bearer Security so selected for redemption except that such a Bearer Security may be exchanged for a Registered Security of that series and like tenor; *provided* that such Registered Security shall be simultaneously surrendered for redemption.

SECTION 405. *Mutilated, Destroyed, Lost and Stolen Securities.* If any mutilated Security or Security with a mutilated Coupon appertaining to it is surrendered to the Trustee, the Company shall execute and the Trustee shall authenticate and make available for delivery in exchange therefor a new Security of the same series and of like tenor and principal amount and bearing a number not contemporaneously outstanding with Coupons corresponding to the Coupons, if any, appertaining to the surrendered Security, *provided* that if such new Security is a Bearer Security, such Security shall be delivered only outside the United States.

If there shall be delivered to the Company and the Trustee (i) evidence to their satisfaction of the destruction, loss or theft of any Security or Coupon and (ii) such security or indemnity as may be required by them to save each of them and any agent of either of them harmless, then, in the absence of notice to the Company or the Trustee that such Security or Coupon has been acquired by a bona ride purchaser, the Company shall execute and the Trustee shall authenticate and make available for delivery, in lieu of any such destroyed, lost or stolen Security or in exchange for the Security to which a destroyed, lost or stolen Coupon appertains (upon surrender to the Trustee of such Security with all appurtenant Coupons not destroyed, lost or stolen), a new Security of the same series and of like tenor and principal amount and bearing a number not contemporaneously

outstanding, with Coupons corresponding to the Coupons, if any, appertaining to such destroyed, lost or stolen Security or to the Security to which such destroyed, lost or stolen Coupon appertains.

In case any such mutilated, destroyed, lost or stolen Security or Coupon has become or is about to become due and payable, the Company in its discretion may, instead of issuing a new Security or Coupon, pay such Security or Coupon; *provided, however,* that principal of (and premium., if any) and any interest on Bearer Securities shall, except as otherwise provided in Section 1102, be payable only at an office or agency located outside the United States and, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, any interest on Bearer Securities shall be payable only upon presentation and surrender of the Coupons appertaining thereto.

Upon the issuance of any new Security or Coupon under this Section, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith.

Every new Security or Coupon of any series issued pursuant to this Section in lieu of any mutilated, destroyed, lost or stolen Security or Coupon shall constitute an original additional contractual obligation of the Company, whether or not the mutilated. destroyed, lost or stolen Security shall be at any time enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities or Coupons of that series duly issued hereunder.

The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities or Coupons.

SECTION 406. *Payment of Interest; Interest Rights Preserved.* Unless otherwise provided as contemplated by Section 202 or Section 301, as the case may be, with respect to any series of Securities, interest on any Registered Security which is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the Person in whose name that Security (or one or more Predecessor Securities) is registered at the close of business on the Regular Record Date for such interest. At the option of the Company, interest on the Registered Securities of any series that bears interest may be paid by mailing a check to the address of any Holder as such address shall appear in the Security Register.

Any interest on any Registered Security of any series which is payable, but is not punctually paid or duly provided for, on any Interest Payment Date (herein called "Defaulted Interest") shall forthwith cease to be payable to the Holder on the relevant Regular Record Date by virtue of having been such Holder, and such Defaulted Interest may be paid by the Company, at its election in each case, as provided in Clause (1) or (2) below:

(1) The Company may elect to make payment of any Defaulted Interest to the Persons in whose names the Registered Securities of such series (or their respective Predecessor Securities) are registered at the close of business on a Special Record Date for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Company shall

notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each Security of such series and the date of the proposed payment, and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this Clause provided. Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 days and not less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such Special Record Date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first-class postage prepaid, to each Holder of Securities of such series at his address as it appears in the Security Register, not less than 10 days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor having been so mailed, such Defaulted Interest shall be paid to the Persons in whose names the Securities of such series (or their respective Predecessor Securities) are registered at the close of business on such Special Record Date and shall no longer be payable pursuant to the following Clause (2).

(2) The Company may make payment of any Defaulted Interest on the Registered Securities of any series in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this Clause, such manner of payment shall be deemed practicable by the Trustee.

Subject to the foregoing provisions of this Section and Section 404, each Security delivered under this Indenture upon registration of transfer of or in exchange for or in lieu of any other Security shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other Security.

SECTION 407. *Persons Deemed Owners.* Prior to due presentment of a Registered Security for registration of transfer, the Company, the Trustee and any agent of the Company or the Trustee may treat the Person in whose name such Registered Security is registered as the owner of such Registered Security for the purpose of receiving payment of principal of (and premium, if any) and (subject to Sections 404, 406 and 411 and unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be) interest on such Security and for all other purposes whatsoever, whether or not such Security is overdue, and neither the Company, the Trustee nor any agent of the Company or the Trustee shall be affected by notice to the contrary.

Title to any Bearer Security and any Coupons shall pass by delivery. The Company, the Trustee and any agent of the Company or the Trustee may treat the Holder of any Bearer Security and the Holder of any Coupon as the absolute owner of such Security or Coupon for the purpose of receiving payment thereof or on account thereof (unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be) and for all other purposes whatsoever, whether

or not such Security or Coupon be overdue, and neither the Company, the Trustee nor any agent of the Company or the Trustee shall be affected by notice to the contrary.

SECTION 408. *Cancelation.* All Securities and Coupons surrendered for payment, redemption, registration of transfer or exchange or for credit against any sinking fund payment shall, if surrendered to any Person other than the Trustee, be delivered to the Trustee. All Securities and Coupons so delivered shall be promptly canceled by the Trustee. All Bearer Securities and unmatured Coupons held by the Trustee pending such cancelation shall be deemed to be delivered for cancelation for all purposes of this Indenture and the Securities. The Company may at any time deliver to the Trustee for cancelation any Securities previously authenticated and delivered hereunder which the Company may have acquired in any manner whatsoever, and may deliver to the Trustee (or to any other Person for delivery to the Trustee) for cancelation any Securities previously authenticated hereunder which the Company has not issued and sold, and all Securities so delivered to the Trustee shall be promptly canceled by the Trustee. No Securities shall be authenticated in lieu of or in exchange for any Securities canceled as provided in this Section, except as expressly permitted by this Indenture. All canceled Securities and Coupons held by the Trustee shall be disposed of in a manner selected by the Trustee unless otherwise directed by a Company Order; *provided, however,* that the Trustee may, but shall not be required to, destroy such canceled Securities and Coupons.

SECTION 409. *Computation of Interest.* Except as otherwise specified as contemplated by Section 202 or Section 301, as the case may be, for Securities of any series, interest on the Securities of each series shall be computed on the basis of a 360-day year of twelve 30-day months.

SECTION 410. *Currency and Manner of Payment in Respect of Securities.* The provisions of this Section shall apply to the Securities of any series unless otherwise provided as contemplated by Section 202 or Section 301, as the case may be.

(a) The following payment provisions shall apply to any Registered Security of any series denominated in a Foreign Currency or any currency unit, including without limitation ECU, except as provided in paragraph (b) below:

(1) Except as provided in subparagraph (a)(2) or in paragraph (e) below, payment of principal of and premium, if any, on such Registered Security will be made at the Place of Payment by delivery of a check in the currency or currency unit in which the Security is denominated on the payment date against surrender of such Registered Security, and any interest on any Registered Security will be paid at the Place of Payment by mailing a check in the currency or currency unit in which such interest is payable (which shall be the same as that in which the Security is denominated unless otherwise provided) to the Person entitled thereto at the address of such Person appearing on the Security Register.

(2) Payment of the principal of, premium, if any, and interest, if any, on such Security may also, subject to applicable laws and regulations, be made at such other place or places as may be designated by the Company by any appropriate method.

(b) With respect to any Registered Security of any series denominated in any currency unit, including without limitation ECU, if the following provisions (or any substitute therefor, or addition thereto, not inconsistent with this Indenture) are established pursuant to Section 202 or Section 301, as the case may be, and if the Company has not, before the delivery of the election referred to in clause (1) below, deposited funds or securities in compliance with Section 501 or clause (a)(i) or (if specified pursuant to Section 202 or Section 301, as the case may be) clause (a)(ii) of Section 503, the following payment provisions shall apply to any payment to be made prior to the giving of any notice to Holders of any election to redeem pursuant to Section 1204, except as otherwise provided in paragraphs (e) and (f) below:

(1) A Holder of Securities of a series shall have the option to elect to receive payments of principal of, premium, if any, and interest, if any, on such Securities in a currency or currency unit (including Dollars), other than that in which the Security is denominated, such election, as designated in the certificates for such Securities (or as provided by Section 202 or Section 301, as the case may be, or a supplemental indenture hereto with respect to uncertificated securities), shall be made by delivering to the Paying Agent a written election, to be in form and substance satisfactory to the Paying Agent, not later than the close of business in New York, New York, on the day 15 days prior to the applicable payment date. Such election will remain in effect for such Holder until changed by the Holder by written notice to the Paying Agent (but any such written notice must be received by the Paying Agent not later than the close of business on the day 15 days prior to the next payment date to be effective for the payment to be made on such payment date and no such change may be made with respect to payments to be made on any Security of such series with respect to which notice of redemption has been given by the Company pursuant to Article Twelve). Any Holder of any such Security who shall not have delivered any such election to the Paying Agent in accordance with this paragraph (b) will be paid the amount due on the applicable payment date in the relevant currency unit as provided in paragraph (a) of this Section. Payment of principal of and premium, if any, shall be made on the payment date therefor against surrender of such Security. Payment of principal, premium, if any, and interest, if any, shall be made at the Place of Payment by mailing at such location a check, in the applicable currency or currency unit, to the Holder entitled thereto at the address of such Holder appearing on the Security Register.

(2) Payment of the principal of, premium, if any, and interest, if any, on such Security may also, subject to applicable laws and regulations, be made at such other place or places as may be designated by the Company by any appropriate method.

(c) Payment of the principal of and premium, if any, and interest, if any, on any Bearer Security will be made, except as provided in Section 403 with respect to temporary global Securities, unless otherwise specified pursuant to Section 202 or Section 301, as the case may be, and/or Section 1001(8), at such place or places outside the United States as may be designated by the Company pursuant to any applicable laws or regulations by any appropriate method in the currency or currencies or currency unit or units in which the Security is payable (except as provided in paragraph (e) below) on the payment date therefor against surrender of the Bearer Security, in the case of payment of principal and premium, if any, or the relevant

Coupon, in the case of payment of interest, if any, to a Paying Agent designated for such series pursuant to Section 1102.

(d) Not later than 10 Business Days (with respect to any Place of Payment) prior to each payment date, the Paying Agent shall deliver to the Company a copy of its record of the respective aggregate amounts of principal of, premium, if any, and interest, if any, on the Securities to be made on such payment date, in the currency or currency unit in which each of the Securities is payable, specifying the amounts so payable in respect of Registered Securities and Bearer Securities and in respect of the Registered Securities as to which the Holders of Securities denominated in any currency unit shall have elected to be paid in another currency or currency unit as provided in paragraph (b) above. If the election referred to in paragraph (b) above has been provided for pursuant to Section 202 or Section 301, as the case may be, and if at least one Holder has made such election, then, not later than the fifth Business Day (with respect to any Place of Payment) prior to the applicable payment date the Company will deliver to the Trustee an Exchange Rate Officers' Certificate in respect of the Dollar or Foreign Currency or currency unit payments to be made on such payment date. The Dollar or Foreign Currency or currency unit amount receivable by Holders of Registered Securities denominated in a currency unit who have elected payment in another currency or currency unit as provided in paragraph (b) above shall be determined by the Company on the basis of the applicable Official Currency Unit Exchange Rate set forth in the applicable Exchange Rate Officers' Certificate.

(e) If a Foreign Currency in which any Security is denominated or payable ceases to be recognized both by the government of the country which issued such currency and for the settlement of transactions by public institutions of or within the international banking community, or if ECU ceases to be used within the European Monetary System, or if any other currency unit in which a Security is denominated or payable ceases to be used for the purposes for which it was established, in each case as determined in good faith by the Company, then with respect to each date for the payment of principal of, premium, if any, and interest, if any, on the applicable Security denominated or payable in such Foreign Currency, ECU or such other currency unit occurring after the last date on which such Foreign Currency, ECU or such other currency unit was so used (the "Conversion Date"), the Dollar shall become the currency of payment for use on each such payment date (but ECU or the Foreign Currency or the currency unit previously the currency of payment shall, at the Company's election, resume being the currency of payment on the first such payment date preceded by 15 Business Days during which the circumstances which gave rise to the Dollar becoming such currency no longer prevail, in each case as determined in good faith by the Company). The Dollar amount to be paid by the Company to the Trustee and by the Trustee or any Paying Agent to the Holder of such Security with respect to such payment date shall be the Dollar Equivalent of the Foreign Currency or, in the case of a currency unit, the Dollar Equivalent of the currency unit, as determined by the Exchange Rate Agent (which shall be delivered in writing to the Trustee not later than the fifth Business Day prior to the applicable payment date) as of the Conversion Date or, if later, the date most recently preceding the payment date in question on which such determination is possible of performance, but not more than 15 days before such payment date (such Conversion Date or date preceding a

payment date as aforesaid being called the "Valuation Date") in the manner provided in paragraph (g) or (h) below.

(f) If the Holder of a Registered Security denominated in a currency unit elects payment in a specified Foreign Currency or currency unit as provided for by paragraph (b) and such Foreign Currency ceases to be used both by the government of the country which issued such currency and for the settlement of transactions by public institutions of or within the international banking community, or if ECU ceases to be used within the European Monetary System, or if another currency unit ceases to be used for the purposes for which it is established, in each case as determined in good faith by the Company, such Holder shall (subject to paragraph (e) above) receivable payment in the currency unit in which the Security is denominated. Each payment covered by an election pursuant to paragraph (b) above shall be governed by the provisions of this paragraph (f) (but, subject to any contravening valid election pursuant to paragraph (b) above, the specified Foreign Currency or ECU or other currency unit shall, at the Company's election, resume being the currency or currency unit, as applicable, of payment with respect to Holders who have so elected, but only with respect to payments on payment dates preceded by 15 Business Days during which the circumstances which gave rise to such currency unit becoming the currency unit of payment, no longer prevail, in each case as determined in good faith by the Company).

(g) The "Dollar Equivalent of the Foreign Currency" shall be determined by the Exchange Rate Agent as of each Valuation Date and shall be obtained by converting the specified Foreign Currency into Dollars at the Market Exchange Rate on the Valuation Date.

(h) The "Dollar Equivalent of the Currency Unit" shall be determined by the Exchange Rate Agent as of each Valuation Date and shall be the sum obtained by adding together the results obtained by converting the Specified Amount of each Component Currency into Dollars at the Market Exchange Rate on the Valuation Date for such Component Currency.

(i) For purposes of this Section 410 the following terms shall have the following meanings:

A "Component Currency" shall mean any currency which, on the Conversion Date, was a component currency of the relevant currency unit, including without limitation ECU.

A "Specified Amount" of a Component Currency shall mean the number of units (including decimals) which such Component Currency represented in the relevant currency unit, on the Conversion Date or, if ECU and such currency unit is being used for settlement of transactions by public institutions of or within the European Communities or was so used after the Conversion Date, the Valuation Date or the last date the currency unit was so used, whichever is later. If after such date the official unit of any Component Currency is altered by way of combination or subdivision, the Specified Amount of such Component Currency shall be divided or multiplied in the same proportion. If after such date two or more Component Currencies are consolidated into a single currency, the respective Specified Amounts of such Component Currencies shall be replaced by an

amount in such single currency equal to the sum of the respective Specified Amounts of such consolidated Component Currencies expressed in such single currency, and such amount shall thereafter be a Specified Amount and such single currency shall thereafter be a Component Currency. If after such date any Component Currency shall be divided into two or more currencies, the Specified Amount of such Component Currency shall be replaced by specified amounts of such two or more currencies, the sum of which, at the Market Exchange Rate of such two or more currencies on the date of such replacement, shall be equal to the Specified Amount of such former Component Currency and such amounts shall thereafter be Specified Amounts and such currencies shall thereafter be Component Currencies.

"Market Exchange Rate" shall mean, as of any date, for any currency or currency unit the noon Dollar buying rate for that currency or currency unit, as the case may be, for cable transfers quoted in New York City on such date as certified for customs purposes by the Federal Reserve Bank of New York or such other rate as may be established pursuant to Section 202 or Section 301, as the case may be. If such rates are not available for any reason with respect to one or more currencies or currency units for which an Exchange Rate is required, the Exchange Rate Agent shall use, in its sole discretion and without liability on its part, such quotation of the Federal Reserve Bank of New York as of the most recent available date, or quotations from one or more major banks in New York City or in the country of issue of the currency or currency unit in question, or such other quotations as the Exchange Rate Agent shall deem appropriate. Unless otherwise specified by the Exchange Rate Agent, if there is more than one market for dealing in any currency or currency unit by reason of foreign exchange regulations or otherwise, the market to be used in respect of such currency or currency unit shall be that upon which a nonresident issuer of securities designated in such currency or currency unit would, as determined in its sole discretion and without liability on the part of the Exchange Rate Agent, purchase such currency or currency unit in order to make payments in respect of such securities.

All decisions and determinations of the Exchange Rate Agent regarding the Dollar Equivalent of the Foreign Currency, the Dollar Equivalent of the Currency Unit and the Market Exchange Rate shall be in its sole discretion and shall, in the absence of manifest error, be conclusive for all purposes and irrevocably binding upon the Company and all Holders of the Securities and Coupons denominated or payable in the relevant currency or currency units. In the event that a Foreign Currency ceases to be used both by the government of the country which issued such currency and for the settlement of transactions by public institutions of or within the international banking community, the Company, after learning thereof, will immediately give notice thereof to the Trustee (and the Trustee will promptly thereafter give notice in the manner provided in Section 106 to the Holders) specifying the Conversion Date. In the event the ECU ceases to be used within the European Monetary System, or any other currency unit in which Securities or Coupons are denominated or payable, ceases to be used for the purposes for which it was established, the Company, after learning thereof, will immediately give notice thereof to the Trustee (and the Trustee will promptly thereafter give notice in the manner provided

in Section 106 to the Holders) specifying the Conversion Date. Any actions taken pursuant to the parentheticals at the end of the first sentence of Section 410(e) and at the end of Section 410(f) shall be promptly set forth in like notices from the Company to the Trustee and then from the Trustee to the Holders (which notice may be mailed with payment to the Holders).

Subject to the provisions of Sections 701 and 703, the Trustee shall be fully justified and protected in relying and acting upon information received by it from the Company and the Exchange Rate Agent, and shall not otherwise have any duty or obligation to determine such information independently.

SECTION 411. *Securities in Global Form.* If Securities of a series are issuable in global form, as specified as contemplated by Section 202 or Section 301, as the case may be, then, notwithstanding clause (a)(8) of Section 202 or clause (b)(9) of Section 301, as the case may be, and the provisions of Section 401, such Security shall represent such of the Outstanding Securities of such series as shall be specified therein and may provide that it shall represent the aggregate amount of Outstanding Securities from time to time endorsed thereon and that the aggregate amount of Outstanding Securities represented thereby may from time to time be reduced or increased to reflect exchanges. Any endorsement of a Security in global form to reflect the amount, or any increase or decrease in the amount, of Outstanding Securities represented thereby shall be made by the Trustee in such manner and upon instructions given by such Person or Persons as shall be specified therein or in the Company Order (or, in the case of Medium-Term Debt Securities, the Medium-Term Debt Securities Certificate) to be delivered to the Trustee pursuant to Section 402 or Section 403. Subject to the provisions of Section 402 and, if applicable, Section 403, the Trustee shall deliver and redeliver any Security in definitive global bearer form in the manner and upon written instructions given by the Person or Persons specified therein or in the applicable Company Order (or, in the case of Medium-Term Debt Securities, the Medium-Term Debt Securities Certificate). If a Company Order (or, in the case of Medium-Term Debt Securities, Medium-Term Debt Securities Certificate) pursuant to Section 402 or 403 has been, or simultaneously is, delivered, any instructions by the Company with respect to endorsement or delivery or redelivery of a Security in global form shall be in writing but need not comply with Section 102 and need not be accompanied by an Opinion of Counsel.

The provisions of the last sentence of the fifth paragraph of Section 402 shall apply to any Security represented by a Security in global form if such Security was never issued and sold by the Company and the Company delivers to the Trustee the Security in global form together with written instructions (which need not comply with Section 102 and need not be accompanied by an Opinion of Counsel) with regard to the reduction in the principal amount of Securities represented thereby, together with the written statement contemplated by the last sentence of the fifth paragraph of Section 402.

Notwithstanding the provisions of Section 406, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, payment of principal of and any premium and any interest on any Security in definitive global form shall be made to the Person or Persons specified therein.

Notwithstanding the provisions of Section 407 and except as provided in the preceding paragraph, the Company, and any agent of the Company may, and the Trustee and any agent of the Trustee, at the direction of the Company, may treat a Person as the Holder of such principal amount of Outstanding Securities represented by a definitive global Security as shall be specified in a written statement of the Holder of such definitive global Security or, in the case of a definitive global Security in bearer form, of Euro-clear or CEDEL S.A. which is produced to the Trustee by such Person; *provided, however,* that none of the Company, the Trustee, the Security Registrar or any Paying Agent shall have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a Security in global form or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

ARTICLE FIVE

Satisfaction and Discharge

SECTION 501. *Satisfaction and Discharge of Indenture in Respect of Any Series of Securities.* This Indenture shall upon Company Request cease to be of further effect with respect to a series of Securities (except as to any surviving rights of (as applicable) registration of transfer or exchange of Securities and Coupons, if any, of such series herein expressly provided for), and the Trustee, at the request and expense of the Company, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture with respect to such series, when

(1) either

(A) all Securities and Coupons, if any, of such series theretofore authenticated and delivered (other than (i) Securities and Coupons of such series which have been destroyed. lost or stolen and which have been replaced or paid as provided in Section 405 and (ii) Securities and Coupons of such series for whose payment money has theretofore been deposited in trust or segregated and held in trust by the Company and thereafter repaid to the Company or discharged from such trust, as provided in Section 1103) have been delivered to the Trustee for cancelation; or

(B) all such Securities and Coupons of such series not theretofore delivered to the Trustee for cancelation

(i) have become due and payable, or

(ii) will become due and payable at their Stated Maturity within one year, or

(iii) are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption by the Trustee in the name, and at the expense, of the Company,

and the Company, in the case of (i), (ii) or (iii) above, has deposited or caused to be deposited with the Trustee as trust funds in trust for the purpose an amount in the currency or currency unit in which such Securities and Coupons of such series are payable sufficient to pay and discharge the entire indebtedness on such Securities and Coupons

of such series not theretofore delivered to the Trustee for cancelation, for principal (and premium, if any) and interest, if any, to the date of such deposit (in the case of Securities and Coupons of such series which have become due and payable) or to the Stated Maturity or Redemption Date, as the case may be;

(2) the Company has paid or caused to be paid all other sums payable hereunder by the Company with respect to such series of Securities; and

(3) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of the Securities of the series under this Indenture have been complied with.

Notwithstanding the satisfaction and discharge of this Indenture with respect to a series, the obligations of the Company to the Trustee under Section 707, the obligations of the Trustee to any Authenticating Agent under Section 715 and, if money shall have been deposited with the Trustee pursuant to subclause (B) of clause (1) of this Section, the obligations of the Trustee under Section 502 and the last paragraph of Section 1103 shall survive.

SECTION 502. *Application of Trust Money.* Subject to the provisions of the last paragraph of Section 1103, all money deposited with the Trustee pursuant to Sections 501 and 503 (and all money received as payment in connection with U.S. Government Obligations and Foreign Government Securities deposited pursuant to Section 503) shall be held in trust and applied by it, in accordance with the provisions of the Securities and Coupons, if any, and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as its own Paying Agent) as the Trustee may determine, to the Persons entitled thereto, of the principal (and premium, if any) and interest, if any, for whose payment such money has been deposited with the Trustee.

SECTION 503. *Satisfaction. Discharge and Defeasance of Securities of Any Series.* (a) If this Section is specified, as contemplated by Section 202 or Section 301, as the case may be, to be applicable to Securities and Coupons, if any, of any series, at the Company's option, either

(i) the Company will be deemed to have been Discharged (as defined below) from its obligations with respect to Securities and Coupons, if any, of such series or

(ii) the Company will cease to be under any obligation with respect to such series to comply with any term, provision or condition set forth in (x) Sections 901, 902, 1104 and 1105 or (y) the instrument or instruments setting forth the terms, provisions or conditions of such series pursuant to Section 202 or Section 301, as the case may be (*provided.* in the case of this subclause (y), that such instrument or instruments specify which terms, provisions or conditions, if any, are subject to this clause (a)(ii) and that no such instrument may specify that the Company may cease to comply with any obligations as to which it may not be Discharged pursuant to the definition of "Discharged").

(b) A Discharge pursuant to clause (a)(i) above shall be effective with respect to the Securities and Coupons, if any, of such series on the 91st day after the applicable conditions set forth below

in (i) and either (ii) or (iii) have been satisfied, and the Company's release from its obligations to comply with certain obligations with respect to such series pursuant to clause (a)(ii) above shall be effective with respect to the Securities and Coupons, if any, of such series on the first day after the applicable conditions set forth below in (i) and either (ii) or (iii) have been satisfied:

(i) the Company has:

(A) paid or caused to be paid all other sums payable with respect to the Outstanding Securities and Coupons, if any, of such series (in addition to any required under clause (b)(ii) or (b)(iii)); and

(B) delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of the entire indebtedness on all Outstanding Securities and Coupons, if any, of any such series have been complied with;

(ii) (A) the Company shall have deposited or caused to be deposited irrevocably with the Trustee as a trust fund specifically pledged as security for, and dedicated solely to, the benefit of the Holders of the Securities and Coupons, if any, of such series (1) money in an amount (in such currency, currencies or currency unit or units in which any Outstanding Securities and Coupons, if any, of such series are payable) or (2) in the case of Securities and Coupons, if any, denominated in Dollars, U.S. Government Obligations (as defined below) or, in the case of Securities and Coupons, if any, denominated in a Foreign Currency, Foreign Government Securities (as defined below), which through the payment of interest and principal in respect thereof in accordance with their terms will provide, not later than one day before the due date of any payment of principal (including any premium) and interest, if any, under the Securities and Coupons, if any, of such series, money in an amount or (3) a combination of (1) and (2), which in any case of clauses (1), (2) and (3) is sufficient (in the opinion with respect to (2) and (3) of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) to pay and discharge each installment of principal of (including premium, if any, on), and interest, if any, on, the Outstanding Securities and Coupons, if any, of such series on the dates such installments of interest or principal are due, in the currency, currencies or currency unit or units, in which such Securities and Coupons, if any, are payable;

(B)(1) no Event of Default or event (including such deposit) which with notice or lapse of time would become an Event of Default shall have occurred and be continuing on the date of such deposit, (2) no Event of Default as defined in clause (5) or (6) of Section 601, or event which with notice or lapse of time or both would become an Event of Default under either such clause, shall have occurred within 90 days after the date of such deposit, and (3) such deposit and the related intended consequence under clause (a)(i) or (a)(ii) above will not result in any default or event of default under any material indenture, agreement or other instrument binding upon the Company or any Subsidiary or any of their properties;

(C) the Company shall have delivered to the Trustee an Opinion of Counsel to the effect that Holders of the Securities and Coupons, if any, of such series will not recognize income,

gain or loss for Federal income tax purposes as a result of the Company's exercise of its option under this Section 503 and will be subject to Federal income tax in the same amount, in the same manner and at the same times as would have been the case if such option had not been exercised; and

(D) if the Securities of such series are then listed on the New York Stock Exchange, the Company shall have delivered to the Trustee an Opinion of Counsel to the effect that such Securities will not be delisted as the result of the Company's exercise of its option under this Section 503;

(iii) the Company has properly fulfilled such other means of satisfaction and discharge as is specified, as contemplated by Section 202 or Section 301, as the case may be, to be applicable to the Securities and Coupons, if any, of such series.

(c) Any deposits with the Trustee referred to in clause (b)(ii)(A) above will be made under the terms of an escrow trust agreement in form and substance satisfactory to the Trustee. If any Outstanding Securities and Coupons, if any, of such series are to be redeemed prior to their Stated Maturity, whether pursuant to any mandatory redemption provisions or in accordance with any mandatory sinking fund requirement, the applicable escrow trust agreement will provide therefor and the Company will make arrangements for the giving of notice of redemption by the Trustee in the name, and at the expense, of the Company.

SECTION 504. *Reinstatement.* If the Trustee is unable to apply any money, U.S. Government Obligations or Foreign Government Securities in accordance with Section 501 by reason of any legal proceeding or by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, the Company's obligations under this Indenture and the Securities and Coupons, if any, of such series shall be revived and reinstated as though no deposit had occurred pursuant to Section 501 until such time as the Trustee is permitted to apply all such money, U.S. Government Obligations or Foreign Government Securities in accordance with Section 50 *provided, however,* that if the Company has made any payment of interest on or principal of (and premium, if any) on any Securities and Coupons, if any, of such series because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such series of Securities and Coupons, if any, to receive such payment from the money, U.S. Government Obligations or Foreign Government Securities held by the Trustee.

SECTION 505. *Definitions.* The following terms, as used in this Article, shall have the following meanings:

"Discharged" means that the Company will be deemed to have paid and discharged the entire indebtedness represented by, and obligations under, the Securities and Coupons, if any, of the series as to which this Section is specified as applicable as aforesaid and to have satisfied all the obligations under this Indenture relating to the Securities and Coupons, if any, of such series (and the Trustee, at the request and expense of the Company, will execute proper instruments acknowledging the same), except (A) the rights of Holders thereof to receive, from the trust fund described in Section 503(b)(ii)(A), payment of the principal of (and premium, if any) and the interest, if any, on such Securities and Coupons, if any, when

such payments are due, (B) the Company's obligations with respect to such Securities and Coupons, if any, under Sections 404 and 405 (insofar as applicable to Securities of such series), 502, 1102 and 1103 (last paragraph only) and the Company's obligations to the Trustee under Section 707, (C) the rights of Holders of Securities of any series with respect to the currency or currency units in which they are to receive payments of principal, premium, if any, and interest, if any, and (D) the rights, powers, trusts, duties and immunities of the Trustee hereunder, will survive such discharge. The Company will reimburse the trust fund for any loss suffered by it as a result of any tax, fee or other charge imposed on or assessed against deposited U.S. Government Obligations or Foreign Government Securities, as the case may be, or any principal or interest paid on such obligations, and, subject to the provisions of Section 707, will indemnify the Trustee against any claims made against the Trustee in connection with any such loss.

"Foreign Government Securities" means, with respect to Securities and Coupons, if any, of any series that are denominated in a Foreign Currency, securities that are (i) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (ii) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of such government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by such government, which, in either case under clause (i) or (ii), are not callable or redeemable at the option of the issuer thereof.

"U.S. Government Obligations" means securities that are (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (ii) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America the timely payment of which is unconditionally guaranteed as a full faith and credit obligation of the United States of America, which, in either case under clause (i) or (ii), are not callable or redeemable at the option of the issuer thereof, and will also include a depository receipt issued by a bank or trust company as custodian with respect to any such U.S. Government Obligation or a specific payment of interest on or principal of any such U.S. Government Obligation held by such custodian for the account of the holder of a depository receipt, *provided* that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of interest on or principal of the U.S. Government Obligation evidenced by such depository receipt.

ARTICLE SIX

Remedies

SECTION 601. *Events of Default.* "Event of Default" with respect to any series of Securities means each one of the events specified below in this Section 601, unless it is either inapplicable to a particular series or is specifically deleted or modified in or pursuant to the supplemental

indenture, Board Resolution or Medium-Term Debt Securities Certificate establishing such series of Securities:

(1) default in the payment of any installment of interest upon any of the Securities of such series, as and when the same shall become due and payable, and continuance of such default for a period of 30 days; or

(2) default in the payment of the principal of or premium, if any, on any of the Securities of such series, as and when the same shall become due and payable (subject to clause (3) below) either at maturity, upon redemption, by declaration or otherwise; or

(3) default in the making of any payment for a sinking, purchase or analogous fund provided for in respect of such series of Securities, as and when the same shall become due and payable, and continuance of such default for a period of 30 days; or

(4) failure on the part of the Company duly to observe or perform any other of the covenants or agreements on the part of the Company in respect of the Securities of such series, or in this Indenture contained with respect to such series, for a period of 90 days after the date on which written notice of such failure requiring the Company to remedy the same and stating that such notice is a 'Notice of Default' hereunder, shall have been given, by registered or certified mail, to the Company by the Trustee, or to the Company and the Trustee by the holders of at least 25% in aggregate principal amount of the Securities of such series at the time Outstanding; or

(5) entry of a decree or order for relief in respect of the Company by a court having jurisdiction in the premises in an involuntary case under any applicable Federal or state bankruptcy, insolvency or other similar law now or hereafter in effect, or appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Company or for any substantial part of its property, or ordering the winding-up or liquidation of its affairs and such decree or order shall remain unstayed and in effect for a period of 60 consecutive days; or

(6) commencement by the Company of a voluntary case under any applicable Federal or state bankruptcy, insolvency or other similar law now or hereafter in effect, or consent by the Company to the appointment of or taking possession by a receiver, liquidator, assignee, trustee, custodian, sequestrator (or other similar official) of the Company or for any substantial part of its property, or any general assignment by the Company for the benefit of creditors, or failure by the Company generally to pay its debts as they become due, or the taking by the Company of any corporate action in furtherance of any of the foregoing; or

(7) any other Event of Default provided with respect to Securities of that series.

SECTION 602. *Acceleration of Maturity; Rescission and Annulment.* If an Event of Default with respect to Securities of any series at the time Outstanding occurs and is continuing, then in each and every such case, either the Trustee or the Holders of not less than 25% in aggregate principal amount of the Outstanding Securities of that series or, in the case of an Event of Default specified in Clause (5) or (6) of Section 601, of all series (voting as a class) with respect to which

such Event of Default has occurred and is continuing, may declare the principal amount (or, if the Securities of that series are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of that series) of all of the Securities of that series, together with accrued interest thereon, if any, to be due and payable immediately, by a notice in writing to the Company (and to the Trustee if given by Holders), and upon any such declaration such principal amount (or specified amount), together with accrued interest thereon, if any, shall become immediately due and payable.

At any time after such a declaration of acceleration with respect to Securities of any series has been made and before a judgment or decree for payment of the money due has been obtained by the Trustee as hereinafter in this Article provided, the Holders of a majority in principal amount of the Outstanding Securities of that series, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if

(1) the Company has paid or deposited with the Trustee a sum sufficient to pay

(A) all overdue interest on all Securities of that series,

(B) the principal of (and premium, if any, on) any Securities of that series which have become due otherwise than by such declaration of acceleration and interest thereon at the rate or rates prescribed therefor in such Securities,

(C) to the extent that payment of such interest is lawful, interest upon overdue interest at the rate or rates prescribed therefor in such Securities, and

(D) in Dollars all sums paid or advanced by the Trustee hereunder and the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel;

and

(2) all Events of Default with respect to Securities of that series, other than the nonpayment of the principal of Securities of that series which have become due solely by such declaration of acceleration, have been cured or waived as provided in Section 613.

No such rescission shall affect any subsequent default or impair any right consequent thereon.

SECTION 603. *Collection of Indebtedness and Suits for Enforcement by Trustee.* The Company covenants that if

(1) default shall be made in the payment of any installment of interest on any Security or Coupon as and when the same shall become due and payable, and such default shall have continued for the period of grace provided for with respect to such Security or Coupon, as the case may be,

(2) default shall be made in the payment of the principal of or premium, if any, on any Security as and when the same shall have become due and payable (subject to clause (3) below), whether at maturity of the Security or upon redemption or by declaration or otherwise,

and such default shall have continued for any period of grace provided for with respect to such Security, or

(3) default shall be made in the payment for any sinking, purchase or analogous fund provided for in respect of any Security as and when the same shall become due and payable, and such default shall have continued for any period of grace provided for with respect to such Security,

the Company will, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Securities and Coupons, if any, the whole amount then due and payable on such Securities and Coupons, if any, for principal (and premium, if any) and interest, if any, and, to the extent that payment of such interest shall be legally enforceable, interest on any overdue principal (and premium, if any) and on any overdue installments of interest, if any, at the rate or rates prescribed therefor in such Securities and Coupons, if any, and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

If the Company fails to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of the sums so due and unpaid, may prosecute such proceeding to judgment or final decree and may enforce the same against the Company or any other obligor upon such Securities and Coupons, if any, and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Company or any other obligor upon such Securities and Coupons, if any, wherever situated.

If an Event of Default with respect to Securities and Coupons, if any, of any series occurs and is continuing, the Trustee may in its discretion proceed to protect and enforce its rights and the rights of the Holders of Securities and/or Coupons of such series by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein, or to enforce any other proper remedy.

SECTION 604. *Trustee May File Proofs of Claim.* In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment. composition or other judicial proceeding relative to the Company or any other obligor upon the Securities or the property of the Company or of such other obligor or their creditors, the Trustee (irrespective of whether the principal of the Securities shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand on the Company for the payment of overdue principal or interest) shall be entitled and empowered, by intervention in such proceeding or otherwise,

(i) to file and prove a claim for the whole amount of principal (and premium, if any) and interest, if any, owing and unpaid in respect of the Securities and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances

of the Trustee, its agents and counsel) and of the Holders allowed in such judicial proceeding, and

(ii) to collect and receive any moneys or other property payable or deliverable on any such claims and to distribute the same;

and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceeding is hereby authorized by each Holder to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders, to pay to the Trustee any amount due it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, and any other amounts due the Trustee under Section 707.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Holder any plan of reorganization, arrangement, adjustment or composition affecting the Securities and/or Coupons or the rights of any Holder thereof or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding.

SECTION 605. *Trustee May Enforce Claims Without Possession of Securities.* All rights of action and claims under this Indenture or the Securities and Coupons, if any, may be prosecuted and enforced by the Trustee without the possession of any of the Securities or Coupons, if any, or the production thereof in any proceeding relating thereto, and any such proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the Holders of the Securities and Coupons, if any, in respect of which such judgment has been recovered.

SECTION 606. *Application of Money Collected.* Any money collected by the Trustee pursuant to this Article shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal (or premium, if any) or interest, upon presentation of the Securities and Coupons, if any, and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid:

FIRST: to the payment of all amounts due the Trustee under Section 707;

SECOND: to the payment of the amounts then due and unpaid for principal of (and premium, if any) and interest on the Securities and Coupons, if any, in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities and/or Coupons for principal (and premium, if any) and interest, if any, respectively; and

THIRD: the balance, if any, to the Person or Persons entitled thereto.

SECTION 607. *Limitation on Suits.* No Holder of Securities of any series shall have any right to institute any proceeding, judicial or otherwise, with respect to this Indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless

(1) an Event of Default with respect to Securities of such series shall have occurred and be continuing and such Holder has previously given written notice to the Trustee of such continuing Event of Default;

(2) the Holders of not less than 25% in principal amount of the Outstanding Securities of that series or, in the case of an Event of Default specified in Clause (5) or (6) of Section 601, of all series (voting as a class) with respect to which such Event of Default has occurred and is continuing, shall have made written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder;

(3) such Holder or Holders have offered to the Trustee reasonable indemnity against the costs, expenses and liabilities to be incurred in compliance with such request;

(4) the Trustee for 60 days after its receipt of such notice, request and offer of indemnity has failed to institute any such proceeding; and

(5) no direction inconsistent with such written request has been given to the Trustee during such 60-day period by the Holders of a majority in principal amount of the Outstanding Securities of that series or, in the case of an Event of Default specified in Clause (5) or (6) of Section 601, of all series (voting as a class) with respect to which such Event of Default has occurred and is continuing;

it being understood and intended that no one or more of such Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture (including without limitation the provisions of Section 612) to affect, disturb or prejudice the rights of any other of such Holders, or to obtain or to seek to obtain priority or preference over any other of such Holders or to enforce any right under this Indenture, except in the manner herein provided and for the equal and ratable benefit of all such Holders.

SECTION 608. *Unconditional Right of Holders To Receive Principal, Premium and Interest.* Notwithstanding any other provision in this Indenture, the Holder of any Security or any Coupon shall have the right, which is absolute and unconditional, to receive payment of the principal of (and premium, if any) and (subject to Section 406) interest, if any, on such Security or Coupon on the Stated Maturity or Maturities expressed in such Security (or, in the case of redemption, on the Redemption Date) and to institute suit for the enforcement of any such payment, and such rights shall not be impaired without the consent of such Holder.

SECTION 609. *Restoration of Rights and Remedies.* If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to and determination in such proceeding, the Company, the Trustee and the Holders shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

SECTION 610. *Rights and Remedies Cumulative.* Except as otherwise provided with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities and/or Coupons,

if any, in the last paragraph of Section 405, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

SECTION 611. *Delay or Omission Not Waiver.* No delay or omission of the Trustee or of any Holder of any Securities and/or Coupons to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or an acquiescence therein. Subject to the provisions of Section 607, every right and remedy given by this Article or by law to the Trustee or to the Holders may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the Holders, as the case may be.

SECTION 612. *Control by Holders.* The Holders of not less than a majority in principal amount of the Outstanding Securities of any series shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee, with respect to the Securities of such series; *provided* that

(1) such direction shall not be in conflict with any rule of law or with this Indenture,

(2) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction, and

(3) subject to the provisions of Section 701, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Trust Officer or Officers of the Trustee, determine that the action so directed would involve the Trustee in personal liability.

SECTION 613. *Waiver of Past Defaults.* The Holders of not less than a majority in principal amount of the Outstanding Securities of any series may on behalf of the Holders of all the Securities of such series waive any past default hereunder with respect to such series and its consequences, except a default

(1) in the payment of the principal of (or premium, if any) or interest, if any, on any Security of such series, or

(2) in respect of a covenant or provision hereof which under Article Ten cannot be modified or amended without the consent of the Holder of each Outstanding Security of such series affected.

Upon any such waiver, such default shall cease to exist with respect to such series, and any Event of Default with respect to such series arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

SECTION 614. *Undertaking for Costs.* All parties to this Indenture agree, and each Holder of a Security and/or Coupon by his acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees and expenses, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Company, to any suit instituted by the Trustee, to any suit instituted by any Holder, or group of Holders, holding in the aggregate more than 10% in principal amount of the Outstanding Securities of any series, or to any suit instituted by any Holder for the enforcement of the payment of the principal of (or premium, if any) or interest, if any, on any Security or the payment of interest on any Coupon on or after the Stated Maturity or Maturities expressed in such Security (or, in the case of redemption, on or after the Redemption Date).

SECTION 615. *Waiver of Stay or Extension Laws.* The Company covenants (to the extent that it may lawfully do so) that it will not at any time insist upon, or plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay or extension law wherever enacted, now or at any time hereafter in force, which may affect the covenants or the performance of this Indenture; and the Company (to the extent that it may lawfully do so) hereby expressly waives all benefit or advantage of any such law and covenants that it will not hinder, delay or impede the execution of any power herein granted to the Trustee, but will suffer and permit the execution of every such power as though no such law had been enacted.

ARTICLE SEVEN

The Trustee

SECTION 701. *Certain Duties and Responsibilities.* (a) Except during the continuance of an Event of Default,

(1) the Trustee undertakes to perform such duties and only such duties as are specifically set forth in this Indenture, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(2) in the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture.

(b) In case an Event of Default has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs.

(c) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act, or its own wilful misconduct, except that

(1) this Subsection shall not be construed to limit the effect of Subsection (a) of this Section;

(2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Trust Officer, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts;

(3) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders of a majority in principal amount of the Outstanding Securities of any series, given pursuant to Section 612, relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture with respect to the Securities of such series; and

(4) no provision of this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers, if it shall have reasonable grounds for believing that repayment of such funds or adequate indemnity against such risk or liability is not reasonably assured to it.

(d) Whether or not therein expressly so provided, every provision of this Indenture relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section.

SECTION 702. *Notice of Defaults.* Within 90 days after the occurrence of any default hereunder with respect to the Securities of any series, the Trustee shall transmit to the Holders of Securities of such series notice as provided in Section 106 of such default hereunder known to the Trustee, unless such default shall have been cured or waived; *provided, however,* that, except in the case of a default in the payment of the principal of (or premium, if any, on) or interest on any Security of such series or in the payment of any sinking fund installment with respect to Securities of such series, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors or Responsible Trust Officers of the Trustee in good faith determines that the withholding of such notice is in the interest of the Holders of Securities of such series; *provided, further* that in the case of any default of the character specified in Section 601(4) with respect to Securities of such series, no such notice to Holders shall be given until at least 30 days after the occurrence of such default. For the purpose of this Section, the term “default” means any event which is, or after notice or lapse of time or both would become, an Event of Default with respect to Securities of such series.

SECTION 703. *Certain Rights of Trustee.* Subject to the provisions of Section 701:

(a) the Trustee may rely and shall be protected in acting or refraining from acting in reliance upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, coupon, other evidence of indebtedness or

other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request or direction of the Company mentioned herein shall be sufficiently evidenced by a Company Request or Company Order and any resolution of the Board of Directors may be sufficiently evidenced by a Board Resolution;

(c) whenever in the administration of this Indenture the Trustee shall deem it desirable that a matter be proved or established prior to taking, suffering or omitting any action hereunder, the Trustee (unless other evidence be herein specifically prescribed) may, in the absence of bad faith on its part, rely upon an Officers' Certificate;

(d) the Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon;

(e) the Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request or direction of any of the Holders pursuant to this Indenture, unless such Holders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities which might be incurred by it in compliance with such request or direction;

(f) the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction. consent, order, bond, debenture, note, coupon, other evidence of indebtedness or other paper or document;

(g) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or counsel, and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or counsel appointed with due care (and, in the case of any agent, with the prior written consent of the Company; *provided, however,* that the Company's prior written consent shall not be required in connection with the appointment of an agent as a result of or in connection with a default or an Event of Default) by it hereunder; and

(h) the Trustee shall not be liable for any action taken, suffered or omitted by it in good faith and believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture.

SECTION 704. *Not Responsible for Recitals or Issuance of Securities.* The recitals contained herein and in the Securities, except the Trustee's certificates of authentication, shall be taken as the statements of the Company, and the Trustee assumes no responsibility for their correctness. The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities. Neither the Trustee nor any Authenticating Agent shall be accountable for the use or application by the Company of Securities or the proceeds thereof.

SECTION 705. *May Hold Securities.* The Trustee, any Paying Agent, any Security Registrar or any other agent of the Company, in its individual or any other capacity, may become the owner

or pledgee of Securities or warrants to purchase Securities and, subject to Sections 708 and 713, may otherwise deal with the Company with the same rights it would have if it were not Trustee, Paying Agent, Security Registrar or such other agent.

SECTION 706. *Money Held in Trust.* Except as provided in Section 114, money held by the Trustee or any Paying Agent in trust hereunder need not be segregated from other funds except to the extent required by law. The Trustee or any Paying Agent shall be under no liability for interest on any money received by it hereunder except as otherwise agreed with the Company.

SECTION 707. *Compensation and Reimbursement.* The Company agrees

(1) to pay to the Trustee from time to time in Dollars such compensation as shall be agreed to in writing between the Company and the Trustee for all services rendered by it hereunder (which compensation shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust);

(2) except as otherwise expressly provided herein, to reimburse the Trustee in Dollars upon its request for all reasonable expenses, disbursements and advances incurred or made by the Trustee in accordance with any provision of this Indenture (including the reasonable compensation and the expenses and disbursements of its agents and counsel), except any such expense, disbursement or advance as may be attributable to its negligence or bad faith; and

(3) to indemnify the Trustee in Dollars for, and to hold it harmless against, any and all loss, liability, damage, claim or expense. including taxes (other than taxes based upon, or measured or determined by, the income of the Trustee) incurred without negligence or bad faith on its part, arising out of or in connection with the acceptance or administration of the trust or trusts hereunder, including the costs and expenses of defending itself against any claim or liability in connection with the exercise or performance of any of its powers or duties hereunder.

As security for the performance of the obligations of the Company under this Section, the Trustee shall have a lien prior to the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the payment of principal of, premium, if any, or interest, if any, on particular Securities.

When the Trustee incurs expenses or renders services in connection with an Event of Default specified in Section 601(5) and Section 601(6), the expenses (including the reasonable charges and expenses of its counsel) and the compensation for the services are intended to constitute expenses of administration under any applicable Federal or state bankruptcy, insolvency or other similar law. The provisions of this Section shall survive the termination of this Indenture.

SECTION 708. *Disqualification; Conflicting Interests.* If the Trustee has or shall acquire any conflicting interest, as defined in Section 310(b) of the Trust Indenture Act, with respect to the Securities of any series, it shall, within 90 days after ascertaining that it has such conflicting interest, either eliminate such conflicting interest or resign with respect to the Securities of that series in the manner and with the effect provided by, and subject to the provisions of, Section 310(b) of the Trust Indenture Act and this Indenture.

In the event that the Trustee shall fail to comply with the provisions of the preceding sentence with respect to the Securities of any series, the Trustee shall, within 10 days after the expiration of such 90-day period, transmit, in the manner and to the extent provided in Section 106, to all Holders of Securities of that series notice of such failure.

Nothing herein shall prevent the Trustee from filing with the Commission the application referred to in the penultimate paragraph of Section 310(b) of the Trust Indenture Act.

To the extent permitted by the Trust Indenture Act, the Trustee shall not be deemed to have a conflicting interest with respect to the Securities of any series by virtue of being Trustee with respect to the Securities of any particular series of Securities other than that series.

SECTION 709. *Corporate Trustee Required; Eligibility.* There shall at all times be a Trustee for each series of Securities hereunder which shall be either (1) a corporation organized and doing business under the laws of the United States of America, any State thereof or the District of Columbia, which is authorized under such laws to exercise corporate trust powers and is subject to supervision or examination by Federal or State authority and having its Corporate Trust Office located in The City of New York or (2) a corporation or other Person organized and doing business under the laws of a foreign government that is permitted to act as Trustee pursuant to a rule, regulation or order of the Commission, which is authorized under such laws to exercise corporate trust powers and is subject to supervision or examination by authority of such foreign government or a political subdivision thereof substantially equivalent to supervision or examination applicable to United States institutional trustees; in either case having a combined capital and surplus of at least $50,000,000. If such corporation or Person publishes reports of condition at least annually, pursuant to law or to the requirements of said supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. Neither the Company nor any Person directly or indirectly controlling, controlled by, or under common control with the Company shall serve as trustee for the Securities of any series issued hereunder. If at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, it shall resign immediately in the manner and with the effect hereinafter specified in this Article.

SECTION 710. *Resignation and Removal; Appointment of Successor.* (a) No resignation or removal of the Trustee and no appointment of a successor Trustee pursuant to this Article shall become effective until the acceptance of appointment by the successor Trustee in accordance with the applicable requirements of Section 711.

(b) The Trustee may resign at any time with respect to the Securities of one or more series by giving written notice thereof to the Company. If the instrument of acceptance by a successor Trustee required by Section 711 shall not have been delivered to the resigning Trustee within 30 days after the giving of such notice of resignation, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor Trustee with respect to the Securities of such series.

(c) The Trustee may be removed at any time with respect to the Securities of any series by Act of the Holders of a majority in principal amount of the Outstanding Securities of such series, delivered to the Trustee and to the Company.

(d) If at any time:

(1) the Trustee shall fail to comply with Section 708 after written request therefor by the Company or by any Holder who has been a bona fide Holder of a Security of a series as to which the Trustee has a conflicting interest for at least six months, or

(2) the Trustee for a series shall cease to be eligible under Section 709 and shall fail to resign after written request therefor by the Company or by any Holder of Securities of such series, or

(3) the Trustee shall become incapable of acting or shall be adjudged a bankrupt or insolvent or a receiver of the Trustee or of its property shall be appointed or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation,

then, in any such case, (i) the Company by a Board Resolution may remove the Trustee with respect to all Securities, or (ii) subject to Section 614, any Holder who has been a bona fide Holder of a Security for at least six months (and, in the case of Clause (1) above, who is a holder of a Security of a series as to which the Trustee has a conflicting interest) may, on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee with respect to all Securities and the appointment of a successor Trustee or Trustees.

(e) If the Trustee shall resign, be removed or become incapable of acting, or if a vacancy shall occur in the office of the Trustee for any cause, with respect to the Securities of one or more series, the Company, by a Board Resolution, shall promptly appoint a successor Trustee or Trustees with respect to the Securities of that or those series (it being understood that any such successor Trustee may be appointed with respect to the Securities of one or more of or all such series and that at any time there shall be only one Trustee with respect to the Securities of any particular series) and such successor Trustee or Trustees shall comply with the applicable requirements of Section 711. If, within one year after such resignation, removal or incapability, or the occurrence of such vacancy, a successor Trustee with respect to the Securities of any series shall be appointed by Act of the Holders of a majority in principal amount of the Outstanding Securities of such series delivered to the Company and the retiring Trustee, the successor Trustee so appointed shall, forthwith upon its acceptance of such appointment in accordance with the applicable requirements of Section 711, become the successor Trustee with respect to the Securities of such series and to that extent supersede the successor Trustee appointed by the Company. If no successor Trustee with respect to the Securities of any series shall have been so appointed by the Company or the Holders and accepted appointment in the manner required by Section 711, any Holder who has been a bona fide Holder of a Security of such series for at least six months may, on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the appointment of a successor Trustee with respect to the Securities of such series.

(f) The Company shall give notice of each resignation and each removal of the Trustee with respect to the Securities of any series and each appointment of a successor Trustee with respect to the Securities of any series by giving notice of such event to all Holders of Securities of such series as provided by Section 106. Each notice shall include the name of the successor Trustee with respect to the Securities of such series and the address of its Corporate Trust Office.

SECTION 711. *Acceptance of Appointment by Successor.* (a) In case of the appointment hereunder of a successor Trustee with respect to all Securities, every such successor Trustee so appointed shall execute, acknowledge and deliver to the Company and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal of the retiring Trustee shall become effective and such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee; but, on the request of the Company or the successor Trustee, such retiring Trustee shall, upon payment of its charges, execute and deliver an instrument transferring to such successor Trustee all the rights, powers and trusts of the retiring Trustee and shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder.

(b) In case of the appointment hereunder of a successor Trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and each successor Trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor Trustee shall accept such appointment and which (1) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each successor Trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates, (2) if the retiring Trustee is not retiring with respect to all Securities, shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series as to which the retiring Trustee is not retiring shall continue to be vested in the retiring Trustee, and (3) shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees cotrustees of the same trust and that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee; and upon the execution and delivery of such supplemental indenture, the resignation or removal of the retiring Trustee shall become effective to the extent provided therein and each such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates; but, on request of the Company or any successor Trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor Trustee relates.

(c) Upon request of any such successor Trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor Trustee all

such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.

(d) No successor Trustee shall accept its appointment unless at the time of such acceptance such successor Trustee shall be qualified and eligible under this Article.

SECTION 712. *Merger, Conversion, Consolidation or Succession to Business.* Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to all or substantially all the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, *provided* that such corporation shall be otherwise qualified and eligible under this Article, without the execution or filing of any paper or any further act on the part of any of the parties hereto. In case any Securities shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Securities so authenticated with the same effect as if such successor Trustee had itself authenticated such Securities.

SECTION 713. *Preferential Collection of Claims Against Company.* (a) Subject to Subsection (b) of this Section, if the Trustee shall be or shall become a creditor, directly or indirectly, secured or unsecured, of the Company within three months prior to a default, as defined in Subsection (c) of this Section, or subsequent to such a default, then, unless and until such default shall be cured, the Trustee shall set apart and hold in a special account for the benefit of the Trustee individually, the Holders of the Securities and Coupons, if any, and the holders of other indenture securities, as defined in Subsection (c) of this Section:

(1) an amount equal to any and all reductions in the amount due and owing upon any claim as such creditor in respect of principal or interest, effected after the beginning of such three-month period and valid as against the Company and its other creditors, except any such reduction resulting from the receipt or disposition of any property described in paragraph (2) of this Subsection, or from the exercise of any right of set-off which the Trustee could have exercised if a petition in bankruptcy had been filed by or against the Company upon the date of such default; and

(2) all property received by the Trustee in respect of any claims as such creditor, either as security therefor, or in satisfaction or composition thereof, or otherwise, after the beginning of such three-month period, or an amount equal to the proceeds of any such property, if disposed of, *subject, however,* to the rights, if any, of the Company and its other creditors in such property or such proceeds.

Nothing herein contained, however, shall affect the right of the Trustee:

(A) to retain for its own account (i) payments made on account of any such claim by any Person (other than the Company) who is liable thereon, and (ii) the proceeds of the bona fide sale of any such claim by the Trustee to a third Person, and (iii) distributions made in cash, securities or other property in respect of claims filed against the Company

in bankruptcy or receivership or in proceedings for reorganization pursuant to the Federal Bankruptcy Act or applicable State law;

(B) to realize, for its own account, upon any property held by it as security for any such claim, if such property was so held prior to the beginning of such three-month period;

(C) to realize, for its own account, but only to the extent of the claim hereinafter mentioned, upon any property held by it as security for any such claim, if such claim was created after the beginning of such three-month period and such property was received as security therefor simultaneously with the creation thereof, and if the Trustee shall sustain the burden of proving that at the time such property was so received the Trustee had no reasonable cause to believe that a default, as defined in Subsection (c) of this Section, would occur within three months; or

(D) to receive payment on any claim referred to in paragraph (B) or (C), against the release of any property held as security for such claim as provided in paragraph (B) or (C), as the case may be, to the extent of the fair value of such property.

For the purposes of paragraphs (B), (C) and (D), property substituted after the beginning of such three-month period for property held as security at the time of such substitution shall, to the extent of the fair value of the property released, have the same status as the property released, and, to the extent that any claim referred to in any of such paragraphs is created in renewal of or in substitution for or for the purpose of repaying or refunding any pre-existing claim of the Trustee as such creditor, such claim shall have the same status as such pre-existing claim.

If the Trustee shall be required to account, the funds and property held in such special account and the proceeds thereof shall be apportioned among the Trustee, the Holders and the holders of other indenture securities in such manner that the Trustee, the Holders and the holders of other indenture securities realize, as a result of payments from such special account and payments of dividends on claims filed against the Company in bankruptcy or receivership or in proceedings for reorganization pursuant to the Federal Bankruptcy Act or applicable State law, the same percentage of their respective claims, figured before crediting to the claim of the Trustee anything on account of the receipt by it from the Company of the funds and property in such special account and before crediting to the respective claims of the Trustee and the Holders and the holders of other indenture securities dividends on claims filed against the Company in bankruptcy or receivership or in proceedings for reorganization pursuant to the Federal Bankruptcy Act or applicable State law, but after crediting thereon receipts on account of the indebtedness represented by their respective claims from all sources other than from such dividends and from the funds and property so held in such special account. As used in this paragraph, with respect to any claim, the term “dividends” shall include any distribution with respect to such claim, in bankruptcy or receivership for proceedings for reorganization pursuant to the Federal Bankruptcy Act or applicable State law, whether such distribution is made in cash, securities or other property, but shall not include any such distribution with respect to the secured portion, if any, of such claim. The court in which such bankruptcy, receivership or proceedings for reorganization is pending shall have jurisdiction (i) to apportion among the Trustee, the Holders and the holders of other indenture securities, in

accordance with the provisions of this paragraph, the funds and property held in such special account and the proceeds thereof, or (ii) in lieu of such apportionment, in whole or in part, to give to the provisions of this paragraph due consideration in determining the fairness of the distributions to be made to the Trustee and the Holders and the holders of other indenture securities with respect to their respective claims, in which event it shall not be necessary to liquidate or to appraise the value of any securities or other property held in such special account or as security for any such claim, or to make a specific allocation of such distributions as between the secured and unsecured portions of such claims, or otherwise to apply the provisions of this paragraph as a mathematical formula.

Any Trustee which has resigned or been removed after the beginning of such three-month period shall be subject to the provisions of this Subsection as though such resignation or removal had not occurred. If any Trustee has resigned or been removed prior to the beginning of such three-month period, it shall be subject to the provisions of this Subsection if and only if the following conditions exist:

(i) the receipt of property or reduction of claim, which would have given rise to the obligation to account, if such Trustee had continued as Trustee, occurred after the beginning of such three-month period; and

(ii) such receipt of property or reduction of claim occurred within three months after such resignation or removal.

(b) There shall be excluded from the operation of Subsection (a) of this Section a creditor relationship arising from:

(1) the ownership or acquisition of securities issued under any indenture, or any security or securities having a maturity of one year or more at the time of acquisition by the Trustee;

(2) advances authorized by a receivership or bankruptcy court of competent jurisdiction, or by this Indenture, for the purpose of preserving any property which shall at any time be subject to the lien of this Indenture or of discharging tax liens or other prior liens or encumbrances thereon, if notice of such advances and of the circumstances surrounding the making thereof is given to the Holders at the time and in the manner provided in this Indenture;

(3) disbursements made in the ordinary course of business in the capacity of trustee under an indenture, transfer agent, registrar, custodian, paying agent, fiscal agent or depositary, or other similar capacity;

(4) an indebtedness created as a result of services rendered or premises rented; or an indebtedness created as a result of goods or securities sold in a cash transaction, as defined in Subsection (c) of this Section;

(5) the ownership of stock or of other securities of a corporation organized under the provisions of Section 25(a) of the Federal Reserve Act, as amended, which is directly or indirectly a creditor of the Company; and

(6) the acquisition, ownership, acceptance or negotiation of any drafts, bills of exchange, acceptances or obligations which fall within the classification of self-liquidating paper, as defined in Subsection (c) of this Section.

(c) For the purposes of this Section only:

(1) the term "default" means any failure to make payment in full of the principal of (or premium, if any, on) or interest on any of the Securities or upon the other indenture securities when and as such principal or interest becomes due and payable;

(2) the term "other indenture securities" means securities upon which the Company is an obligor outstanding under any other indenture (i) under which the Trustee is also trustee, (ii) which contains provisions substantially similar to the provisions of this Section, and (iii) under which a default exists at the time of the apportionment of the funds and property held in such special account;

(3) the term "cash transaction" means any transaction in which full payment for goods or securities sold is made within seven days after delivery of the goods or securities in currency or in checks or other orders drawn upon banks or bankers and payable upon demand;

(4) the term "self-liquidating paper" means any draft, bill of exchange, acceptance or obligation which is made, drawn, negotiated or incurred by the Company for the purpose of financing the purchase, processing, manufacturing, shipment, storage or sale of goods, wares or merchandise and which is secured by documents evidencing title to, possession of, or a lien upon, the goods, wares or merchandise or the receivables or proceeds arising from the sale of the goods, wares or merchandise previously constituting the security; *provided* the security is received by the Trustee simultaneously with the creation of the creditor relationship with the Company arising from the making, drawing, negotiating or incurring of the draft, bill of exchange, acceptance or obligation;

(5) the term "Company" means any obligor upon the Securities; and

(6) the term "Federal Bankruptcy Act" means the Bankruptcy Act or Title 11 of the United States Code.

SECTION 714. *Judgment Currency.* If, for the purpose of obtaining a judgment in any court with respect to any obligation of the Company hereunder or under any Security or Coupon, it shall become necessary to convert into any other currency or currency unit any amount in the currency or currency unit due hereunder or under such Security or Coupon, then such conversion shall be made at the Conversion Rate (as defined below) as in effect on the date the Company shall make payment to any Person in satisfaction of such judgment. If pursuant to any such judgment, conversion shall be made on a date other than the date payment is made and there shall occur a change between such Conversion Rate and the Conversion Rate as in effect on the date of payment or distribution, the Company agrees to pay such additional amounts (if any) as may be necessary to ensure that the amount paid is the amount in such other currency or currency unit which, when converted at the Conversion Rate as in effect on the date of payment or distribution, is the amount then due hereunder or under such Security or Coupon. Any amount due from the Company under

this Section 714 shall be due as a separate debt and is not to be affected by or merged into any judgment being obtained for any other sums due hereunder or in respect of any Security or Coupon so that in any event the Company's obligations hereunder or under such Security or Coupon will be effectively maintained as obligations in such currency or currency unit. In no event, however, shall the Company be required to pay more in the currency or currency unit stated to be due hereunder or under such Security or Coupon.

For purposes of this Section 714, "Conversion Rate" shall mean, as of any date, for any currency or currency unit into which an amount due hereunder or under any Security or Coupon is to be converted, the noon buying rate in the other currency or currency unit for that currency or currency unit for cable transfers quoted in New York City on such date as certified for customs purposes by the Federal Reserve Bank of New York. If such rates are not available for any reason with respect to one or more currencies or currency units for which a Conversion Rate is required, the Exchange Rate Agent shall use, in its sole discretion and without liability on its part, such quotation of the Federal Reserve Bank of New York as of the most recent available date, or quotations from one or more major banks in New York City or in the country of issue of the currency in question, or such other quotations as the Exchange Rate Agent shall deem appropriate. Unless otherwise specified by the Exchange Rate Agent, if there is more than one market for dealing in a currency or currency unit by reason of foreign exchange regulations or otherwise, the market to be used in respect of such currency or currency unit shall be that upon which a nonresident issuer of securities designated in such currency or currency unit would, as determined in its sole discretion and without liability on the part of the Exchange Rate Agent, purchase such currency or currency unit in order to make payments in respect of such Securities. If there does not exist a quoted exchange rate in any currency or currency unit (the "First Currency") for another currency unit (the "Second Currency"), then the Conversion Rate for the Second Currency shall be equal to equivalent amount in the First Currency obtained by converting the Specified Amount of each Component Currency of the Second Currency into the First Currency at the Conversion Rate (determined as provided above) for each such Component Currency on such date (or, if the First Currency is a currency unit for which there is no quoted exchange rate in any Component Currency, by converting the Specified Amount of each Component Currency of the Second Currency into the Specified Amount of each Component Currency of the First Currency at the Conversion Rate (determined as provided above) for each such Component Currency on such date).

SECTION 715. *Appointment of Authenticating Agent.* The Company may appoint an Authenticating Agent or Agents with respect to one or more series of Securities which shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon original issue or upon exchange, registration of transfer or partial redemption thereof or pursuant to Section 405, and Securities so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. Wherever reference is made in this Indenture to the authentication and delivery of Securities by the Trustee or the Trustee's certificate of authentication, such reference shall be deemed to include authentication and delivery on behalf of the Trustee by an Authenticating Agent and a certificate of authentication executed on behalf of the Trustee by an Authenticating Agent. Each Authenticating Agent shall be acceptable to the Trustee and shall at all times be a corporation having a combined capital and surplus of not less than the equivalent of $50,000,000 and subject

to supervision or examination by Federal, state or District of Columbia authority or the equivalent foreign authority, in the case of an Authenticating Agent who is not organized and doing business under the laws of the United States of America, any state thereof or the District of Columbia. If such Authenticating Agent publishes reports of condition at least annually, pursuant to law or to the requirements of said supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Authenticating Agent shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time an Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, such Authenticating Agent shall resign immediately in the manner and with the effect specified in this Section.

Any corporation into which an Authenticating Agent may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which such Authenticating Agent shall be a party, or any corporation succeeding to the corporate agency or corporate trust business of such Authenticating Agent, shall continue to be an Authenticating Agent; *provided* such corporation shall be otherwise eligible under this Section, without the execution or filing of any paper or any further act on the part of the Trustee or such Authenticating Agent.

An Authenticating Agent may resign at any time by giving written notice thereof to the Trustee and to the Company. The Company may at any time terminate the agency of an Authenticating Agent by giving written notice thereof to such Authenticating Agent and to the Trustee. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, the Company may appoint a successor Authenticating Agent which shall be acceptable to the Trustee and shall mail, or cause to be mailed, written notice of such appointment by first-class mail, postage prepaid, to all Holders of Registered Securities, if any, of the series with respect to which such Authenticating Agent will serve, as their names and addresses appear in the Security Register. Any successor Authenticating Agent upon acceptance of its appointment hereunder shall become vested with all the rights, powers and duties of its predecessor hereunder, with like effect as if originally named as an Authenticating Agent. No successor Authenticating Agent shall be appointed unless eligible under the provisions of this Section.

The Company agrees to pay to each Authenticating Agent from time to time reasonable compensation for its services under this Section.

If an appointment with respect to one or more series is made pursuant to this Section, the Securities of such series may have endorsed thereon, in addition to the Trustee's certificate of authentication, an alternative certificate of authentication in the following form:

This is one of the Securities of the series designated herein issued under the within-mentioned Indenture.

THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), As Trustee

By _____
As Authenticating Agent

By _____
Authorized [Officer] [Signatory]

If all the Securities of a series may not be originally issued at one time, and if the Trustee does not have an office capable of authenticating Securities upon original issuance located in a Place of Payment or other place where the Company wishes to have Securities of such series authenticated upon original issuance, the Company shall appoint in accordance with this Section an Authenticating Agent (which may be an Affiliate of the Company if eligible to be appointed as an Authenticating Agent hereunder) having an office in such Place of Payment or other place designated by the Company with respect to such series of Securities.

ARTICLE EIGHT

Holders' Lists and Reports by Trustee and Company

SECTION 801. *Company To Furnish Trustee Names and Addresses of Holders.* The Company will furnish or cause to be furnished to the Trustee:

(a) semiannually, not later than January 15 and July 15 in each year, a list in such form as the Trustee may reasonably require, of the names and addresses of the Holders of each series of Registered Securities as of the preceding January 1 or July 1, as the case may be, and such information concerning the Holders of Bearer Securities which is known to the Company or any Paying Agent other than the Company; *provided, however,* that the Company and such Paying Agents shall have no obligation to investigate any matter relating to any Holder of a Bearer Security or a Coupon; and

(b) at such other times as the Trustee may request in writing, within 30 days after the receipt by the Company of any such request, a list of similar form and content, such list to be dated as of a date not more than 15 days prior to the time such list is furnished, and such information concerning the Holders of Bearer Securities which is known to the Company or any such Paying Agent; *provided, however,* that the Company and such Paying Agents shall have no obligation to investigate any matter relating to any Holder of a Bearer Security or a Coupon;

notwithstanding the foregoing subsections (a) and (b), at such times as the Trustee is the Security Registrar and Paying Agent with respect to a particular series of Securities, no such list shall be required to be furnished in respect of such series.

SECTION 802. *Preservation of Information; Communications to Holders.* (a) The Trustee shall preserve, in as current a form as is reasonably practicable, the names and addresses of Holders of each series contained in the most recent list furnished to the Trustee as provided in Section 801 and the names and addresses of Holders of each series received by the Trustee in any capacity as Security Registrar or Paying Agent. The Trustee may destroy any list furnished to it as provided in Section 801 upon receipt of a new list so furnished.

(b) If three or more Holders of Securities of any series (herein referred to as "applicants") apply in writing to the Trustee, and furnish to the Trustee reasonable proof that each such applicant has owned a Security of such series for a period of at least six months preceding the date of such application, and such application states that the applicants desire to communicate with other Holders of Securities of such series with respect to their rights under this Indenture or under such Securities and is accompanied by a copy of the form of proxy or other communication which such applicants propose to transmit, then the Trustee shall, within five business days after the receipt of such application, at its election, either

(i) afford such applicants access to the information preserved at the time by the Trustee in accordance with Section 802(a), or

(ii) inform such applicants as to the approximate number of Holders of Securities of such series whose names and addresses appear in the information preserved at the time by the Trustee in accordance with Section 802(a), and as to the approximate cost of mailing to such Holders the form of proxy or other communication, if any, specified in such application

If the Trustee shall elect not to afford such applicants access to such information, the Trustee shall, upon the written request of such applicants, mail to each Holder of Securities of such series whose name and address appear in the information preserved at the time by the Trustee in accordance with Section 802(a) a copy of the form of proxy or other communication which is specified in such request, with reasonable promptness after a tender to the Trustee of the material to be mailed and of payment, or provision for the payment, of the reasonable expenses of mailing, unless within five days after such tender the Trustee shall mail to such applicants and file with the Commission, together with a copy of the material to be mailed, a written statement to the effect that, in the opinion of the Trustee, such mailing would be contrary to the best interest of the Holders of such series or would be in violation of applicable law. Such written statement shall specify the basis of such opinion. If the Commission, after opportunity for a hearing upon the objections specified in the written statement so filed, shall enter an order refusing to sustain any of such objections or if, after the entry of an order sustaining one or more of such objections, the Commission shall find, after notice and opportunity for hearing, that all the objections so sustained have been met and shall enter an order so declaring, the Trustee shall mail copies of such material to all such Holders with reasonable promptness after the entry of such order and the renewal of such tender; otherwise the Trustee shall be relieved of any obligation or duty to such applicants respecting their application.

(c) Every Holder of Securities or Coupons, by receiving and holding the same, agrees with the Company and the Trustee that neither the Company nor the Trustee nor any agent of either of them shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders in accordance with Section 802(b), regardless of the source from which such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under Section 802(b).

SECTION 803. *Reports by Trustee.* (a) Within 60 days after September 15 of each year commencing with the September 15 occurring after the initial issuance of Securities hereunder, the Trustee shall transmit by mail to the Holders of Securities, as provided in Subsection (d) of this Section, a brief report dated as of such September 15 with respect to any of the following events which may have occurred during the twelve months preceding the date of such report (but if no such event has occurred within such period, no report need be transmitted):

(1) any change to its eligibility under Section 609 and its qualifications under Section 608;

(2) the creation of or any material change to a relationship specified in Section 310(b)(1) through Section 310(b)(10) of the Trust Indenture Act;

(3) the character and amount of any advances (and if the Trustee elects so to state, the circumstances surrounding the making thereof) made by the Trustee (as such) which remain unpaid on the date of such report, and for the reimbursement of which it claims or may claim a lien or charge, prior to that of the Securities, on any property or funds held or collected by it as Trustee, except that the Trustee shall not be required (but may elect) to report such advances if such advances so remaining unpaid aggregate not more than 1/2 of 1% of the principal amount of the Securities Outstanding on the date of such report;

(4) any change to the amount, interest rate and maturity date of all other indebtedness owing by the Company (or by any other obligor on the Securities) to the Trustee in its individual capacity, on the date of such report, with a brief description of any property held as collateral security therefor, except an indebtedness based upon a creditor relationship arising in any manner described in Section 713(b)(2), (3), (4) or (6);

(5) any change to the property and funds, if any, physically in the possession of the Trustee as such on the date of such report;

(6) any additional issue of Securities which the Trustee has not previously reported; and

(7) any action taken by the Trustee in the performance of its duties hereunder which it has not previously reported and which in its opinion materially affects the Securities, except action in respect of a default, notice of which has been or is to be withheld by the Trustee in accordance with Section 602.

(b) The Trustee shall transmit by mail to all Holders, as provided in Subsection (d) of this Section, a brief report with respect to the character and amount of any advances (and if the Trustee elects so to state, the circumstances surrounding the making thereof) made by the Trustee (as such) since the date of the last report transmitted pursuant to Subsection (a) of this Section (or if no such report has yet been so transmitted, since the date of execution of this instrument) for the

reimbursement of which it claims or may claim a lien or charge, prior to that of the Securities, on property or funds held or collected by it as Trustee and which it has not previously reported pursuant to this Subsection, except that the Trustee shall not be required (but may elect) to report such advances if such advances remaining unpaid at any time aggregate 10% or less of the principal amount of the Securities Outstanding at such time, such report to be transmitted within 90 days after such time.

(c) A copy of each such report shall, at the time of such transmission to Holders, be filed by the Trustee with each United States stock exchange upon which any Securities are listed, with the Commission and with the Company.

(d) Reports pursuant to Section 803(a) and 803(b) shall be transmitted by mail (i) to all Holders, as their names and addresses appear in the Security Register, (ii) to all Holders as have, within two years preceding such transmission, filed their names and addresses with the Trustee for such purpose, and (iii) except in the case of reports pursuant to Section 803(b), to all Holders whose names and addresses have been furnished or received by the Trustee pursuant to Sections 801 and 802.

SECTION 804. *Reports by Company.* The Company shall:

(1) file with the Trustee, within 15 days after the Company is required to file the same with the Commission, copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) which the Company may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934; or, if the Company is not required to file information, documents or reports pursuant to either of said Sections, then it shall file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports which may be required pursuant to Section 13 of the Securities Exchange Act of 1934 in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations;

(2) file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such additional information, documents and reports with respect to compliance by the Company with the conditions and covenants of this Indenture as may be required from time to time in such rules and regulations;

(3) transmit by mail to all Holders of Securities, in the manner and to the extent provided in Section 803(d) with respect to reports to be transmitted pursuant to Section 803(a), within 30 days after the filing thereof with the Trustee, such summaries of any information, documents and reports required to be filed by the Company pursuant to paragraph (1) of (2) of this Section as may be required by rules and regulations prescribed from time to time by the Commission; and

(4) promptly notify the Trustee when any Securities are listed on any stock exchange.

ARTICLE NINE

Consolidation, Merger. Conveyance or Transfer

SECTION 901. *Company May Consolidate, etc., Only on Certain Terms.* The Company shall not consolidate with or merge into any other corporation or convey or transfer its properties and assets substantially as an entirety to any Person, unless:

(1) the corporation formed by such consolidation or into which the Company is merged or the Person which acquires by conveyance or transfer the properties and assets of the Company substantially as an entirety shall be a corporation organized and existing under the laws of the United States of America or any state or the District of Columbia, and shall expressly assume, by an indenture supplemental hereto, executed and delivered to the Trustee, in form satisfactory to the Trustee, the due and punctual payment of the principal of, and premium, if any, and interest, if any, on all the Securities and the performance or observance of every covenant of this Indenture on the part of the Company to be performed or observed;

(2) immediately after giving effect to such transaction, no Event of Default, and no event which, after notice or lapse of time, or both, would become an Event of Default, shall have occurred and be continuing; and

(3) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel each stating that such consolidation, merger, conveyance or transfer and such supplemental indenture comply with this Article and that all conditions precedent herein provided for relating to such transaction have been complied with.

SECTION 902. *Successor Corporation Substituted.* Upon any consolidation or merger, or any conveyance or transfer of the properties and assets of the Company substantially as an entirety in accordance with Section 901, the successor corporation formed by such consolidation or into which the Company is merged or to which such conveyance or transfer is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor corporation had been named as the Company herein; and in the event of any such conveyance or transfer, the Company (which term shall for this purpose mean the Person named as the "Company" in the first paragraph of this instrument or any successor corporation which shall have theretofore become such in the manner prescribed in Section 901) shall be discharged from all liability under this Indenture and in respect of the Securities and may be dissolved and liquidated.

ARTICLE TEN

Supplemental Indentures

SECTION 1001. *Supplemental Indentures Without Consent of Holders.* Without the consent of any Holders, the Company, when authorized by or pursuant to a Board Resolution, and the Trustee, at any time and from time to time, may enter into one or more indentures supplemental hereto, in form satisfactory to the Trustee, for any of the following purposes:

(1) to evidence the succession of another corporation to the Company and the assumption by any such successor of the covenants of the Company herein and in the Securities;

(2) to add to the covenants of the Company for the benefit of the Holders of all or any series of Securities (and if such covenants are to be for the benefit of less than all series of Securities, stating that such covenants are expressly being included solely for the benefit of such series) or to surrender any right or power herein conferred upon the Company;

(3) to add any additional Events of Default with respect to all or any series of the Securities (and, if such Event of Default is applicable to less than all series of Securities. specifying the series to which such Event of Default is applicable);

(4) to add to or change any of the provisions of this Indenture to such extent as shall be necessary to facilitate the issuance of Securities in bearer form, registrable or not registrable as to principal, and with or without interest coupons; to change or eliminate any restrictions on the payment of principal of or any premium or interest on Bearer Securities, to permit Bearer Securities to be issued in exchange for Registered Securities, to permit Bearer Securities to be issued in exchange for Bearer Securities of other authorized denominations; *provided* that any such addition or change shall not adversely affect the interests of the Holders of Securities of any series or any related Coupons in any material respect;

(5) to change or eliminate any of the provisions of this Indenture; *provided* that any such change or elimination shall become effective only when there is no Security Outstanding of any series created prior to the execution of such supplemental indenture which is adversely affected by such change in or elimination of such provision;

(6) to establish the form or terms of Securities of any series as permitted by Sections 202 and 301;

(7) to evidence and provide for the acceptance of appointment hereunder by a successor Trustee with respect to the Securities of one or more series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, pursuant to the requirements of Section 711(b);

(8) if allowed under applicable laws and regulations, to permit payment in the United States of principal, premium or interest on Bearer Securities or Coupons, if any;

(9) to provide for the issuance of uncertificated Securities of one or more series in addition to or in place of certificated Securities;

(10) to cure any ambiguity or to correct or supplement any provision herein which may be defective or inconsistent with any other provision herein; or

(11) to make any other provisions with respect to matters or questions arising under this Indenture; *provided* such other provisions as may be made shall not adversely affect the interests of the Holders of outstanding Securities of any series in any material respect.

SECTION 1002. *Supplemental Indentures with Consent of Holders.* With the consent of the Holders of not less than a majority in principal amount of the Outstanding Securities of all series affected by such supplemental indenture (acting as one class), by Act of said Holders delivered to the Company and the Trustee, the Company, when authorized by or pursuant to a Board Resolution, and the Trustee may enter into an indenture or indentures supplemental hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of modifying in any manner the rights of the Holders of Securities of such series under this indenture; *provided, however,* that no such supplemental indenture shall, without the consent of the Holder of each outstanding Security affected thereby,

(1) change the Stated Maturity of the principal of, or any installment of principal of or interest on, any Security, or reduce the principal amount thereof or the rate of interest thereon or any premium payable upon the redemption thereof, or reduce the amount of the principal of an Original Issue Discount Security that would be due and payable upon a declaration of acceleration of the Maturity thereof pursuant to Section 602, or change any Place of Payment where, or the currency, currencies or currency unit or units in which, any Security or any premium or the interest thereon is payable, or impair the right to institute suit for the enforcement of any such payment on or after the Stated Maturity thereof (or, in the case of redemption, on or after the Redemption Date), or affect adversely the terms, if any, of conversion of any Security into stock or other securities of the Company or of any other corporation,

(2) reduce the percentage in principal amount of the Outstanding Securities of any series, the consent of whose Holders is required for any such supplemental indenture, or the consent of whose Holders is required for any waiver (of compliance with certain provisions of this Indenture or certain defaults hereunder and their consequences) provided for in this Indenture,

(3) change any obligation of the Company, with respect to Outstanding Securities of a series, to maintain an office or agency in the places and for the purposes specified in Section 1102 for such series, or

(4) modify any of the provisions of this Section, Section 613 or Section 1107, except to increase any such percentage or to provide with respect to any particular series the right to condition the effectiveness of any supplemental indenture as to that series on the consent of the Holders of a specified percentage of the aggregate principal amount of Outstanding Securities of such series (which provision may be made pursuant to Section 202 or Section 301, as the case may be, without the consent of any Holder) or to provide that certain

other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each Outstanding Security affected thereby; *provided, however,* that this clause shall not be deemed to require the consent of any Holder with respect to changes in the references to "the Trustee" and concomitant changes in this Section and Section 1107, or the deletion of this proviso, in accordance with the requirements of Section 711(b) and 1001(7).

For purposes of this Section 1002, if the Securities of any series are issuable upon the exercise of warrants, each holder of an unexercised and unexpired warrant with respect to such series shall be deemed to be a Holder of Outstanding Securities of such series in the amount issuable upon the exercise of such warrant. For such purposes, the ownership of any such warrant shall be determined by the Company in a manner consistent with customary commercial practices. The Trustee for such series shall be entitled to rely on an Officers' Certificate as to the principal amount of Securities of such series in respect of which consents shall have been executed by holders of such warrants.

A supplemental indenture which changes or eliminates any covenant or other provision of this Indenture which has expressly been included solely for the benefit of one or more particular series of Securities, or which modifies the rights of the Holders of Securities of such series with respect to such covenant or other provision, shall be deemed not to affect the rights under this Indenture of the Holders of Securities of any other series.

It shall not be necessary for any Act of Holders under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such Act shall approve the substance thereof.

SECTION 1003. *Execution of Supplemental Indentures.* In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modifications thereby of the trusts created by this Indenture, the Trustee shall be entitled to receive (in addition to the opinion which the Trustee is entitled to receive pursuant to Section 202), and (subject to Section 701) shall be fully protected in relying upon, an Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture. The Trustee may, but shall not be obligated to, enter into any such supplemental indenture which affects the Trustee's own rights, duties, immunities or liabilities under this Indenture or otherwise.

SECTION 1004. *Effect of Supplemental Indentures.* Upon the execution of any supplemental indenture under this Article, this Indenture shall be modified in accordance therewith, and such supplemental indenture shall form a part of this Indenture for all purposes; and every Holder of Securities theretofore or thereafter authenticated and delivered hereunder shall be bound thereby.

SECTION 1005. *Conformity with Trust Indenture Act.* Every supplemental indenture executed pursuant to this Article shall conform to the requirements of the Trust Indenture Act as then in effect.

SECTION 1006. *Reference in Securities to Supplemental Indentures.* Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to this Article may, and shall if required by the Trustee, bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Company shall so determine,

new Securities of any series so modified as to conform, in the opinion of the Trustee and the Company, to any such supplemental indenture may be prepared and executed by the Company and authenticated and delivered by the Trustee in exchange for Outstanding Securities of such series.

ARTICLE ELEVEN

Covenants

SECTION 1101. *Payment of Principal, Premium and Interest.* The Company covenants and agrees for the benefit of each series of Securities and Coupons, if any, that it will duly and punctually pay the principal of (and premium, if any, on) and interest. if any, on the Securities and Coupons, if any, of that series in accordance with the terms of the Securities and Coupons, if any, of such series and this Indenture.

SECTION 1102. *Maintenance of Office or Agency.* If Securities of a series are issuable only as Registered Securities, the Company will maintain in each Place of Payment for such series an office or agency where Securities of that series may be presented or surrendered for payment. where Securities of that series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. If Securities of a series are issuable as both Registered or Bearer Securities or only as Bearer Securities, the Company will maintain (A) in the Borough of Manhattan, The City of New York, an office or agency where any Registered Securities of that series may be presented or surrendered for payment, where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange, where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served and where Bearer Securities of that series and related Coupons may be presented or surrendered for payment in the circumstances described in the proviso contained in the last sentence of this first paragraph of Section 1102 (and not otherwise), (B) subject to any laws or regulations applicable thereto, in a Place of Payment for that series which is located outside the United States, an office or agency where Securities of that series and related Coupons may be presented and surrendered for payment (including payment of any additional amounts payable on Securities of that series pursuant to Section 1108); *provided, however,* that if the Securities of that series are listed on any stock exchange located outside the United States and such stock exchange shall so require, the Company will maintain a Paying Agent for the Securities of that series in any required city located outside the United States, so long as the Securities of that series are listed on such exchange, and (C) subject to any laws or regulations applicable thereto, in a Place of Payment for that series located outside the United States, an office or agency where any Registered Securities of that series may be surrendered for registration of transfer, where Securities of that series may be surrendered for exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. The Company will give prompt written notice to the Trustee and the Holders of the location, and any change in the location, of any such office or agency. If at any time the Company shall fail to maintain any such required office or agency in respect of any series of Securities or shall fail to furnish the Trustee with the address thereof, such presentations and surrenders of Securities of that series may be made and notices and demands may be made or served at the Corporate Trust Office of the Trustee, except that Bearer Securities of that series and the related

Coupons may be presented and surrendered for payment (including payment of any additional amounts payable on Bearer Securities of that series pursuant to Section 1108) at the London office of the Trustee (or an agent with a London office appointed by the Trustee and acceptable to the Company), and the Company hereby appoints the same as its agent to receive such respective presentations, surrenders, notices and demands. No payment of principal, premium or interest on Bearer Securities shall be made at any office or agency of the Company in the United States or by check mailed to any address in the United States or by transfer to an account maintained with a bank located in the United States; *provided, however,* that, if the Securities of a series are denominated and payable in Dollars, payment of principal of and any premium and interest on any Bearer Security (including any additional amounts payable on Securities of such series pursuant to Section 1108) shall be made at the office of the Company's Paying Agent in the Borough of Manhattan, The City of New York, if (but only if) payment in Dollars of the full amount of such principal, premium, interest or additional amounts, as the case may be, at all offices or agencies outside the United States maintained for the purpose by the Company in accordance with this Indenture is illegal or effectively precluded by exchange controls or other similar restrictions.

The Company may also from time to time designate one or more other offices or agencies where the Securities of one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; *provided, however,* that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in accordance with the requirements set forth above for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee and the Holders of any such designation or rescission and of any change in the location of any such other office or agency.

SECTION 1103. *Money for Securities Payments To Be Held in Trust.* If the Company shall at any time act as its own Paying Agent with respect to any series of Securities, it will, on or before each due date of the principal of (and premium, if any, on) or interest, if any, on any of the Securities of that series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum in the relevant currency (or a sufficient number of currency units, as the case may be) sufficient to pay the principal (and premium, if any, on) or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of its action or failure so to act.

Whenever the Company shall have one or more Paying Agents for any series of Securities, it will, at or prior to the opening of business on each due date of the principal of (and premium, if any, on) or interest, if any, on any Securities of that series, deposit with a Paying Agent a sum sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of its action or failure so to act.

The Company will cause each Paying Agent for any series of Securities other than the Trustee to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

(1) hold all sums held by it for the payment of the principal of (and premium, if any, on) or interest, if any, on Securities of that series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;

(2) give the Trustee notice of any default by the Company (or any other obligor upon the Securities of that series) in making of any payment of principal (and premium, if any, on) or interest, if any, on the Securities of that series; and

(3) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

The Company may at any time, for the purpose of obtaining the satisfaction and charge of this Indenture or for any other purpose, pay, or by Company Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Company or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Company or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such money.

Any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of the principal of (and premium, if any, on) or interest, if any, on any Security of any series and remaining unclaimed for two years after such principal (and premium, if any) or interest has become due and payable shall be paid to the Company, or (if then held by the Company) shall be discharged from such trust; and the Holder of such Security and Coupons, if any, shall thereafter, as an unsecured general creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease; *provided, however,* that the Trustee or such Paying Agent, before being required to make any such repayment, may at the expense and at the direction of the Company cause to be published once, in a newspaper published in the English language, customarily published on each Business Day and of general circulation in the Borough of Manhattan, The City of New York, notice that such money remains unclaimed and that, after a date specified herein, which shall not be less than 30 days from the date of such publication, any unclaimed balance of such money then remaining will be repaid to the Company. All moneys payable to the Company by the Trustee or any Paying Agent as provided in the preceding sentence shall be paid to the Company on May 31 of each year.

SECTION 1104. *Limitation on Secured Indebtedness.* Unless specified, as contemplated by Section 202 or Section 301, as the case may be, not to be applicable to Securities of any series, this Section shall be applicable to Securities of each series for the benefit of the Securities of such series as long as any Securities of such series are Outstanding (subject to clause (a)(ii) of Section 503, as contemplated by subclause (x) thereof). The Company will not create, assume, incur or guarantee, and will not permit any Restricted Subsidiary to create, assume, incur or

guarantee, any Secured Indebtedness without making provision whereby all the Securities shall be secured equally and ratably with (or prior to) such Secured Indebtedness (together with, if the Company shall so determine, any other indebtedness of the Company or such Restricted Subsidiary then existing or thereafter created which is not subordinate to the Securities) so long as such Secured Indebtedness shall be outstanding unless such Secured Indebtedness, when added to (a) the aggregate amount of all Secured Indebtedness then outstanding (not including in this computation Secured Indebtedness if the Securities are secured equally and ratably with (or prior to) such Secured Indebtedness and further not including in this computation any Secured Indebtedness which is concurrently being retired) and (b) the aggregate amount of all Attributable Debt then outstanding pursuant to Sale and Leaseback Transactions entered into by the Company after July 15, 1985, or, entered into by a Restricted Subsidiary after July 15, 1985, or, if later, the date on which it became a Restricted Subsidiary (not including in this computation any Attributable Debt which is concurrently being retired), would not exceed 5% of Consolidated Net Tangible Assets.

SECTION 1105. *Limitation on Sale and Leaseback Transactions.* Unless specified, as contemplated by Section 202 or Section 301, as the case may be, not to be applicable to Securities of any series, this Section shall be applicable to Securities of each series for the benefit of the Securities of such series as long as any Securities of such series are Outstanding (subject to clause (a)(ii) of Section 503, as contemplated by subclause (x) thereto. The Company will not, and will not permit any Restricted Subsidiary to, enter into any Sale and Leaseback Transaction unless (a) the sum of (i) the Attributable Debt to be outstanding pursuant to such Sale and Leaseback Transaction, (ii) all Attributable Debt then outstanding pursuant to all other Sale and Leaseback Transactions entered into by the Company after July 15, 1985, or entered into by a Restricted Subsidiary after July 15, 1985, or, if later, the date on which it became a Restricted Subsidiary, and (iii) the aggregate of all Secured Indebtedness then outstanding (not including in this computation Secured Indebtedness if the Securities are secured equally and ratably with (or prior to) such Secured Indebtedness) would not exceed 5% of Consolidated Net Tangible Assets or (b) an amount equal to the greater of (i) the net proceeds to the Company or the Restricted Subsidiary of the sale of the Principal Property sold and leased back pursuant to such Sale and Leaseback Transaction and (ii) the amount of Attributable Debt to be outstanding pursuant to such Sale and Leaseback Transaction, is applied to the retirement of Funded Debt of the Company or any Restricted Subsidiaries (other than Funded Debt which is subordinated to the Securities or which is owing to the Company or any Restricted Subsidiaries) within 180 days after the consummation of such Sale and Leaseback Transaction.

SECTION 1106. *Statement by Officers as to Default.* The Company will deliver to the Trustee, within 120 days after the end of each fiscal year, a written certificate signed by the principal executive officer, the principal financial officer or the principal accounting officer of the Company, stating that:

(1) a review of the activities of the Company during such year and of performance under this Indenture has been made under his supervision; and

(2) to his knowledge, based on such review, the Company has fulfilled all its obligations, and has complied with all conditions and covenants, under this Indenture

throughout such year, or, if there has been a default in the fulfillment of any such obligation, condition or covenant, specifying each such default known to him and the nature and status thereof. For purposes of this Section 1106, compliance shall be determined without regard to any grace period or requirement of notice provided pursuant to the terms of this Indenture.

SECTION 1107. *Waiver of Certain Covenants.* The Company may omit in any particular instance to comply with any term, provision or condition set forth in Section 1104 or Section 1105 if before the time for such compliance the Holders of not less than a majority in principal amount of the Outstanding Securities of all series affected thereby shall, by Act of such Holders (acting as one class), either waive such compliance in such instance or generally waive compliance with such term, provision or condition, but no such waiver shall extend to or affect such term, provision or condition except to the extent so expressly waived, and, until such waiver shall become effective, the obligations of the Company and the duties of the Trustee in respect of any such term, provision or condition shall remain in full force and effect.

SECTION 1108. *Additional Amounts.* If the Securities of a series provide for the payment of additional amounts, the Company will pay to the Holder of any Security of such series or any related Coupon additional amounts as provided therein. Whenever in this Indenture there is mentioned, in any context, the payment of the principal of or any premium or interest on, or in respect of, any Security ,of any series or payment of any related Coupon or the net proceeds received on the sale or exchange of any Security of any series, such mention shall be deemed to include mention of the payment of additional amounts provided for in this Section to the extent that, in such context, additional amounts are, were or would be payable in respect thereof pursuant to the provisions of this Section and express mention of the payment of additional amounts (if applicable) in any provisions hereof shall not be construed as excluding additional amounts in those provisions hereof where such express mention is not made.

If the Securities of a series provide for the payment of additional amounts, at least 10 days prior to the first Interest Payment Date with respect to that series of Securities (or if the Securities of that series will not bear interest prior to Maturity, the first day on which a payment of principal and any premium is made), and at least 10 days prior to each date of payment of principal and any premium or interest if there has been any change with respect to the matters set forth in the below-mentioned Officers' Certificate, the Company will furnish the Trustee and the Company's Paying Agent or Paying Agents, if other than the Trustee, with an Officers' Certificate instructing the Trustee and such Paying Agent or Paying Agents whether such payment of principal of and any premium or interest on the Securities of that series shall be made to Holders of Securities of that series or any related Coupons who are United States Aliens (as defined in such Securities) without withholding for or on account of any tax, assessment or other governmental charge described in the Securities of that series. If any such withholding shall be required, then such Officers' Certificate shall specify by country the amount, if any, required to be withheld on such Payments to such Holders of Securities or Coupons and the Company will pay to the Trustee or such Paying Agent the additional amounts required by this Section. The Company covenants to indemnify the Trustee and any Paying Agent for, and to hold them harmless against, any loss, liability or expense reasonably incurred without negligence or bad faith on their part arising out of or in connection

with actions taken or omitted by any of them in reliance on any Officers' Certificate furnished pursuant to this Section.

ARTICLE TWELVE

Redemption of Securities

SECTION 1201. *Applicability of Article.* Securities of any series which are redeemable before their Stated Maturity shall be redeemable in accordance with their terms and (except as otherwise specified as contemplated by Section 202 or Section 301, as the case may be, for Securities of any series) in accordance with this Article.

SECTION 1202. *Election To Redeem; Notice to Trustee.* If the Company shall desire to exercise the right to redeem all, or, as the case may be, any part of the Securities of any series, the Company shall, at least 60 days prior to the Redemption Date fixed by the Company (unless a shorter notice shall be satisfactory to the Trustee), notifying the Trustee of such Redemption Date and of the principal amount of Securities of such series to be redeemed. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officers' Certificate evidencing compliance with such restriction.

SECTION 1203. *Selection by Trustee of Securities To Be Redeemed.* If less than all the Securities of any series are to be redeemed, the particular Securities to be redeemed shall be selected not more than 60 days prior to the Redemption Date by the Trustee, from the Outstanding Securities of such series not previously called for redemption, by such method as the Trustee shall deem fair and appropriate and which may provide for the selection for redemption of portions (equal to the minimum authorized denomination for Securities of that series or any integral multiple thereof) of the principal amount of Securities of such series of a denomination larger than the minimum authorized denomination for Securities of that series.

The Trustee shall promptly notify the Company in writing of the Securities selected for redemption and, in the case of any Securities selected for partial redemption, the principal amount thereof to be redeemed.

For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities shall relate, in the case of any Securities redeemed or to be redeemed only in part, to the portion of the principal amount of such Securities which has been or is to be redeemed.

SECTION 1204. *Notice of Redemption.* Notice of redemption shall be given not less than 30 nor more than 60 days prior to the Redemption Date, to each Holder of Securities to be redeemed, as provided in Section 106.

Each such notice of redemption shall specify the Redemption Date, the Redemption Price, the Place or Places of Payment, that the Securities of such series are being redeemed at the option of the Company pursuant to provisions contained in the terms of the Securities of such series or in a supplemental indenture establishing such series, if such be the case, together with a brief statement of the facts permitting such redemption, that on the Redemption Date the Redemption

Price will become due and payable upon each Security redeemed, that payment will be made upon presentation and surrender of the applicable Securities, that all Coupons, if any, maturing subsequent to the date fixed for redemption shall be void, that any interest accrued to the Redemption Date will be paid as specified in said notice, that the redemption is pursuant to the sinking fund, if such is the case, and that on and after said Redemption Date any interest thereon or on the portions thereof to be redeemed will cease to accrue. If less than all the Securities of any series are to be redeemed, the notice of redemption shall specify the registration and, if any, CUSIP numbers of the Securities of such series to be redeemed, and, if only Bearer Securities of any series are to be redeemed, and if such Bearer Securities may be exchanged for Registered Securities, the last date on which exchanges of Bearer Securities for Registered Securities not subject to redemption may be made. In case any Security of any series is to be redeemed in part only, the notice of redemption shall state the portion of the principal amount thereof to be redeemed and shall state that on and after the Redemption Date, upon surrender of such Security and any Coupons appertaining thereto, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof and with appropriate Coupons will be issued, or, in the case of Registered Securities providing appropriate space for such notation, at the option of the Holders, the Trustee, in lieu of delivering a new Security or Securities as aforesaid, may make a notation on such Security of the payment of the redeemed portion thereof.

Notice of redemption of Securities to be redeemed at the election of the Company shall be given by the Company or, at the Company's request, by the Trustee in the name and at the expense of the Company.

SECTION 1205. *Deposit of Redemption Price.* On or before the opening of business on any Redemption Date, the Company shall deposit with the Trustee or with a Paying Agent (or, if the Company is acting as its own paying Agent, segregate and hold in trust as provided in Section 1103) an amount of money in the relevant currency (or a sufficient number of currency units, as the case may be) sufficient to pay the Redemption Price of, and (except if the Redemption Date shall be an Interest Payment Date) accrued interest on, all the Securities which are to be redeemed on that date.

SECTION 1206. *Securities Payable on Redemption Date.* Notice of redemption having been given as aforesaid, the Securities so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the Company shall default in the payment of the Redemption Price and accrued interest) such Securities shall cease to bear interest and the Coupons for such interest appertaining to any Bearer Securities so to be redeemed, except to the extent provided below, shall be void. Upon surrender of any such Security for redemption in accordance with said notice, together with all Coupons, if any, appertaining thereto maturing after the Redemption Date, such Security shall be paid by the Company at the Redemption Price, together with accrued interest to the Redemption Date; *provided, however,* that installments of interest on Bearer Securities whose Stated Maturity is on or prior to the Redemption Date shall be payable only at an office or agency located outside the United States (except otherwise provided in Section 1102) and, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, only upon presentation and surrender of Coupons for such interest; *provided further* that, unless otherwise specified as

contemplated by Section 202 or Section 301, as the case may be, installments of interest on Registered Securities whose Stated Maturity is on or prior to the Redemption Date shall be payable to the Holders of such Securities, or one or more Predecessor Securities, registered as such at the close of business on the relevant Record Dates according to their terms and the provisions of Section 406.

If any Bearer Security surrendered for redemption shall not be accompanied by all appurtenant Coupons maturing after the Redemption Date, such Security may be paid after deducting from the Redemption Price an amount equal to the face amount of all such missing Coupons, or the surrender of such missing Coupon or Coupons may be waived by the Company and the Trustee if there be furnished to them such security or indemnity as they may require to save each of them and any Paying Agent harmless. If thereafter the Holder of such Security shall surrender to the Trustee or any Paying Agent any such missing Coupon in respect of which a deduction shall have been made from the Redemption Price, such Holder shall be entitled to receive the amount so deducted; *provided, however,* that interest represented by Coupons shall be payable only at an office or agency located outside the United States (except as otherwise provided in Section 1102) and, unless otherwise specified as contemplated by Section 202 or Section 301, as the case may be, only upon presentation and surrender of those coupons.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal and any premium shall, until paid, bear interest from the Redemption Date at the rate prescribed therefor in the Security.

SECTION 1207. *Securities Redeemed in Part.* Any Security which is to be redeemed only in part shall be surrendered at a Place of Payment therefor (with, if the Company or the Trustee so requires, due endorsement by, or a written instrument of transfer in form satisfactory to the Company and the Trustee duly executed by, the Holder thereof or his attorney duly authorized in writing), and the Company shall execute, and the Trustee shall authenticate and make available for delivery to the Holder of such Security without service charge, a new Security or Securities (with appropriate Coupons) of the same series and Stated Maturity, of any authorized denomination as requested by such Holder, in aggregate principal amount equal to and in exchange for the unredeemed portion of the principal of the Security so surrendered or, in the case of Registered Securities providing appropriate space for such notation, at the option of the Holder, the Trustee, in lieu of delivering a new Security or Securities as aforesaid, may make a notation on such Security of the Payment of the redeemed portion thereof.

ARTICLE THIRTEEN

Sinking Funds

SECTION 1301. *Applicability of Article.* The provisions of this Article shall be applicable to any sinking fund for the retirement of Securities of a series, except as otherwise specified as contemplated by Section 202 or Section 301, as the case may be, for Securities of such series.

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a “mandatory sinking fund payment”, and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein

referred to as an “optional sinking fund payment”. If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 1302. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

SECTION 1302. *Satisfaction of Sinking Fund Payments with Securities.* The Company (1) may deliver Outstanding Securities (including all unmatured Coupons appertaining thereto) of a series (other than any previously called for redemption) and (2) may apply as a credit Securities of a series which have been redeemed either at the election of the Company pursuant to the terms of such Securities or through the application of permitted optional sinking fund payments pursuant to the terms of such Securities, in each case in satisfaction of all or any part of any sinking fund payment with respect to the Securities of such series required to be made pursuant to the terms of such Securities as provided for by the terms of such series; *provided* that such Securities have not been previously so credited. Such Securities shall be received and the outstanding principal amount thereof credited for such purpose by the Trustee at the Redemption Price specified in such Securities for redemption through operation of the sinking fund and the amount of such sinking fund payment shall be reduced accordingly.

SECTION 1303. *Redemption of Securities for Sinking Fund.* Not less than 60 days prior to each sinking fund payment date for any series of Securities, the Company will deliver to the Trustee an Officers’ Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of that series, the portion thereof, if any, which is to be satisfied by payment of cash and the portion thereof, if any, which is to be satisfied by delivering and crediting Securities of that series pursuant to Section 1302 and will also deliver to the Trustee any Securities (including all unmatured Coupons appertaining thereto) to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 1203 and cause notice of the redemption thereof to given in the name of and at the expense of the Company in the manner provided in Section 1204. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 1206 and 1207.

ARTICLE FOURTEEN

Meetings of Holders of Securities

SECTION 1401. *Purposes for Which Meetings May Be Called.* A meeting of Holders of Securities of any series may be called at any time and from time to time pursuant to this Article to make, give or take any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be made, given or taken by Holders of Securities of such series.

SECTION 1402. *Call, Notice and Place of Meetings.* (a) The Trustee may at any time call a meeting of Holders of Securities of any series for any purpose specified in Section 1401, to be held at such time and at such place in the Borough of Manhattan, The City of New York, or in London, as the Trustee shall determine. Notice of every meeting of Holders of Securities of any series, setting forth the time and the place of such meeting and in general terms the action

proposed to be taken at such meeting, shall be given, in the manner provided in Section 106, not less than 20 nor more than 180 days prior to the date fixed for the meeting.

(b) In case at any time the Company, by or pursuant to a Board Resolution, or the Holders of at least 10% in principal amount of the Outstanding Securities of any series shall have requested the Trustee to call a meeting of the Holders of Securities of such series for any purpose specified in Section 1401, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 20 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Company or the Holders of Securities of such series in the amount above specified, as the case may be, may determine the time and the place in the Borough of Manhattan, The City of New York, or in London, for such meeting and may call such meeting for such purposes by giving notice thereof as provided in subsection (a) of this Section.

SECTION 1403. *Persons Entitled To Vote at Meetings.* To be entitled to vote at any meeting of Holders of Securities of any series, a Person shall be (1) a Holder of one or more Outstanding Securities of such series or (2) a Person appointed by an instrument in writing as proxy for a Holder or Holders of one or more Outstanding Securities of such series by such Holder or Holders. The only Persons who shall be entitled to be present or to speak at any meeting of Holders of Securities of any series shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Company and its counsel.

SECTION 1404. *Quorum; Action.* The Persons entitled to vote a majority in principal amount of the Outstanding Securities of a series shall constitute a quorum for a meeting of Holders of Securities of such series. In the absence of a quorum within 30 minutes of the time appointed for any such meeting, the meeting shall, if convened at the request of Holders of Securities of such series, be dissolved. In any other case the meeting may be adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such meeting. In the absence of a quorum at any such adjourned meeting, such adjourned meeting may be further adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such adjourned meeting. Notice of the reconvening of any adjourned meeting shall be given as provided in Section 1402(a), except that such notice need be given only once not less than five days prior to the date on which the meeting is scheduled to be reconvened.

Except as limited by the proviso to Section 1002, and subject to the provisions described in the next succeeding paragraph, any resolution presented to a meeting or adjourned meeting duly reconvened at which a quorum is present as aforesaid may be adopted by the affirmative vote of the Holders of a majority in principal amount of the Outstanding Securities of that series; *provided, however,* that any resolution with respect to any request, demand, authorization, direction, notice, consent, waiver or other action which this Indenture expressly provides may be made, given or taken by the Holders of a specified percentage, which is equal to or less than a majority, in principal amount of the Outstanding Securities of a series may be adopted at a meeting or an adjourned meeting duly reconvened and at which a quorum is present as aforesaid by the affirmative vote of the Holders of such specified percentage in principal amount of the Outstanding

Securities of that series. Any resolution passed or decision taken at any meeting of Holders of Securities of any series duly held in accordance with this Section shall be binding on all the Holders of Securities of such series and the related Coupons, whether or not present or represented at the meeting.

With respect to any consent, waiver or other action which this Indenture expressly provides may be given by the Holders of a specified percentage of Outstanding Securities of all series affected thereby (acting as one class), only the principal amount of Outstanding Securities of any series represented at a meeting or adjourned meeting duly reconvened at which a quorum is present, held in accordance with this Section, and voting in favor of such action, shall be counted for purposes of calculating the aggregate principal amount of Outstanding Securities of all series affected thereby favoring such action.

SECTION 1405. *Determination of Voting Rights; Conduct and Adjournment of Meetings.* (a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of Holders of Securities of a series in regard to proof of the holding of Securities of such series and of the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate. Except as otherwise permitted or required by any such regulations, the holding of Securities shall be proved in the manner specified in Section 104 and the appointment of any proxy shall be proved in the manner specified in Section 104 or by having the signature of the person executing the proxy witnessed or guaranteed by any trust company, bank or banker authorized by Section 104 to certify to the holder of Bearer Securities. Such regulations may provide that written instruments appointing proxies, regular on their face, may be presumed valid and genuine without the proof specified in Section 104 or other proof.

(b) The Trustee shall, by an instrument in writing, appoint a temporary chairman of the meeting, unless the meeting shall have been called by the Company or by Holders of Securities as provided in Section 1402(b), in which case the Company or the Holders of Securities of the series calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the outstanding Securities of such series represented at the meeting,

(c) At any meeting each Holder of a Security of such series or proxy shall be entitled to one vote for each $1,000 (or the equivalent thereof) principal amount of the Outstanding Securities of such series held or represented by him; *provided, however,* that no vote shall be cast or counted at any meeting in respect of any Security challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a Holder of a Security of such series or proxy.

(d) Any meeting of Holders of Securities of any series duly called pursuant to Section 1402 at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Securities of such series represented at the meeting; and the meeting may be held as so adjourned without further notice.

SECTION 1406. *Counting Votes and Recording Action of Meetings.* The vote upon any resolution submitted to any meeting of Holders of Securities of any series shall be by written ballots on which shall be subscribed the signatures of the Holders of Securities of such series or of their representatives by proxy and the principal amounts and serial numbers of the Outstanding Securities of such series held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of Holders of Securities of any series shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was given as provided in Section 1402 and, if applicable, Section 1404. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting

and one such copy shall be delivered to the Company, and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed, and their respective corporate seals to be hereunto affixed and attested, all as of the day and year first above written.

INTERNATIONAL BUSINESS MACHINES CORPORATION,

by

/s/ Jesse J. Greene, Jr.
Name: Jesse J. Greene, Jr.
Title: Assistant Treasurer

[SEAL]

Attest:

/s/ John E. Hickey
Name: John E. Hickey
Title: Secretary

THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), as Trustee,

by

/s/ J.D. Heaney
Name: J.D. Heaney
Title: Vice President

[SEAL]

Attest:

/s/ J. Manning
Name: J. Manning
Title: Assistant Secretary

STATE OF NEW YORK)
) ss.:
COUNTY OF WESTCHESTER)

On the 15th day of November,1993, before me personally came Jesse J. Greene, Jr., to me known, who, being by me duly sworn, did depose and say that he is an Assistant Treasurer of INTERNATIONAL BUSINESS MACHINES CORPORATION, one of the corporations described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation; and that he signed his name thereto by like authority.

/s/ Robert S. Stone
Notary Public
Robert S. Stone
Notary Public, State of New York
Qualified in Westchester County
Commission Expires February 28, 1995

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

On the 12th day of November, 1993, before me personally came J.D. Heaney, to me known, who, being by me duly sworn, did depose and say that he is a Vice President of THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), one of the corporations described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation; and that he signed his name thereto by like authority.

/s/ Margaret M. Price
Notary Public
Margaret M. Price
Notary Public, State of New York
Qualified in: Kings County
Commission Expires: 4/22/95

EXHIBIT B
[FORMS OF CERTIFICATION]

EXHIBIT B.1

[FORM OF CERTIFICATE TO BE GIVEN BY
PERSON ENTITLED TO RECEIVE BEARER
SECURITY] CERTIFICATE

INTERNATIONAL BUSINESS MACHINES CORPORATION

[INSERT TITLE OR SUFFICIENT DESCRIPTION
OF SECURITIES TO BE DELIVERED]

This is to certify that the above-captioned Securities are not being acquired by or on behalf of a United States person, or for offer to resell or for resale to a United States person or any person inside the United States, or, if a beneficial interest in the Securities is being acquired by a United States person, that such United States person is a financial institution as defined in Section 1.165-12(c)(1)(v) of the United States Treasury Regulations, or is acquiring through a financial institution, and that the Securities were held by a financial institution that has agreed to comply with the requirements of Section 165(j)(3)(A), (B) or (C) of the Internal Revenue Code of 1986, as amended, and the regulations thereunder and that it is not purchasing for offer to resell or for resale inside the United States.

As used herein, "United States person" means any citizen or resident of the United States, any corporation, partnership or other entity created or organized in or under the laws of the United States, or any estate or trust the income of which is subject to United States Federal income taxation regardless of its source, and "United States" means the United States of America (including the states and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction.

We undertake to advise you by telex if the above statement as to beneficial ownership is not correct on the date of delivery of the above-captioned Securities in bearer form as to all such Securities.

We understand that this certificate may be required in connection with certain tax legislation in the United States. If administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate or a copy thereof to any interested party in such proceedings.

Dated: [•], 19[•]
[To be dated on or after
[•],19[•] the date
determined as provided in the Indenture]

[Name of Person Entitled to Receive Bearer Security]

_____
(Authorized Signatory)
Name:
Title:

EXHIBIT B.2

[FORM OF CERTIFICATE TO BE GIVEN BY EURO-CLEAR
AND CEDEL S.A. IN CONNECTION WITH THE EXCHANGE
OF A PORTION OF A TEMPORARY GLOBAL SECURITY]

CERTIFICATE
INTERNATIONAL BUSINESS MACHINES CORPORATION

[INSERT TITLE OR SUFFICIENT DESCRIPTION
OF SECURITIES TO BE DELIVERED]

This is to certify with respect to $[•] principal amount of the above-captioned Securities (i) that we have received from each of the persons appearing in our records as persons entitled to a portion of such principal amount (our "Qualified Account Holders") a certificate with respect to such portion substantially in the form attached hereto and (ii) that we are not submitting herewith for exchange any portion of the temporary global Security representing the above-captioned Securities excepted in such certificates.

We further certify that as of the date hereof we have not received any notification from any of our Qualified Account Holders to the effect that the statements made by such Qualified Account Holders with respect to any portion of the part submitted herewith for exchange are no longer true and cannot be relied upon as of the date hereof.

Date: [•], 19[•]
[To be dated no earlier than
The Exchange Date]

[MORGAN GUARANTY TRUST COMPANY OF NEW
YORK, BRUSSELS OFFICE, as Operator of the Euro-clear
System]
[CEDEL S.A.]

By _____

EXHIBIT B.3

[FORM OF CERTIFICATE TO BE GIVEN BY EURO-CLEAR
AND CEDEL S.A. TO OBTAIN
INTEREST PRIOR TO AN EXCHANGE DATE]

CERTIFICATE

INTERNATIONAL BUSINESS MACHINES CORPORATION

[INSERT TITLE OR SUFFICIENT
DESCRIPTION OF SECURITIES]

We confirm that the interest payable on the Interest Payment Date on [Insert Date] will be paid to each of the persons appearing in our records as being entitled to interest payable on such date from whom we have received a written certification, dated not earlier than such Interest Payment Date, substantially in the form attached hereto. We undertake to retain certificates received from our member organizations in connection herewith for four years from the end of the calendar year in which such certificates are received.

We undertake that any interest received by us and not paid as provided above shall be returned to the Trustee for the above Securities immediately prior to the expiration of two years after such Interest Payment Date in order to be repaid by such Trustee to the above issuer at the end of two years after such Interest Payment Date.

Date: [•], 19[•]
[To be dated on or after the
relevant Interest Payment Date]

[MORGAN GUARANTY TRUST COMPANY OF NEW
YORK, BRUSSELS OFFICE, as Operator of the Euro-clear
System]
[CEDEL S.A.]

By _____

EXHIBIT B.4

[FORM OF CERTIFICATE TO BE GIVEN BY BENEFICIAL OWNERS
TO OBTAIN INTEREST PRIOR TO AN EXCHANGE DATE]

CERTIFICATE

INTERNATIONAL BUSINESS MACHINES CORPORATION

[INSERT TITLE OR SUFFICIENT
DESCRIPTION OF SECURITIES]

This is to certify that as of the Interest Payment Date on [Insert Date] and except as provided in the third paragraph hereof, the above-captioned Securities held by you for our account are not beneficially owned by a United States person, and have not been acquired by or on behalf of a United States person, or for offer to resell or for resale to a United States person or any person inside the United States, or, if any of such Securities held by you for our account are beneficially owned by a United States person, (i) such United States person is a financial institution within the meaning of Section 1.165- 12(c)(1)(v) of the United States Treasury Regulations purchasing for its own account or has acquired such Securities through a financial institution and (ii) such Securities are held by a financial institution that has agreed to comply with the requirements of Section 165(j)(3)(A), (B) or (C) of the Internal Revenue Code of 1986, as amended, and the regulations thereunder and that it did not purchase for offer to resell or for resale inside the United States.

As used herein, "United States person" means any citizen or resident of the United States, any corporation, partnership or other entity created or organized in or under the laws of the United States or any estate or trust the income of which is subject to United States Federal income taxation regardless of its source, and "United States" means the United States of America (including the states and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction.

This certificate excepts and does not relate to U.S. $[•] principal amount of the above-captioned Securities appearing in your books as being held for our account as to which we are not yet able to certify and as to which we understand interest cannot be credited unless and until we are able to so certify.

We understand that this certificate may be required in connection with certain tax legislation in the United States. If administrative or legal proceedings are commenced or threatened in connection with which this certificate is or would be relevant, we irrevocably authorize you to produce this certificate or a copy thereof to any interested party in such proceedings.

Date: [•], 19[•]
[To be dated on or after
the 15th day before the
relevant Interest Payment Date]

[Name of Person Entitled to Receive Interest]

_____

(Authorized Signatory)

Name:

Title:

EXHIBIT B.5

[FORM OF CONFIRMATION TO BE SENT TO
PURCHASERS OF BEARER SECURITIES]

By your purchase of the securities referred to in the accompanying confirmation (the "Securities"):

You represent that you are not a United States person or, if you are a United States person, you are a financial institution as that term is defined in Section 1.165-12(c)(1)(v) of the United States Treasury Regulations, or are acquiring through a financial institution, and that the Securities will be held by a financial institution that agrees to comply with the requirements of Section 165(j)(3)(A), (B) or (C) of the United States Internal Revenue Code of 1986, as amended, and the regulations thereunder and are not purchasing the Securities on behalf of any United States person other than such a financial institution or for offer to resell or for resale inside the United States.

If you are a dealer, (a) you also represent that you have not offered, sold or delivered, and agree that you will not offer, sell, resell or deliver, any of such Securities, directly or indirectly, in the United States or to any United States person other than such a financial institution and (b) you agree that you will deliver to all purchasers of such Securities from you a written statement in this form.

As used herein, "United States" means the United States of America (including the states and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction and "United States person" means a citizen or resident of the United States, a corporation, partnership or other entity created or organized in or under the laws of the United States and an estate or trust the income of which is subject to United States Federal income taxation regardless of its source.

Exhibit 4.2

INTERNATIONAL BUSINESS MACHINES CORPORATION

and

THE CHASE MANHATTAN BANK
(National Association), as Trustee

FIRST SUPPLEMENTAL INDENTURE

TD INDENTURE DATED AS OF OCTOBER 1, 1993

Dated as of December 15, 1995

FIRST SUPPLEMENTAL INDENTURE dated as of December 15, 1995, between INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation duly organized and existing under the laws of New York (herein called the "Company") having its principal office at One Old Orchard Road, Armonk, New York 10504, and THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), a national banking association organized and existing under the laws of the United States of America, as Trustee (herein called the "Trustee").

RECITALS OF THE COMPANY

The Company and the Trustee are parties to an Indenture dated as of October 1, 1993 (the "Indenture"), relating to the issuance from time to time by the Company of its Securities. Capitalized terms used herein, not otherwise defined, shall have the same meanings given them in the Indenture.

The Company has requested the Trustee to join with it in the execution and delivery of this first supplemental indenture (the "First Supplemental Indenture") in order to supplement and amend the Indenture, with respect to Securities outstanding under series created after the date hereof, to increase the amount of Secured Indebtedness and Attributable Debt that the Company is permitted to incur.

Section 1001 of the Indenture provides that a supplemental indenture may be entered into by the Company and the Trustee, without the consent of any Holders, provided that such supplemental indenture does not adversely affect the interests of the Holders of outstanding Securities of any series in any material respect.

The Company has determined that this First Supplemental Indenture complies with said Section 1001 and does not require the consent of any Holders.

All things necessary to make this First Supplemental Indenture a valid agreement of the Company and the Trustee, in accordance with the terms of the Indenture, and a valid amendment of and supplement to the Indenture have been done.

NOW, THEREFORE, THIS FIRST SUPPLEMENTAL INDENTURE WITNESSETH:

For and in consideration of the premises and the purchase of Securities by the Holders thereof, it is mutually agreed, for the equal and ratable benefit of all Holders of Securities of any series created after the date hereof, as follows:

I. AMENDMENT TO THE INDENTURE

Sections 1104 and 1105 of the Indenture are amended, with respect to Securities outstanding under series created after the date hereof, to replace the number “5%” with “10%” in the last clause of Section 1104 and in clause (a) of Section 1105.

II. GENERAL PROVISIONS

A. The recitals contained herein shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of same. The Trustee makes no representation as to the validly of this First Supplemental Indenture. The Indenture, as supplemented and amended by this First Supplemental Indenture, is in all respects hereby adopted, ratified and confirmed.

B. This instrument may be executed in any number of counterparts, each of which so executed shall be deemed to be an original, but all such counterparts shall together constitute but one and the same instrument.

C. This First Supplemental Indenture shall be governed by and construed in accordance with the laws of the State of New York.

INTERNATIONAL BUSINESS MACHINES CORPORATION,

by /s/ Jeffrey D. Serkes
Name: Jeffrey D. Serkes
Title: VP & Treasurer

(SEAL)

ATTEST:

/s/ John E. Hickey

THE CHASE MANHATTAN BANK, (NATIONAL ASSOCIATION), AS TRUSTEE,

by /s/ James D. Heaney
Name: James D. Heaney
Title: Vice President

(SEAL)

ATTEST:

/s/ Gemmel Richards
Assistant Secretary

STATE OF NEW YORK)
) ss.:
COUNTY OF WESTCHESTER)

On the 15th day of December, 1995, before me personally came Jeffrey D. Serkes to me known, who, being by me duly sworn, did depose and say that he is a VP & Treasurer of INTERNATIONAL BUSINESS MACHINES CORPORATION, one of the corporations described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation; and that he signed his name thereto by like authority.

/s/ Richard D. Borgeson
Notary Public

STATE OF NEW YORK)
) ss.:
COUNTY OF KINGS)

On the 15th day of December, 1995, before me personally came James D. Heaney to me known, who, being by me duly sworn, did depose and say that he is a Vice President of THE CHASE MANHATTAN BANK (NATIONAL ASSOCIATION), one of the corporations described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by authority of the Board of Directors of said corporation; and that he signed his name thereto by like authority.

/s/ Margaret M. Price
Notary Public

EXHIBIT 12

COMPUTATION OF RATIO OF INCOME FROM CONTINUING OPERATIONS TO FIXED CHARGES FOR NINE MONTHS ENDED SEPTEMBER 30, (UNAUDITED)

(Dollars in millions)	2017	2016
Income from continuing operations before income taxes (1)	$ 6,936	$ 7,348
Add: fixed charges, excluding capitalized interest	1,301	1,241
Income as adjusted before income taxes	$ 8,236	$ 8,589
Fixed charges:		
Interest expense	$ 947	$ 904
Capitalized interest	(1)	3
Portion of rental expense representative of interest	354	337
Total fixed charges	$ 1,300	$ 1,244
Ratio of income from continuing operations to fixed charges	6.34	6.90

(1) Income from continuing operations before income taxes excludes (a) amortization of capitalized interest, and (b) the company's share in the income and losses of less-than-fifty percent-owned affiliates.

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, Virginia M. Rometty, 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: October 31, 2017

/s/ Virginia M. Rometty
Virginia M. Rometty
Chairman, President 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, Martin J. Schroeter, 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: October 31, 2017

/s/ Martin J. Schroeter
Martin J. Schroeter
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 September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Virginia M. Rometty, Chairman, President 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/ Virginia M. Rometty
Virginia M. Rometty
Chairman, President and Chief Executive Officer
October 31, 2017

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 September 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Martin J. Schroeter, 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/ Martin J. Schroeter
Martin J. Schroeter
Senior Vice President and Chief Financial Officer
October 31, 2017

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.

ibm-20170930.xml

ibm-20170930.xsd

ibm-20170930_cal.xml

ibm-20170930_def.xml

ibm-20170930_lab.xml

ibm-20170930_pre.xml