THERMO FISHER SCIENTIFIC INC.
Form 10-Q
August 04, 2017

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

ý Quarterly Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the Quarter Ended July 1, 2017
¨ Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission File Number 1-8002
THERMO FISHER SCIENTIFIC INC.
(Exact name of Registrant as specified in its charter)

Delaware	04-2209186
(State of incorporation or organization)	(I.R.S. Employer Identification No.)
168 Third Avenue	
Waltham, Massachusetts	02451
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code: (781) 622-1000
Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o
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 during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files). Yes ý No o
Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and "emerging growth company" in Rule 12b-2 of the Exchange Act.
Large accelerated filer ý Accelerated filer o Non-accelerated filer o
Smaller reporting company o Emerging growth company o
If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o
Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No ý
Indicate the number of shares outstanding of each of the issuer’s classes of Common Stock, as of the latest practicable date.

Class	Outstanding at July 1, 2017
Common Stock, $1.00 par value	390,119,503

THERMO FISHER SCIENTIFIC INC.
QUARTERLY REPORT ON FORM 10-Q
FOR THE QUARTER ENDED JULY 1, 2017

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THERMO FISHER SCIENTIFIC INC.

PART I FINANCIAL INFORMATION
Item 1. Financial Statements
CONSOLIDATED BALANCE SHEET
(Unaudited)

(In millions except share and per share amounts)	July 1, 2017	December 31, 2016
Assets		
Current Assets:		
Cash and cash equivalents	$611.0	$786.2
Accounts receivable, less allowances of $87.6 and $77.3	3,258.3	3,048.5
Inventories	2,422.2	2,213.3
Refundable income taxes	414.9	378.3
Other current assets	746.1	594.7
Total current assets	7,452.5	7,021.0
Property, Plant and Equipment, Net	2,599.7	2,577.8
Acquisition-related Intangible Assets, Net	13,575.6	13,969.0
Other Assets	1,040.4	1,011.9
Goodwill	21,845.5	21,327.8
Total Assets	$46,513.7	$45,907.5
Liabilities and Shareholders' Equity		
Current Liabilities:		
Short-term obligations and current maturities of long-term obligations	$1,540.4	$1,255.5
Accounts payable	982.2	926.2
Accrued payroll and employee benefits	612.6	708.7
Accrued income taxes	89.9	165.4
Deferred revenue	542.1	485.9
Other accrued expenses	1,308.6	1,324.1
Total current liabilities	5,075.8	4,865.8
Deferred Income Taxes	2,320.4	2,557.4
Other Long-term Liabilities	1,470.2	1,572.6
Long-term Obligations	15,255.7	15,372.4
Shareholders' Equity:		
Preferred stock, $100 par value, 50,000 shares authorized; none issued		
Common stock, $1 par value, 1,200,000,000 shares authorized; 416,944,144 and 415,138,564 shares issued	416.9	415.1
Capital in excess of par value	12,328.2	12,139.6
Retained earnings	14,972.3	13,926.9
Treasury stock at cost, 26,824,641 and 21,690,679 shares	(3,069.7)	(2,306.0)
Accumulated other comprehensive items	(2,256.1)	(2,636.3)

Total shareholders' equity	22,391.6	21,539.3
Total Liabilities and Shareholders' Equity	$46,513.7	$45,907.5

The accompanying notes are an integral part of these consolidated financial statements.

THERMO FISHER SCIENTIFIC INC.

CONSOLIDATED STATEMENT OF INCOME
(Unaudited)

	Three Months Ended		Six Months Ended	
(In millions except per share amounts)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Revenues				
Product revenues	$4,298.1	$3,896.1	$8,400.2	$7,586.5
Service revenues	691.9	639.1	1,354.8	1,243.5
Total revenues	4,990.0	4,535.2	9,755.0	8,830.0
Costs and Operating Expenses:				
Cost of product revenues	2,244.4	2,039.3	4,374.0	3,972.9
Cost of service revenues	462.5	417.4	905.4	820.7
Selling, general and administrative expenses	1,287.5	1,223.1	2,618.7	2,436.0
Research and development expenses	221.6	182.4	437.0	358.9
Restructuring and other costs, net	22.5	35.4	46.0	86.0
Total costs and operating expenses	4,238.5	3,897.6	8,381.1	7,674.5
Operating Income	751.5	637.6	1,373.9	1,155.5
Other Expense, Net	(125.9)	(116.5)	(245.4)	(211.4)
Income from Continuing Operations Before Income Taxes	625.6	521.1	1,128.5	944.1
(Provision for) Benefit from Income Taxes	(13.4)	(4.3)	35.1	(25.0)
Income from Continuing Operations	612.2	516.8	1,163.6	919.1
Loss from Discontinued Operations (net of income tax benefit of $0.3, $0.1, $0.3 and $0.2)	(0.6)	(0.2)	(0.6)	(0.3)
Net Income	$611.6	$516.6	$1,163.0	$918.8
Earnings per Share from Continuing Operations				
Basic	$1.57	$1.31	$2.98	$2.33
Diluted	$1.56	$1.30	$2.96	$2.31
Earnings per Share				
Basic	$1.57	$1.31	$2.98	$2.33
Diluted	$1.56	$1.30	$2.95	$2.31
Weighted Average Shares				
Basic	390.0	393.9	390.5	394.9
Diluted	393.3	396.7	393.7	397.7
Cash Dividends Declared per Common Share	$0.15	$0.15	$0.30	$0.30

The accompanying notes are an integral part of these consolidated financial statements.

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THERMO FISHER SCIENTIFIC INC.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME
(Unaudited)

	Three Months Ended		Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Comprehensive Income				
Net Income	$611.6	$516.6	$1,163.0	$918.8
Other Comprehensive Items:				
Currency translation adjustment	219.5	(220.7)	379.5	(50.8)
Unrealized gains and losses on available-for-sale investments:				
Unrealized holding gains (losses) arising during the period (net of tax provision (benefit) of $0.1, $0.1, $0.4 and ($0.3))	0.8	—	1.9	(1.5)
Reclassification adjustment for (gains) losses included in net income (net of tax (provision) benefit of ($0.6), $0.0, ($0.6) and $0.0)	(1.0)	—	(1.0)	—
Unrealized gains and losses on hedging instruments:				
Unrealized losses on hedging instruments (net of tax benefit of $22.4)	—	—	—	(36.6)
Reclassification adjustment for losses included in net income (net of tax benefit of $1.2, $0.9, $2.3 and $1.4)	1.9	1.7	3.7	2.5
Pension and other postretirement benefit liability adjustments:				
Pension and other postretirement benefit liability adjustments arising during the period (net of tax benefit (provision) of $2.9, ($1.0), $3.6 and $0.1)	(7.1)	2.3	(9.1)	(1.1)
Amortization of net loss and prior service benefit included in net periodic pension cost (net of tax benefit of $1.4, $0.6, $2.1 and $0.9)	3.3	1.3	5.2	2.7
Total other comprehensive items	217.4	(215.4)	380.2	(84.8)
Comprehensive Income	$829.0	$301.2	$1,543.2	$834.0

The accompanying notes are an integral part of these consolidated financial statements.

THERMO FISHER SCIENTIFIC INC.

CONSOLIDATED STATEMENT OF CASH FLOWS
(Unaudited)

	Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016
Operating Activities		
Net income	$1,163.0	$918.8
Loss from discontinued operations	0.6	0.3
Income from continuing operations	1,163.6	919.1
Adjustments to reconcile income from continuing operations to net cash provided by operating activities:		
Depreciation and amortization	942.7	851.2
Change in deferred income taxes	(298.8)	(304.5)
Non-cash stock-based compensation	71.2	67.1
Non-cash charges for sale of inventories revalued at the date of acquisition	31.1	22.4
Other non-cash expenses, net	45.3	31.7
Changes in assets and liabilities, excluding the effects of acquisitions and dispositions:		
Accounts receivable	(126.6)	(95.0)
Inventories	(146.1)	(25.9)
Other assets	(178.4)	(85.4)
Accounts payable	49.0	39.9
Other liabilities	(160.7)	(144.1)
Contributions to retirement plans	(181.3)	(26.3)
Net cash provided by continuing operations	1,211.0	1,250.2
Net cash used in discontinued operations	(1.1)	(1.9)
Net cash provided by operating activities	1,209.9	1,248.3
Investing Activities		
Acquisitions, net of cash acquired	(307.0)	(1,033.0)
Purchase of property, plant and equipment	(181.4)	(229.9)
Proceeds from sale of property, plant and equipment	2.3	21.7
Proceeds from sale of investments	16.5	7.9
Other investing activities, net	(7.7)	(2.0)
Net cash used in investing activities	$(477.3)	$(1,235.3)

THERMO FISHER SCIENTIFIC INC.

CONSOLIDATED STATEMENT OF CASH FLOWS (Continued)
(Unaudited)

(In millions)	Six Months Ended July 1, 2017	July 2, 2016
Financing Activities		
Net proceeds from issuance of debt	$518.9	$1,985.6
Repayment of debt	(1,328.9)	(1,638.0)
Net proceeds from issuance of commercial paper	4,487.1	3,509.5
Repayments of commercial paper	(3,990.7)	(2,573.4)
Purchases of company common stock	(750.0)	(1,000.0)
Dividends paid	(117.8)	(119.4)
Net proceeds from issuance of company common stock under employee stock plans	99.1	78.4
Other financing activities, net	—	(13.6)
Net cash (used in) provided by financing activities	(1,082.3)	229.1
Exchange Rate Effect on Cash	168.2	(18.6)
(Decrease) Increase in Cash, Cash Equivalents and Restricted Cash	(181.5)	223.5
Cash, Cash Equivalents and Restricted Cash at Beginning of Period	810.8	466.3
Cash, Cash Equivalents and Restricted Cash at End of Period	$629.3	$689.8

See Note 12 for supplemental cash flow information.

The accompanying notes are an integral part of these consolidated financial statements.

THERMO FISHER SCIENTIFIC INC.

CONSOLIDATED STATEMENT OF SHAREHOLDERS' EQUITY
(Unaudited)

(In millions)	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Treasury Stock Shares	Treasury Stock Amount	Accumulated Other Comprehensive Items	Total Shareholders' Equity
Balance at December 31, 2015	411.9	$ 411.9	$ 11,801.2	$ 12,142.3	12.3	$ (1,007.9)	$ (1,997.3)	$ 21,350.2
Issuance of shares under employees' and directors' stock plans	2.1	2.1	104.6	—	0.1	(19.5)	—	87.2
Stock-based compensation	—	—	67.1	—	—	—	—	67.1
Tax benefit related to employees' and directors' stock plans	—	—	44.0	—	—	—	—	44.0
Purchases of company common stock	—	—	—	—	7.3	(1,000.0)	—	(1,000.0)
Dividends declared	—	—	—	(118.6)	—	—	—	(118.6)
Net income	—	—	—	918.8	—	—	—	918.8
Other comprehensive items	—	—	—	—	—	—	(84.8)	(84.8)
Balance at July 2, 2016	414.0	$ 414.0	$ 12,016.9	$ 12,942.5	19.7	$ (2,027.4)	$ (2,082.1)	$ 21,263.9
Balance at December 31, 2016	415.1	$ 415.1	$ 12,139.6	$ 13,926.9	21.7	$ (2,306.0)	$ (2,636.3)	$ 21,539.3
Issuance of shares under employees' and directors' stock plans	1.8	1.8	120.4	—	0.1	(13.7)	—	108.5
Stock-based compensation	—	—	71.2	—	—	—	—	71.2
Purchases of company common stock	—	—	—	—	5.0	(750.0)	—	(750.0)
Dividends declared	—	—	—	(117.6)	—	—	—	(117.6)
Net income	—	—	—	1,163.0	—	—	—	1,163.0
Other comprehensive items	—	—	—	—	—	—	380.2	380.2
Other	—	—	(3.0)	—	—	—	—	(3.0)
Balance at July 1, 2017	416.9	$ 416.9	$ 12,328.2	$ 14,972.3	26.8	$ (3,069.7)	$ (2,256.1)	$ 22,391.6

The accompanying notes are an integral part of these consolidated financial statements.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

Note 1. Nature of Operations and Summary of Significant Accounting Policies

Nature of Operations

Thermo Fisher Scientific Inc. (the company or Thermo Fisher) enables customers to make the world healthier, cleaner and safer by providing analytical instruments, equipment, reagents and consumables, software and services for research, manufacturing, analysis, discovery and diagnostics. Markets served include pharmaceutical and biotech, academic and government, industrial and applied, as well as healthcare and diagnostics.

Interim Financial Statements

The interim consolidated financial statements presented herein have been prepared by the company, are unaudited and, in the opinion of management, reflect all adjustments of a normal recurring nature necessary for a fair statement of the financial position at July 1, 2017, the results of operations for the three- and six-month periods ended July 1, 2017 and July 2, 2016, and the cash flows for the six-month periods ended July 1, 2017 and July 2, 2016. Interim results are not necessarily indicative of results for a full year.

The consolidated balance sheet presented as of December 31, 2016, has been derived from the audited consolidated financial statements as of that date. The consolidated financial statements and notes are presented as permitted by Form 10-Q and do not contain all information that is included in the annual financial statements and notes thereto of the company. The consolidated financial statements and notes included in this report should be read in conjunction with the 2016 financial statements and notes included in the company's Current Report on Form 8-K filed with the Securities and Exchange Commission (SEC) on May 5, 2017.

Note 1 to the consolidated financial statements for 2016 describes the significant accounting estimates and policies used in preparation of the consolidated financial statements. Except for the accounting for tax benefits from stock-based compensation as noted below under the caption Recent Accounting Pronouncements, there have been no material changes in the company's significant accounting policies during the six months ended July 1, 2017.

Inventories

The components of inventories are as follows:

(In millions)	July 1, 2017	December 31, 2016
Raw Materials	$528.9	$466.3
Work in Process	367.8	327.9
Finished Goods	1,525.5	1,419.1
Inventories	$2,422.2	$2,213.3

Property, Plant and Equipment

Property, plant and equipment consists of the following:

(In millions)	July 1, 2017	December 31, 2016
Land	$311.5	$305.6
Buildings and Improvements	1,204.7	1,154.2
Machinery, Equipment and Leasehold Improvements	3,171.8	2,955.7
Property, Plant and Equipment, at Cost	4,688.0	4,415.5
Less: Accumulated Depreciation and Amortization	2,088.3	1,837.7

Property, Plant and Equipment, Net	$2,599.7	$2,577.8

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

Acquisition-related Intangible Assets
Acquisition-related intangible assets are as follows:

(In millions)	Balance at July 1, 2017 Gross	Accumulated Amortization	Net	Balance at December 31, 2016 Gross	Accumulated Amortization	Net
Definite Lived:						
Customer relationships	$13,547.7	$ (5,339.3)	$8,208.4	$13,167.3	$ (4,821.4)	$8,345.9
Product technology	5,937.6	(2,523.7)	3,413.9	5,679.7	(2,204.2)	3,475.5
Tradenames	1,407.9	(731.6)	676.3	1,452.2	(646.0)	806.2
Other	34.3	(34.1)	0.2	33.0	(33.0)	—
	20,927.5	(8,628.7)	12,298.8	20,332.2	(7,704.6)	12,627.6
Indefinite Lived:						
Tradenames	1,234.8	—	1,234.8	1,234.8	—	1,234.8
In-process research and development	42.0	—	42.0	106.6	—	106.6
	1,276.8	—	1,276.8	1,341.4	—	1,341.4
Acquisition-related Intangible Assets	$22,204.3	$ (8,628.7)	$13,575.6	$21,673.6	$ (7,704.6)	$13,969.0

Warranty Obligations
The liability for warranties is included in other accrued expenses in the accompanying balance sheet. The changes in the carrying amount of standard product warranty obligations are as follows:

(In millions)	Six Months Ended July 1, 2017	July 2, 2016
Beginning Balance	$77.9	$55.8
Provision charged to income	54.5	45.2
Usage	(50.9)	(42.4)
Acquisitions	0.5	1.1
Adjustments to previously provided warranties, net	(1.4)	(1.0)
Currency translation	2.4	(0.2)
Ending Balance	$83.0	$58.5

Use of Estimates
The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. In addition, significant estimates were made in estimating future cash flows to assess potential impairment of assets and in determining the fair value of acquired intangible assets (Note 2) and the ultimate loss from abandoning leases at facilities being exited (Note 13). Actual results could differ from those estimates.
Recent Accounting Pronouncements

In March 2017, the FASB issued new guidance intended to improve the presentation of net periodic pension cost and net periodic postretirement benefit cost. The new guidance requires the service cost component of net periodic cost be reported in the same line item(s) as other employee compensation costs and all other components of the net periodic cost be reported in the

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

income statement below operating income. The guidance is effective for the company in 2018. The adoption of this guidance is not expected to have a material impact on the company’s consolidated financial statements.

In January 2017, the FASB issued new guidance that eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, the new guidance will require entities to record an impairment charge based on the excess of a reporting unit’s carrying amount over its fair value. The guidance is effective for the company in 2020. Early adoption is permitted. The adoption of this guidance is not expected to have a material impact on the company’s consolidated financial statements.

In January 2017, the FASB issued new guidance clarifying the definition of a business and providing criteria to determine when an integrated set of assets and activities is not defined as a business. The new guidance requires such integrated sets to be defined as an asset (and not a business) if substantially all of the fair value of the gross assets acquired or disposed is concentrated in a single identifiable asset or a group of similar identifiable assets. The guidance is effective for the company in 2018. Early adoption is permitted. The adoption of this guidance is not expected to have a material impact on the company’s consolidated financial statements.

In November 2016, the FASB issued new guidance intended to reduce diversity in practice in the classification and presentation of changes in restricted cash on the statement of cash flows. The company adopted this guidance on January 1, 2017 and applied the changes to the statement of cash flows retrospectively, as required. The table below summarizes the impact of adopting this and related guidance on the company’s consolidated statement of cash flows for the six months ended July 2, 2016.

In October 2016, the FASB issued new guidance eliminating the deferral of the tax effects of intra-entity asset transfers. The guidance is effective for the company in 2018. The impact of this guidance will be dependent on the extent of future asset transfers which usually occur in connection with planning around acquisitions and other business structuring activities.

In August 2016, the FASB issued new guidance intended to reduce diversity in practice in how certain transactions are classified on the statement of cash flows. The company adopted this guidance on January 1, 2017 and applied the changes to the statement of cash flows retrospectively, as required. The table below summarizes the impact of adopting this and related guidance on the company’s consolidated statement of cash flows for the six months ended July 2, 2016.

In March 2016, the FASB issued new guidance which affects the accounting for stock-based compensation. The new guidance simplifies the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. The company adopted this guidance on January 1, 2017 and applied the changes to the statement of cash flows retrospectively. The table below summarizes the impact of adopting this and related guidance on the company’s consolidated statement of cash flows. Adoption of this guidance decreased the company's tax provision in the first six months of 2017 by $35 million and increased diluted earnings per share for the same period by $0.09. The impact in future periods will be dependent upon changes in the company's stock price, the volume of employee stock option exercises and the timing of service- and performance-based restricted unit vesting.

The guidance issued in November 2016, August 2016 and the provisions of the guidance issued in March 2016 which affected classification on the statement of cash flows were applied retrospectively. As a result of adoption of this guidance, the accompanying statement of cash flows for the first six months of 2016 reflect the following changes from previously reported amounts:

(In millions)	Six Months Ended July 2, 2016

Increase in Net Cash Provided by Operating Activities	$ 69.7
Decrease in Net Cash Used in Investing Activities	12.7
Decrease in Net Cash Provided by Financing Activities	(69.7)

In February 2016, the FASB issued new guidance which requires lessees to record most leases on their balance sheets as lease liabilities, initially measured at the present value of the future lease payments, with corresponding right-of-use assets. The new guidance also sets forth new disclosure requirements related to leases. The guidance is effective for the company in 2019 and must be adopted using a modified retrospective method. Early adoption is permitted. The company is currently evaluating

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

the impact this guidance will have on its consolidated financial statements, however, assets and liabilities will increase upon adoption for right-of-use assets and lease liabilities. The company's future commitments under lease obligations are summarized in Note 10 to the consolidated financial statements for 2016 included in the company's Annual Report on Form 10-K, filed with the SEC.

In January 2016, the FASB issued new guidance which affects the accounting for equity investments, financial liabilities under the fair value option, and the presentation and disclosure requirements for financial instruments. This guidance retains the current accounting for classifying and measuring investments in debt securities and loans, but requires equity investments to be measured at fair value with subsequent changes recognized in net income, except for those accounted for under the equity method or requiring consolidation. The guidance also changes the accounting for investments without a readily determinable fair value and that do not qualify for the practical expedient permitted by the guidance to estimate fair value. A policy election can be made for these investments whereby estimated fair value may be measured at cost and adjusted in subsequent periods for any impairment or changes in observable prices of identical or similar investments. The guidance is effective for the company in 2018. Early adoption is permitted. The adoption of this guidance is not expected to have a material impact on the company's consolidated financial statements.

In July 2015, the FASB issued new guidance which requires an entity to measure inventory at the lower of cost and net realizable value. Net realizable value is defined as the estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. This guidance does not apply to inventory that is measured using last-in, first-out (LIFO). The guidance was effective for the company in 2017. Adoption of this guidance did not have a material impact on the company's consolidated financial statements.

In May 2014, the FASB issued new revenue recognition guidance which provides a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and will supersede most current revenue recognition guidance. The new standard also requires significantly expanded disclosures regarding the qualitative and quantitative information of an entity's nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. During 2016, the FASB issued additional guidance and clarification. The guidance is currently effective for the company in 2018. The company expects to adopt this guidance through application of the modified retrospective method.

The company is continuing to evaluate the standard's impact on its consolidated financial statements by surveying operating sites, reviewing unique customer contract terms, and developing processes to manage the changes in the revenue recognition guidance and gather information for the required disclosures. The company expects this undertaking will be complete in the second half of 2017.

Applying the new guidance to the majority of the company's revenue arrangements based on its most commonly used customer terms and conditions and routine sales transactions, which generally consist of a single performance obligation to transfer promised goods or services, is not expected to have a material impact to the company's consolidated financial statements. While the timing of revenue recognition for some of the company's other sales transactions will be affected by the new guidance, the impact is not expected to be material.

Note 2. Acquisitions

The company's acquisitions have historically been made at prices above the determined fair value of the acquired identifiable net assets, resulting in goodwill, due to expectations of the synergies that will be realized by combining the businesses. These synergies include the elimination of redundant facilities, functions and staffing; use of the company's existing commercial infrastructure to expand sales of the acquired businesses' products; and use of the commercial infrastructure of the acquired businesses to cost-effectively expand sales of company products.

Acquisitions have been accounted for using the purchase method of accounting, and the acquired companies' results have been included in the accompanying financial statements from their respective dates of acquisition. Acquisition transaction costs are recorded in selling, general and administrative expenses as incurred.

Pending Acquisition

In May 2017, the company entered into a purchase agreement and commenced a tender offer to acquire, within the Laboratory Products and Services segment, all of the issued and outstanding shares of Patheon N.V., a leading global provider of high-quality drug development and delivery solutions to the pharmaceutical and biopharma sectors, for $35.00 per share in cash, or approximately $5.2 billion, plus the assumption of approximately $2.0 billion of net debt. The transaction, which is

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

expected to be completed by the end of 2017, is subject to the satisfaction of customary closing conditions, including the receipt of applicable regulatory approvals, and completion of the tender offer. The company expects to finance the purchase price, including the repayment of indebtedness of Patheon, with issuances of debt, including the senior notes issued in July 2017 (Note 14), and up to $2.0 billion from the future issuance of equity. The company is currently evaluating alternatives for future debt and permanent equity financings and the timing of such transactions is subject to market and other conditions. The company also has available, but does not expect to utilize, up to $4.3 billion of financing under a 364-day unsecured committed bridge credit facility (Note 8).

Patheon provides comprehensive, integrated and highly customizable solutions as well as the expertise to help biopharmaceutical companies of all sizes satisfy complex development and manufacturing needs. The acquisition will provide entry into the contract development and manufacturing organization market and add a complementary service to the company's existing portfolio. Patheon's revenues totaled approximately $1.9 billion for the year ended October 31, 2016.

Completed Acquisitions

On March 2, 2017, the company acquired, within the Analytical Instruments segment, Core Informatics, a North America-based provider of cloud-based platforms supporting scientific data management, for a total purchase price of $94 million, net of cash acquired. The acquisition enhanced the company's existing informatics solutions. Revenues of Core Informatics were approximately $10 million in 2016. The purchase price exceeded the fair market value of the identifiable net assets and, accordingly, $63 million was allocated to goodwill, $50 million of which is tax deductible.

On February 14, 2017, the company acquired, within the Life Sciences Solutions segment, Finesse Solutions, Inc., a North America-based developer of scalable control automation systems and software for bioproduction, for a total purchase price of $221 million, net of cash acquired. The acquisition expanded the company's bioproduction offerings. Revenues of Finesse Solutions were approximately $50 million in 2016. The purchase price exceeded the fair market value of the identifiable net assets and, accordingly, $134 million was allocated to goodwill, none of which is tax deductible.

The components of the purchase price and net assets acquired for 2017 acquisitions are as follows:

(In millions)	Core Informatics	Finesse Solutions	Total
Purchase Price			
Cash paid	$ 94.6	$ 223.1	$317.7
Purchase price payable	9.1	—	9.1
Cash acquired	(10.1)	(2.1)	(12.2)
	$ 93.6	$ 221.0	$314.6
Net Assets Acquired			
Current assets	$ 2.0	$ 19.4	$21.4
Property, plant and equipment	0.2	1.6	1.8
Definite-lived intangible assets:			
Customer relationships	6.3	67.7	74.0
Product technology	29.1	32.0	61.1
Tradenames and other	2.7	2.2	4.9
Indefinite-lived intangible assets:			
In-process research and development	—	1.6	1.6
Goodwill	62.5	134.4	196.9
Other assets	0.1	0.3	0.4

Liabilities assumed	(9.3)	(38.2)	(47.5)
	$ 93.6	$ 221.0	$ 314.6

The weighted-average amortization periods for definite-lived intangible assets acquired in 2017 are 12 years for customer relationships, 10 years for product technology and 3 years for tradenames and other. The weighted average amortization period for all definite-lived intangible assets acquired in 2017 is 11 years.

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During the second quarter of 2017, the company finalized the purchase price allocation for the 2016 acquisition of FEI Company. As a result, the company reduced the preliminary values established for tradenames by $88 million and deferred tax liabilities by $18 million and increased goodwill by $70 million. The effect on the income statement of the change was not material.

Unaudited Pro Forma Information

Had the 2016 acquisitions of FEI Company and Affymetrix, Inc. been completed as of the beginning of 2015, the company's pro forma results for 2016 would have been as follows:

(In millions except per share amounts)	Three Months Ended July 2, 2016	Six Months Ended July 2, 2016
Revenues	$4,793.8	$9,398.8
Net Income	$509.2	$886.0
Earnings per Share:		
Basic	$1.29	$2.24
Diluted	$1.28	$2.23

These pro forma results of operations have been prepared for comparative purposes only, and they do not purport to be indicative of the results of operations that actually would have resulted had the acquisitions occurred on the date indicated or that may result in the future.

The company's results would not have been materially different from its pro forma results had the company's other 2016 or 2017 acquisitions occurred at the beginning of 2015 or 2016, respectively.

Revenues and operating income of the FEI acquisition in the first six months of 2017 were $596 million and $26 million, respectively. Operating results include significant acquisition-related and restructuring costs related to synergy planning.

Note 3. Business Segment Information

The company's financial performance is reported in four segments. A description of each segment follows.

Life Sciences Solutions: provides an extensive portfolio of reagents, instruments and consumables used in biological and medical research, discovery and production of new drugs and vaccines as well as diagnosis of disease. These products and services are used by customers in pharmaceutical, biotechnology, agricultural, clinical, academic, and government markets.

Analytical Instruments: provides a broad offering of instruments, consumables, software and services that are used for a range of applications in the laboratory, on the production line and in the field. These products and services are used by customers in pharmaceutical, biotechnology, academic, government, environmental and other research and industrial markets, as well as the clinical laboratory.

Specialty Diagnostics: provides a wide range of diagnostic test kits, reagents, culture media, instruments and associated products used to increase the speed and accuracy of diagnoses. These products are used by customers in healthcare, clinical, pharmaceutical, industrial and food safety laboratories.

Laboratory Products and Services: provides virtually everything needed for the laboratory, including a combination of self-manufactured and sourced products and an extensive service offering. These products and services are used by customers in pharmaceutical, biotechnology, academic, government and other research and industrial markets, as well as the clinical laboratory.

In January 2017, in connection with a change in management responsibility for certain product lines, the company transferred its plastics for cell culture and vaccines/biologics; sample preparation and analysis; and production chemicals product lines to the Life Sciences Solutions segment from the Laboratory Products and Services segment and transferred its biochemical product line from the Life Sciences Solutions segment to the Laboratory Products and Services segment. These moves are consistent with the company’s historical practice of moving a product line between segments when a shift in strategic

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focus of either the product line or a segment more closely aligns the product line with a segment different than that in which it had previously been reported. Prior period segment information has been reclassified to reflect these transfers.

The company's management evaluates segment operating performance based on operating income before certain charges/credits to cost of revenues and selling, general and administrative expenses, principally associated with acquisition accounting; restructuring and other costs/income including costs arising from facility consolidations such as severance and abandoned lease expense and gains and losses from the sale of real estate and product lines as well as from significant litigation-related matters; and amortization of acquisition-related intangible assets. The company uses this measure because it helps management understand and evaluate the segments' core operating results and facilitates comparison of performance for determining compensation.

Business Segment Information

	Three Months Ended		Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Revenues				
Life Sciences Solutions	$1,404.6	$1,367.9	$2,768.1	$2,585.6
Analytical Instruments	1,165.8	793.9	2,217.8	1,553.2
Specialty Diagnostics	861.8	851.3	1,728.2	1,705.9
Laboratory Products and Services	1,792.5	1,719.7	3,491.5	3,368.5
Eliminations	(234.7)	(197.6)	(450.6)	(383.2)
Consolidated revenues	4,990.0	4,535.2	9,755.0	8,830.0
Segment Income (a)				
Life Sciences Solutions	448.1	389.6	882.0	740.9
Analytical Instruments	232.6	144.9	424.4	256.6
Specialty Diagnostics	235.0	237.9	468.9	468.0
Laboratory Products and Services	246.7	259.8	462.9	496.7
Subtotal reportable segments (a)	1,162.4	1,032.2	2,238.2	1,962.2
Cost of revenues charges	(0.7)	(17.4)	(31.6)	(28.0)
Selling, general and administrative charges, net	(6.8)	(3.8)	(38.3)	(32.7)
Restructuring and other costs, net	(22.5)	(35.4)	(46.0)	(86.0)
Amortization of acquisition-related intangible assets	(380.9)	(338.0)	(748.4)	(660.0)
Consolidated operating income	751.5	637.6	1,373.9	1,155.5
Other expense, net (b)	(125.9)	(116.5)	(245.4)	(211.4)
Income from continuing operations before income taxes	$625.6	$521.1	$1,128.5	$944.1
Depreciation				
Life Sciences Solutions	$32.5	$37.6	$65.2	$74.6
Analytical Instruments	17.2	9.9	34.1	19.5
Specialty Diagnostics	18.1	18.2	35.3	36.2

Laboratory Products and Services	29.5	31.4	59.7	60.9
Consolidated depreciation	$97.3	$97.1	$194.3	$191.2

(a) Represents operating income before certain charges to cost of revenues and selling, general and administrative expenses; restructuring and other costs, net; and amortization of acquisition-related intangibles.

(b) The company does not allocate other expense, net to its segments.

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Note 4. Other Expense, Net
The components of other expense, net, in the accompanying statement of income are as follows:

	Three Months Ended		Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Interest Income	$17.8	$13.2	$36.3	$24.0
Interest Expense	(133.6)	(118.8)	(269.0)	(225.0)
Other Items, Net	(10.1)	(10.9)	(12.7)	(10.4)
Other Expense, Net	$(125.9)	$(116.5)	$(245.4)	$(211.4)

Note 5. Stock-based Compensation Expense
The components of stock-based compensation expense are primarily included in selling, general and administrative expenses and are as follows:

	Three Months Ended		Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Stock Option Awards	$11.2	$10.0	$21.4	$20.6
Restricted Unit Awards	27.0	23.7	49.8	46.5
Total Stock-based Compensation Expense	$38.2	$33.7	$71.2	$67.1

During the first six months of 2017, the company made equity compensation grants to employees consisting of 0.7 million service- and performance-based restricted stock units and options to purchase 1.8 million shares.
As of July 1, 2017, there was $93 million of total unrecognized compensation cost related to unvested stock options granted. The cost is expected to be recognized through 2021 with a weighted average amortization period of 2.6 years.
As of July 1, 2017, there was $168 million of total unrecognized compensation cost related to unvested restricted stock unit awards. The cost is expected to be recognized through 2020 with a weighted average amortization period of 2.2 years.

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Note 6. Income Taxes

The provision for income taxes in the accompanying statement of income differs from the provision calculated by applying the statutory federal income tax rate of 35% to income from continuing operations before provision for income taxes due to the following:

(In millions)	Six Months Ended July 1, 2017	Six Months Ended July 2, 2016
Provision for Income Taxes at Statutory Rate	$395.0	$330.4
Increases (Decreases) Resulting From:		
Foreign rate differential	(189.7)	(108.3)
Income tax credits	(114.1)	(187.6)
Manufacturing deduction	(17.4)	(15.7)
Singapore tax holiday	(10.4)	(8.6)
Impact of change in tax laws and apportionment on deferred taxes	(62.9)	8.8
Nondeductible expenses	5.7	3.9
Excess tax benefits from stock options and restricted stock units	(35.2)	—
Tax return reassessments and settlements	(0.9)	1.0
State income taxes, net of federal tax	0.5	(3.6)
Other, net	(5.7)	4.7
(Benefit from) Provision for income taxes	$(35.1)	$25.0

The company has operations and a taxable presence in approximately 50 countries outside the U.S. All of these countries except one have a lower tax rate than the U.S. The countries in which the company has a material presence that have significantly lower tax rates than the U.S. include Germany, the Netherlands, Singapore, Sweden, Switzerland and the United Kingdom. The company’s ability to obtain a benefit from lower tax rates outside the U.S. is dependent on its relative levels of income in countries outside the U.S. and on the statutory tax rates in those countries.

In 2017, the company continued to implement tax planning initiatives related to non U.S. subsidiaries. The company implemented foreign tax credit planning in Sweden which resulted in $20 million of foreign tax credits, with no related incremental U.S. income tax expense.

The company receives a tax deduction upon exercise of non-qualified stock options by employees, or the vesting of restricted stock units held by employees, for the difference between the exercise price and the market price of the underlying common stock on the date of exercise. Prior to 2017, the amount of the tax deduction in excess of compensation cost recognized was allocated to capital in excess of par value. Beginning in 2017, these excess tax benefits reduce the tax provision as described in Note 1. In the first six months of 2017, the company's tax provision was reduced by $35 million of such benefits.

The company has significant activities in Singapore and has received considerable tax incentives. The local taxing authority granted the company pioneer company status which provides an incentive encouraging companies to undertake activities that have the effect of promoting economic or technological development in Singapore. This incentive equates to a tax exemption on earnings associated with most of the company’s manufacturing activities in Singapore and continues through December 31, 2026. In 2017 and 2016, the impact of this tax holiday decreased the annual effective tax rates by 0.9% and 0.9%, respectively, and increased diluted earnings per share by approximately $0.03 and $0.02, respectively. In connection with the March 2017 extension of this agreement until 2026, the company recorded a benefit in Q1 2017 of approximately $65 million ($0.16 per diluted share) for the effect on deferred tax balances of the extended tax holiday.

The company’s unrecognized tax benefits decreased to $790 million at July 1, 2017, from $802 million at December 31, 2016. An adjustment to a prior year amended tax filing resulted in a decrease of $13 million.

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Note 7. Earnings per Share

	Three Months Ended		Six Months Ended	
(In millions except per share amounts)	July 1, 2017	July 2, 2016	July 1, 2017	July 2, 2016
Income from Continuing Operations	$612.2	$516.8	$1,163.6	$919.1
Loss from Discontinued Operations	(0.6)	(0.2)	(0.6)	(0.3)
Net Income	$611.6	$516.6	$1,163.0	$918.8
Basic Weighted Average Shares	390.0	393.9	390.5	394.9
Plus Effect of:				
Stock options and restricted units	3.3	2.8	3.2	2.8
Diluted Weighted Average Shares	393.3	396.7	393.7	397.7
Basic Earnings per Share:				
Continuing operations	$1.57	$1.31	$2.98	$2.33
Discontinued operations	—	—	—	—
Basic Earnings per Share	$1.57	$1.31	$2.98	$2.33
Diluted Earnings per Share:				
Continuing operations	$1.56	$1.30	$2.96	$2.31
Discontinued operations	—	—	—	—
Diluted Earnings per Share	$1.56	$1.30	$2.95	$2.31

Options to purchase 1.9 million, 1.8 million, 2.2 million and 2.7 million shares of common stock were not included in the computation of diluted earnings per share for the second quarter of 2017 and 2016 and the first six months of 2017 and 2016, respectively, because their effect would have been antidilutive.

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Note 8. Debt and Other Financing Arrangements

(Dollars in millions)	Effective Interest Rate at July 1, 2017		July 1, 2017	December 31, 2016
Commercial Paper	0.27	%	$1,538.1	$953.3
Term Loan			—	825.0
1.85% 5-Year Senior Notes, Due 1/15/2018			—	500.0
Floating Rate 2-Year Senior Notes, Due 8/9/2018 (euro-denominated)	0.12	%	685.6	631.0
2.15% 3-Year Senior Notes, Due 12/14/2018	2.35	%	450.0	450.0
2.40% 5-Year Senior Notes, Due 2/1/2019	2.59	%	900.0	900.0
6.00% 10-Year Senior Notes, Due 3/1/2020	2.97	%	750.0	750.0
4.70% 10-Year Senior Notes, Due 5/1/2020	4.23	%	300.0	300.0
1.50% 5-Year Senior Notes, Due 12/1/2020 (euro-denominated)	1.62	%	485.6	447.0
5.00% 10-Year Senior Notes, Due 1/15/2021	3.24	%	400.0	400.0
4.50% 10-Year Senior Notes, Due 3/1/2021	4.72	%	1,000.0	1,000.0
3.60% 10-Year Senior Notes, Due 8/15/2021	4.55	%	1,100.0	1,100.0
3.30% 7-Year Senior Notes, Due 2/15/2022	3.43	%	800.0	800.0
2.15% 7-Year Senior Notes, Due 7/21/2022 (euro-denominated)	2.28	%	571.3	525.9
3.15% 10-Year Senior Notes, Due 1/15/2023	3.31	%	800.0	800.0
3.00% 7-Year Senior Notes Due 4/15/2023	4.82	%	1,000.0	1,000.0
4.15% 10-Year Senior Notes, Due 2/1/2024	4.16	%	1,000.0	1,000.0
0.75% 8-Year Senior Notes, Due 9/12/2024 (euro-denominated)	0.94	%	1,142.6	1,051.7
2.00% 10-Year Senior Notes, Due 4/15/2025 (euro-denominated)	2.09	%	731.3	673.1
3.65% 10-Year Senior Notes, Due 12/15/2025	3.77	%	350.0	350.0
2.95% 10-Year Senior Notes, Due 9/19/2026	3.19	%	1,200.0	1,200.0
1.45% 10-Year Senior Notes, Due 3/16/2027 (euro-denominated)	1.66	%	571.3	—
1.375% 12-Year Senior Notes, 9/12/2028 (euro-denominated)	1.46	%	685.5	631.0
5.30% 30-Year Senior Notes, Due 2/1/2044	5.37	%	400.0	400.0
Other			12.0	13.0
Total Borrowings at Par Value			16,873.3	16,701.0
Fair Value Hedge Accounting Adjustments			(40.6)	(49.3)
Unamortized Premium, Net			34.0	52.2
Unamortized Debt Issuance Costs			(70.6)	(76.0)
Total Borrowings at Carrying Value			16,796.1	16,627.9
Less: Short-term Obligations and Current Maturities			1,540.4	1,255.5
Long-term Obligations			$15,255.7	$15,372.4

The effective interest rates for the fixed-rate debt include the stated interest on the notes, the accretion of any discount or amortization of any premium, the amortization of any debt issuance costs and, if applicable, adjustments related to hedging.

See Note 11 for fair value information pertaining to the company's long-term obligations.

Credit Facilities

The company has a revolving credit facility with a bank group that provides for up to $2.50 billion of unsecured multi-currency revolving credit. The facility expires in July 2021. The agreement calls for interest at either a LIBOR-based rate, a EURIBOR-based rate (for funds drawn in Euro) or a rate based on the prime lending rate of the agent bank, at the company's option. The agreement contains affirmative, negative and financial covenants, and events of default customary for financings of this type. The financial covenants require the company to maintain a Consolidated Leverage Ratio of debt to EBITDA (as defined in the agreement) below 3.5 to 1.0 beginning in the third quarter of 2017. This ratio may be temporarily increased to 4.5

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to 1.0 (with subsequent step down to 3.5 to 1.0) in the event of a qualified acquisition. The agreement also requires the company to maintain an Interest Coverage Ratio of EBITDA (as defined in the agreement) to interest expense of 3.0 to 1.0. The credit agreement permits the company to use the facility for working capital; acquisitions; repurchases of common stock, debentures and other securities; the refinancing of debt; and general corporate purposes. The credit agreement allows for the issuance of letters of credit, which reduces the amount available for borrowing. If the company borrows under this facility, it intends to leave undrawn an amount equivalent to outstanding commercial paper to provide a source of funds in the event that commercial paper markets are not available. As of July 1, 2017, no borrowings were outstanding under the facility, although available capacity was reduced by approximately $73 million as a result of outstanding letters of credit.

Bridge Financing for Pending Patheon Acquisition

In May 2017, in connection with the agreement to acquire Patheon, the company entered into commitment letters for a 364-day unsecured committed bridge credit facility in the principal amount of $7.3 billion. The commitment under the bridge facility was reduced to $4.3 billion by the net cash proceeds of the company's July 2017 issuance of senior notes (Note 14) and will be further reduced by the aggregate net cash proceeds of any future offering of senior notes, as well as by aggregate commitments received under a proposed new term loan facility and the aggregate net cash proceeds of any future equity issuances or asset sales outside the ordinary course of business (in each case, with certain limited exceptions).

Commercial Paper Programs

The company has commercial paper programs pursuant to which it may issue and sell unsecured, short-term promissory notes (CP Notes). Under the U.S. program, a) maturities may not exceed 397 days from the date of issue and b) the CP Notes are issued on a private placement basis under customary terms in the commercial paper market and are not redeemable prior to maturity nor subject to voluntary prepayment. Under the euro program, maturities may not exceed 183 days and may be denominated in euro, U.S. dollars, Japanese yen, British pounds sterling, Swiss franc, Canadian dollars or other currencies. Under both programs, the CP Notes are issued at a discount from par (or premium to par, in the case of negative interest rates), or, alternatively, are sold at par and bear varying interest rates on a fixed or floating basis. As of July 1, 2017, outstanding borrowings under these programs were $1.54 billion, with a weighted average remaining period to maturity of 52 days and are classified as short-term obligations in the accompanying balance sheet.

Senior Notes

Interest on the floating rate senior notes is payable quarterly. Interest is payable annually on the other euro-denominated senior notes and semi-annually on all other senior notes. Each of the notes may be redeemed at a redemption price of 100% of the principal amount plus a specified make-whole premium plus accrued interest. The company is subject to certain affirmative and negative covenants under the indentures governing the senior notes, the most restrictive of which limits the ability of the company to pledge principal properties as security under borrowing arrangements.

Thermo Fisher Scientific (Finance I) B.V., a wholly-owned finance subsidiary of the company issued the Floating Rate Senior Notes due 2018 included in the table above. This subsidiary has no independent function other than financing activities. The Floating Rate Senior Notes due 2018 are fully and unconditionally guaranteed by the company and no other subsidiaries of the company have guaranteed the obligations.

Interest Rate Swap Arrangements

The company has entered into LIBOR-based interest rate swap arrangements with various banks on several of its outstanding senior notes. The aggregate amounts of the swaps are equal to the principal amounts of the notes and the payment dates of the swaps coincide with the interest payment dates of the notes. The swap contracts provide for the company to pay a variable interest rate and receive a fixed rate. The variable interest rates reset monthly. The swaps have been accounted for as fair value hedges of the notes. See Note 11 for additional information. The following table summarizes the outstanding interest rate swap arrangements on the company's senior notes at July 1, 2017:

(Dollars in millions)	Aggregate Notional Amount	Pay Rate	Pay Rate as of July 1, 2017		Receive Rate	
4.50% Senior Notes due 2021	1,000.0	1-month LIBOR + 3.4420%	4.4925	%	4.50	%
3.60% Senior Notes due 2021	1,100.0	1-month LIBOR + 2.5150%	3.6739	%	3.60	%
3.00% Senior Notes due 2023	1,000.0	1-month LIBOR + 1.7640%	2.9229	%	3.00	%

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Note 9. Commitments and Contingencies
Environmental Matters
The company is currently involved in various stages of investigation and remediation related to environmental matters. The company cannot predict all potential costs related to environmental remediation matters and the possible impact on future operations given the uncertainties regarding the extent of the required cleanup, the complexity and interpretation of applicable laws and regulations, the varying costs of alternative cleanup methods and the extent of the company's responsibility. Expenses for environmental remediation matters related to the costs of installing, operating and maintaining groundwater-treatment systems and other remedial activities related to historical environmental contamination at the company's domestic and international facilities were not material in any period presented. The company records accruals for environmental remediation liabilities, based on current interpretations of environmental laws and regulations, when it is probable that a liability has been incurred and the amount of such liability can be reasonably estimated. The company calculates estimates based upon several factors, including reports prepared by environmental specialists and management's knowledge of and experience with these environmental matters. The company includes in these estimates potential costs for investigation, remediation and operation and maintenance of cleanup sites. At July 1, 2017, the company's total environmental liability was approximately $49 million. While management believes the accruals for environmental remediation are adequate based on current estimates of remediation costs, the company may be subject to additional remedial or compliance costs due to future events such as changes in existing laws and regulations, changes in agency direction or enforcement policies, developments in remediation technologies or changes in the conduct of the company's operations, which could have a material adverse effect on the company's financial position, results of operations or cash flows.
Litigation and Related Contingencies
There are various lawsuits and claims pending against the company including matters involving product liability, intellectual property, employment and commercial issues. The company determines the probability and range of possible loss based on the current status of each of these matters. A liability is recorded in the financial statements if it is believed to be probable that a loss has been incurred and the amount of the loss can be reasonably estimated. The company establishes a liability that is an estimate of amounts expected to be paid in the future for events that have already occurred. The company accrues the most likely amount or at least the minimum of the range of probable loss when a range of probable loss can be estimated. The accrued liabilities are based on management's judgment as to the probability of losses for asserted and unasserted claims and, where applicable, actuarially determined estimates. Accrual estimates are adjusted as additional information becomes known or payments are made. The amount of ultimate loss may differ from these estimates. Due to the inherent uncertainties associated with pending litigation or claims, the company cannot predict the outcome, nor, with respect to certain pending litigation or claims where no liability has been accrued, make a meaningful estimate of the reasonably possible loss or range of loss that could result from an unfavorable outcome. The company has no material accruals for pending litigation or claims for which accrual amounts are not disclosed below or in the company's 2016 Annual Report on Form 10-K filed with the SEC, nor are material losses deemed probable for such matters. It is reasonably possible, however, that an unfavorable outcome that exceeds the company's current accrual estimate, if any, for one or more of the matters described below could have a material adverse effect on the company's results of operations, financial position and cash flows.
Product Liability, Workers Compensation and Other Personal Injury Matters
For product liability, workers compensation and other personal injury matters, the company accrues the most likely amount or at least the minimum of the range of possible loss when a range of possible loss can be estimated. The company records estimated amounts due from insurers related to certain product liabilities as an asset. Although the company believes that the amounts accrued and estimated recoveries are probable and appropriate based on available information, including actuarial studies of loss estimates, the process of estimating losses and insurance recoveries involves a considerable degree of judgment by management and the ultimate amounts could vary materially. Insurance contracts do not relieve the company of its primary obligation with respect to any losses incurred. The

collectability of amounts due from its insurers is subject to the solvency and willingness of the insurer to pay, as well as the legal sufficiency of the insurance claims. Management monitors the payment history as well as the financial condition and ratings of its insurers on an ongoing basis.

Intellectual Property Matters

On June 6, 2004, Enzo Biochem, Enzo Life Sciences and Yale University filed a complaint against Life Technologies in United States District Court for the District of Connecticut. The plaintiffs allege patent infringement by Applera’s labeled DNA terminator products used in DNA sequencing and fragment analysis. The plaintiff sought damages for alleged willful infringement, attorneys’ fees, costs, prejudgment interest, and injunctive relief. In November 2012, the jury awarded damages

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of $49 million. Prejudgment interest of $12 million was also granted. The $61 million judgment and interest was accrued by Life Technologies and the liability was assumed by the company as of the date of the acquisition. In March 2015 the United States Court of Appeals for the Federal Circuit vacated the judgment and returned the case to the District Court for further proceedings. In February 2016, the District Court granted the company’s motion for summary judgment of non-infringement and entered judgment in its favor. Enzo appealed that decision to the Federal Circuit in March 2016. In August 2017, the Federal Circuit affirmed the District Court’s judgment that the company’s products at issue in the litigation do not infringe Enzo’s patent. Enzo may seek rehearing at the Federal Circuit or petition to the United States Supreme Court. The company has maintained the $61 million accrual, pending appeals.

On May 26, 2010, Promega Corp. & Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften EV filed a complaint against Life Technologies in the United States District Court for the Western District of Wisconsin. The plaintiffs allege patent infringement by sales and uses of Applied Biosystems’ short tandem repeat DNA identification products outside the scope of a 2006 license agreement. The plaintiff sought damages for alleged willful infringement, attorneys’ fees, costs, prejudgment interest, and injunctive relief. Although a jury initially found willful infringement and assessed damages at $52 million the District Court subsequently overturned the verdict on the grounds that the plaintiff had failed to prove infringement. The District Court entered judgment in favor of Life Technologies; and plaintiffs and Life Technologies filed cross-appeals with the United States Court of Appeals for the Federal Circuit. The $52 million award was accrued by Life Technologies and the liability was assumed by the company as of the date of the acquisition. On December 15, 2014, the Court of Appeals issued a decision invalidating four of the plaintiffs’ patents, but finding infringement by Life Technologies of the remaining fifth patent. The Court of Appeals also ordered a new trial on damages in the District Court. Life Technologies' petition to the U.S. Supreme Court seeking review of the Court of Appeals’ judgment was granted on June 27, 2016, and the case was stayed in the District Court pending the outcome of the Supreme Court’s review. On February 22, 2017, the Supreme Court issued a decision reversing the Court of Appeals’ judgment and remanding the case to the Court of Appeals for further proceedings in view of the Supreme Court’s legal interpretation of the patent law statute in question. The company has maintained the $52 million accrual, pending conclusion of this matter.

On June 3, 2013, Unisone Strategic IP filed a complaint against Life Technologies in the United States District Court for the Southern District of California alleging patent infringement by Life Technologies’ supply chain management system software, which operates with product “supply centers” installed at customer sites. Plaintiff seeks damages for alleged willful infringement, attorneys’ fees, costs, and injunctive relief.

Commercial Matters

On May 5, 2015, and February 12, 2016, the Academy of Allergy & Asthma in Primary Care and United Biologics, LLC d/b/a United Allergy Services, a provider of on-site services to physicians in the delivery of testing and treatment of allergies, filed a complaint against Phadia U.S. Inc. (a subsidiary of the company) and Thermo Fisher Scientific Inc., respectively, in the United States District Court for the Western District of Texas. The plaintiffs allege various claims of anticompetitive activities in violation of antitrust laws, tortious interference with contracts and existing and prospective business relations, and civil conspiracy. On March 28, 2016, the company filed a counterclaim against United Biologics, LLC alleging tortious interference with business relations and seeking a declaratory judgment and injunctive relief. The plaintiffs seek damages, attorneys’ fees, costs, and injunctive relief. The company expects this matter will be scheduled for trial in 2017.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

Note 10. Comprehensive Income and Shareholders' Equity

Comprehensive Income (Loss)

Comprehensive income (loss) combines net income and other comprehensive items. Other comprehensive items represent certain amounts that are reported as components of shareholders’ equity in the accompanying balance sheet. Changes in each component of accumulated other comprehensive items, net of tax are as follows:

(In millions)	Currency Translation Adjustment	Unrealized Gains on Available-for-Sale Investments	Unrealized Losses on Hedging Instruments	Pension and Other Postretirement Benefit Liability Adjustment	Total
Balance at December 31, 2016	$(2,343.4)	$ 0.9	$ (57.1)	$ (236.7)	$(2,636.3)
Other comprehensive income (loss) before reclassifications	379.5	1.9	—	(9.1)	372.3
Amounts reclassified from accumulated other comprehensive items	—	(1.0)	3.7	5.2	7.9
Net other comprehensive items	379.5	0.9	3.7	(3.9)	380.2
Balance at July 1, 2017	$(1,963.9)	$ 1.8	$ (53.4)	$ (240.6)	$(2,256.1)

Note 11. Fair Value Measurements and Fair Value of Financial Instruments

Fair Value Measurements

The company uses the market approach technique to value its financial instruments and there were no changes in valuation techniques during 2017. The company’s financial assets and liabilities carried at fair value are primarily comprised of insurance contracts, investments in money market funds, derivative contracts, mutual funds holding publicly traded securities and other investments in unit trusts held as assets to satisfy outstanding deferred compensation and retirement liabilities; and acquisition-related contingent consideration.

The fair value accounting guidance requires that assets and liabilities carried at fair value be classified and disclosed in one of the following three categories:

Level 1: Quoted market prices in active markets for identical assets or liabilities that the company has the ability to access.

Level 2: Observable market based inputs or unobservable inputs that are corroborated by market data such as quoted prices, interest rates and yield curves.

Level 3: Inputs are unobservable data points that are not corroborated by market data.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

The following tables present information about the company’s financial assets and liabilities measured at fair value on a recurring basis as of July 1, 2017 and December 31, 2016:

(In millions)	July 1, 2017	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Cash equivalents	$78.7	$ 78.7	$ —	$ —
Bank time deposits	2.0	2.0	—	—
Investments in mutual funds and other similar instruments	11.6	11.6	—	—
Warrants	4.1	—	4.1	—
Insurance contracts	106.7	—	106.7	—
Derivative contracts	53.5	—	53.5	—
Total Assets	$256.6	$ 92.3	$ 164.3	$ —
Liabilities				
Derivative contracts	$109.7	$ —	$ 109.7	$ —
Contingent consideration	40.8	—	—	40.8
Total Liabilities	$150.5	$ —	$ 109.7	$ 40.8

(In millions)	December 31, 2016	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets				
Cash equivalents	$ 64.8	$ 64.8	$ —	$ —
Bank time deposits	2.0	2.0	—	—
Investments in mutual funds and other similar instruments	15.5	15.5	—	—
Warrants	2.0	—	2.0	—
Insurance contracts	102.1	—	102.1	—
Derivative contracts	15.8	—	15.8	—
Total Assets	$ 202.2	$ 82.3	$ 119.9	$ —
Liabilities				
Derivative contracts	$ 121.9	$ —	$ 121.9	$ —
Contingent consideration	3.4	—	—	3.4

Total Liabilities	$ 125.3	$ —	$ 121.9	$ 3.4

The company determines the fair value of its insurance contracts by obtaining the cash surrender value of the contracts from the issuer. The fair value of derivative contracts is the estimated amount that the company would receive/pay upon liquidation of the contracts, taking into account the change in interest rates and currency exchange rates. The company determines the fair value of acquisition-related contingent consideration based on assessment of the probability that the company would be required to make such future payment. Changes to the fair value of contingent consideration are recorded in selling, general and administrative expense.

The notional amounts of derivative contracts outstanding, consisting of interest rate swaps and currency exchange contracts, totaled $6.68 billion and $6.70 billion at July 1, 2017 and December 31, 2016, respectively.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

While certain derivatives are subject to netting arrangements with counterparties, the company does not offset derivative assets and liabilities within the consolidated balance sheet. The following tables present the fair value of derivative instruments in the consolidated balance sheet and statement of income.

(In millions)	Fair Value – Assets July 1, 2017	December 31, 2016	Fair Value – Liabilities July 1, 2017	December 31, 2016
Derivatives Designated as Hedging Instruments				
Interest rate swaps (a)	$ —	$ —	$99.9	$ 109.5
Derivatives Not Designated as Hedging Instruments				
Currency exchange contracts (b)	53.5	15.8	9.8	12.4

(a) The fair value of the interest rate swaps is included in the consolidated balance sheet under the caption other long-term liabilities.

(b) The fair value of the currency exchange contracts is included in the consolidated balance sheet under the captions other current assets or other accrued expenses.

(In millions)	Gain (Loss) Recognized Three Months Ended July 1, 2017	July 2, 2016	Six Months Ended July 1, 2017	July 2, 2016
Derivatives Designated as Fair Value Hedges				
Interest rate swaps - effective portion	$0.5	$4.6	$2.9	$12.1
Interest rate swaps - ineffective portion	(2.1)	0.5	(5.1)	0.5
Derivatives Not Designated as Hedging Instruments				
Currency exchange contracts				
Included in cost of revenues	$(0.7)	$(7.5)	$(2.1)	$(15.0)
Included in other expense, net	52.1	(20.7)	71.3	(44.1)

Gains and losses recognized on currency exchange contracts and the effective portion of interest rate swaps are included in the consolidated statement of income together with the corresponding, offsetting losses and gains on the underlying hedged transactions. Gains and losses recognized on the ineffective portion of interest rate swaps are included in other expense, net in the accompanying statement of income.

The company also uses foreign currency-denominated debt to partially hedge its net investments in foreign operations against adverse movements in exchange rates. The company's euro-denominated senior notes have been designated as, and are effective as, economic hedges of part of the net investment in a foreign operation. Accordingly, foreign currency transaction gains or losses due to spot rate fluctuations on the euro-denominated debt instruments are included in currency translation adjustment within other comprehensive income and shareholders' equity. In the first six months of 2017 and 2016, pre-tax net gains/(losses) of $(329) million and $(43) million, respectively, from the euro-denominated notes were included in currency translation adjustment.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

Fair Value of Other Financial Instruments

The carrying value and fair value of the company's notes receivable and debt obligations are as follows:

	July 1, 2017		December 31, 2016	
(In millions)	Carrying Value	Fair Value	Carrying Value	Fair Value
Notes Receivable	$68.0	$70.9	$56.5	$58.7
Debt Obligations:				
Senior notes	$15,246.0	$15,721.2	$14,838.3	$15,184.4
Term loan	—	—	823.3	825.0
Commercial paper	1,538.1	1,538.1	953.3	953.3
Other	12.0	12.0	13.0	13.0
	$16,796.1	$17,271.3	$16,627.9	$16,975.7

The fair value of debt obligations was determined based on quoted market prices and on borrowing rates available to the company at the respective period ends which represent level 2 measurements.

Note 12. Supplemental Cash Flow Information

	Six Months Ended	
(In millions)	July 1, 2017	July 2, 2016
Non-cash Activities		
Fair value of assets of acquired businesses	$374.3	$1,672.7
Cash paid for acquired businesses	(317.7)	(1,110.1)
Liabilities assumed of acquired businesses	$56.6	$562.6
Declared but unpaid dividends	$59.9	$60.6
Issuance of stock upon vesting of restricted stock units	$37.7	$48.7

Cash, cash equivalents and restricted cash is included in the consolidated balance sheet as follows:

(In millions)	July 1, 2017	December 31, 2016
Cash and Cash Equivalents	$611.0	$ 786.2
Restricted Cash Included in Other Current Assets	15.8	18.0
Restricted Cash Included in Other Assets	2.5	6.6
Cash, Cash Equivalents and Restricted Cash	$629.3	$ 810.8

Amounts included in restricted cash represent funds held as collateral for bank guarantees and incoming cash in China awaiting government administrative clearance.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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Note 13. Restructuring and Other Costs, Net

Restructuring and other costs in the first six months of 2017 included continuing charges for headcount reductions and facility consolidations in an effort to streamline operations, including the closure and consolidation of operations within several facilities in the U.S., Europe and Asia; costs to achieve synergies related to acquisitions, including severance and abandoned facility costs; third-party acquisition transaction and integration costs primarily associated with the acquisition of FEI and the pending acquisition of Patheon; charges for changes in estimates of acquisition contingent consideration; sales of inventories revalued at the date of acquisition; and net charges for litigation matters. In the first six months of 2017, severance actions associated with facility consolidations and cost reduction measures affected approximately 1% of the company's workforce.

As of August 4, 2017, the company has identified restructuring actions that will result in additional charges of approximately $80 million, primarily in 2017 and 2018, which will be recorded when specified criteria are met, such as communication of benefit arrangements and abandonment of leased facilities.

Second Quarter of 2017

During the second quarter of 2017, the company recorded net restructuring and other costs by segment as follows:

(In millions)	Cost of Revenues	Selling, General and Administrative Expenses	Restructuring and Other Costs, Net	Total
Life Sciences Solutions	$ 0.4	$ 0.5	$ 15.7	$16.6
Analytical Instruments	—	1.0	0.4	1.4
Specialty Diagnostics	—	—	1.7	1.7
Laboratory Products and Services	0.3	5.3	3.3	8.9
Corporate	—	—	1.4	1.4
	$ 0.7	$ 6.8	$ 22.5	$30.0

The principal components of net restructuring and other costs by segment are as follows:

Life Sciences Solutions

In the second quarter of 2017, the Life Sciences Solutions segment recorded $17 million of net restructuring and other charges, principally cash restructuring costs primarily for employee severance and other costs associated with facility consolidations in the U.S. and Europe.

Analytical Instruments

In the second quarter of 2017, the Analytical Instruments segment recorded $1 million of net restructuring and other charges, principally selling, general, and administrative expenses for third party acquisition transaction costs.

Specialty Diagnostics

In the second quarter of 2017, the Specialty Diagnostics segment recorded $2 million of net restructuring and other charges, all of which were cash costs, primarily for employee severance and other costs associated with headcount reductions in the U.S. and Europe.

Laboratory Products and Services

In the second quarter of 2017, the Laboratory Products and Services segment recorded $9 million of net restructuring and other charges. The segment recorded $5 million of charges to selling, general, and administrative expenses, principally for third party transaction costs related to the pending acquisition of Patheon (Note 2). The segment also recorded $3 million of cash restructuring costs, primarily for employee severance and other costs associated with facility consolidations in Europe.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
(Unaudited)

Corporate
In the second quarter of 2017, the company recorded $1 million of net restructuring and other charges, principally charges for the settlement of a retirement plan.
First Six Months of 2017
During the first six months of 2017, the company recorded net restructuring and other costs by segment as follows:

(In millions)	Cost of Revenues	Selling, General and Administrative Expenses	Restructuring and Other Costs, Net	Total
Life Sciences Solutions	$ 0.7	$ 28.3	$ 31.0	$60.0
Analytical Instruments	30.6	4.6	6.8	42.0
Specialty Diagnostics	—	—	3.0	3.0
Laboratory Products and Services	0.3	5.4	3.8	9.5
Corporate	—	—	1.4	1.4
	$ 31.6	$ 38.3	$ 46.0	$115.9

The principal components of net restructuring and other costs by segment are as follows:
Life Sciences Solutions
In the first six months of 2017, the Life Sciences Solutions segment recorded $60 million of net restructuring and other charges. The segment recorded $28 million of charges to selling, general and administrative expenses, principally for changes in estimates of acquisition contingent consideration. In addition, the segment recorded $31 million of restructuring and other costs, including $17 million of severance and related costs primarily to achieve acquisition synergies, $12 million of abandoned facilities costs principally for the consolidation of facilities in the U.S, and $2 million of charges for litigation-related matters at acquired businesses.
Analytical Instruments
In the first six months of 2017, the Analytical Instruments segment recorded $42 million of net restructuring and other charges. The segment recorded charges to cost of revenues of $31 million for the sales of inventory revalued at the date of acquisition; $5 million of charges to selling, general, and administrative expense for third-party transaction costs related to recent acquisitions; and $7 million of restructuring and other costs, primarily for severance and other costs to achieve acquisition synergies.
Specialty Diagnostics
In the first six months of 2017, the Specialty Diagnostics segment recorded $3 million of net restructuring and other charges, all of which were cash costs, primarily for employee severance and other costs associated with headcount reductions in the U.S. and Europe.
Laboratory Products and Services
In the first six months of 2017, the Laboratory Products and Services segment recorded $10 million of net restructuring and other charges. The segment recorded $5 million of charges to selling, general, and administrative expenses, principally for third party transaction costs related to the pending acquisition of Patheon. The segment also recorded $4 million of restructuring and other costs, primarily for employee severance and other costs associated with facility consolidations in Europe.

THERMO FISHER SCIENTIFIC INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)
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Corporate
In the first six months of 2017, the company recorded $1 million of net restructuring and other charges, principally charges for the settlement of a retirement plan.
The following table summarizes the cash components of the company’s restructuring plans. The non-cash components and other amounts reported as restructuring and other costs, net, in the accompanying statement of income have been summarized in the notes to the tables. Accrued restructuring costs are included in other accrued expenses in the accompanying balance sheet.

(In millions)	Severance	Abandonment of Excess Facilities	Other (a)	Total
Balance at December 31, 2016	$ 38.2	$ 31.9	$2.2	$72.3
Costs incurred in 2017 (c)	28.2	9.6	5.8	43.6
Reserves reversed (b)	(3.4)	—	(0.8)	(4.2)
Payments	(34.3)	(8.3)	(5.3)	(47.9)
Currency translation	0.6	0.1	0.7	1.4
Balance at July 1, 2017	$ 29.3	$ 33.3	$2.6	$65.2

(a) Other includes relocation and moving expenses associated with facility consolidations, as well as employee retention costs which are accrued ratably over the period through which employees must work to qualify for a payment.
(b) Represents reductions in cost of plans.
(c) Excludes $7 million of charges, net, primarily associated with litigation-related matters and the settlement of retirement plans.

The company expects to pay accrued restructuring costs as follows: severance, employee-retention obligations and other costs, primarily through 2017; and abandoned-facility payments, over lease terms expiring through 2027.

Note 14. Subsequent Event
In July 2017, the company issued €500 million principal amount of Floating Rate Senior Notes due 2019, €700 million principal amount of 1.400% Senior Notes due 2026, €700 million principal amount of 1.950% Senior Notes due 2029 and €700 million principal amount of 2.875% Senior Notes due 2037. The other terms and conditions of these notes are consistent with the company's other outstanding senior notes that are described in Note 8. The net proceeds of these issuances will be used to partially fund the pending acquisition of Patheon (Note 2).
In the event that the company does not consummate the acquisition of Patheon on or prior to February 15, 2018 or the purchase agreement is terminated at any time prior to such date, the company will be required to redeem all of the notes listed above at a redemption price equal to 101% of the aggregate principal amount plus accrued and unpaid interest.

THERMO FISHER SCIENTIFIC INC.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations

Forward-looking statements, within the meaning of Section 21E of the Securities Exchange Act of 1934 are made throughout this Management’s Discussion and Analysis of Financial Condition and Results of Operations. Any statements contained herein that are not statements of historical fact may be deemed to be forward-looking statements, including without limitation statements regarding: projections of revenue, expenses, earnings, margins, tax rates, tax provisions, cash flows, pension and benefit obligations and funding requirements, our liquidity position; cost reductions, restructuring activities, new product and service developments, competitive strengths or market position, acquisitions or divestitures; growth, declines and other trends in markets we sell into; new or modified laws, regulations and accounting pronouncements; outstanding claims, legal proceedings, tax audits and assessments and other contingent liabilities; foreign currency exchange rates and fluctuations in those rates; general economic and capital markets conditions; the timing of any of the foregoing; assumptions underlying any of the foregoing; and any other statements that address events or developments that Thermo Fisher intends or believes will or may occur in the future. Without limiting the foregoing, the words “believes,” “anticipates,” “plans,” “expects,” “seeks,” “estimates,” and simila expressions are intended to identify forward-looking statements, although not all forward-looking statements are accompanied by such words. While the company may elect to update forward-looking statements in the future, it specifically disclaims any obligation to do so, even if the company’s estimates change, and readers should not rely on those forward-looking statements as representing the company’s views as of any date subsequent to the date of the filing of this Quarterly Report.

A number of important factors could cause the results of the company to differ materially from those indicated by such forward-looking statements, including those detailed under the heading “Risk Factors” in Part II, Item 1A of this report on Form 10-Q.

Overview

The company develops, manufactures and sells a broad range of products that are sold worldwide. The company expands the product lines and services it offers by developing and commercializing its own technologies and by making strategic acquisitions of complementary businesses. The company’s continuing operations fall into four business segments (see Note 3): Life Sciences Solutions, Analytical Instruments, Specialty Diagnostics and Laboratory Products and Services.

In January 2017, in connection with a change in management responsibility for certain product lines, the company transferred its plastics for cell culture and vaccines/biologics; sample preparation and analysis; and production chemicals product lines to the Life Sciences Solutions segment from the Laboratory Products and Services segment and transferred its biochemical product line from the Life Sciences Solutions segment to the Laboratory Products and Services segment. These moves are consistent with the company’s historical practice of moving a product line between segments when a shift in strategic focus of either the product line or a segment more closely aligns the product line with a segment different than that in which it had previously been reported. Prior period segment information has been reclassified to reflect these transfers.

Recent Acquisitions

The company’s strategy is to augment internal growth at existing businesses with complementary acquisitions. The company’s principal recent acquisitions and divestitures are described below.

On March 31, 2016, the company acquired, primarily within the Life Sciences Solutions segment, Affymetrix, Inc., a North America-based provider of cellular and genetic analysis products, for a total purchase price of $1.34 billion, net of cash acquired, including the assumption of $254 million of debt. The acquisition expanded the company's existing portfolio of antibodies and assays for flow cytometry and single-cell biology applications. Additionally, the acquisition expanded the company's genetic analysis portfolio through the addition of microarrays. Revenues of Affymetrix were $360 million in 2015.

On September 19, 2016, the company acquired, within the Analytical Instruments segment, FEI Company, a North America-based provider of high-performance electron microscopy, for a total purchase price of $4.08 billion, net of cash acquired. The acquisition strengthened the company's analytical instrument portfolio with the addition of high-end electron microscopes. Revenues of FEI were $930 million in 2015.

On February 14, 2017, the company acquired, within the Life Sciences Solutions segment, Finesse Solutions, Inc., a North America-based developer of scalable control automation systems and software for bioproduction, for a total purchase price of $221 million, net of cash acquired. The acquisition expanded the company's bioproduction offerings. Revenues of Finesse Solutions were approximately $50 million in 2016.

On March 2, 2017, the company acquired, within the Analytical Instruments segment, Core Informatics, a North America-based provider of cloud-based platforms supporting scientific data management, for a total purchase price of $94 million, net of cash acquired. The acquisition enhanced the company's existing informatics solutions. Revenues of Core Informatics were approximately $10 million in 2016.

In May 2017, the company entered into a purchase agreement and commenced a tender offer to acquire, within the Laboratory Products and Services segment, all of the issued and outstanding shares of Patheon N.V., a leading global provider of high-quality drug development and delivery solutions to the pharmaceutical and biopharma sectors, for $35.00 per share in cash, or approximately $5.2 billion, plus the assumption of approximately $2.0 billion of net debt. The transaction, which is expected to be completed by the end of 2017, is subject to the satisfaction of customary closing conditions, including the receipt of applicable regulatory approvals, and completion of the tender offer. The company expects to finance the purchase price, including the repayment of indebtedness of Patheon, with issuances of debt, including the senior notes issued in July 2017 (Note 14), and up to $2.0 billion from the future issuance of equity. The company is currently evaluating alternatives for future debt and permanent equity financings and the timing of such transactions is subject to market and other conditions. The company also has available, but does not expect to utilize, up to $4.3 billion of financing under a 364-day unsecured committed bridge credit facility (Note 8).

Patheon provides comprehensive, integrated and highly customizable solutions as well as the expertise to help biopharmaceutical companies of all sizes satisfy complex development and manufacturing needs. The acquisition will provide entry into the contract development and manufacturing organization market and add a complementary service to the company's existing portfolio. Patheon's revenues totaled approximately $1.9 billion for the year ended October 31, 2016.

Overview of Results of Operations and Liquidity

	Three Months Ended				Six Months Ended			
(Dollars in millions)	July 1, 2017		July 2, 2016		July 1, 2017		July 2, 2016	
Revenues								
Life Sciences Solutions	$1,404.6	28.1 %	$1,367.9	30.2 %	$2,768.1	28.4 %	$2,585.6	29.3 %
Analytical Instruments	1,165.8	23.4 %	793.9	17.5 %	2,217.8	22.7 %	1,553.2	17.6 %
Specialty Diagnostics	861.8	17.3 %	851.3	18.8 %	1,728.2	17.7 %	1,705.9	19.3 %
Laboratory Products and Services	1,792.5	35.9 %	1,719.7	37.9 %	3,491.5	35.8 %	3,368.5	38.1 %
Eliminations	(234.7)	(4.7)%	(197.6)	(4.4)%	(450.6)	(4.6)%	(383.2)	(4.3)%
	$4,990.0	100 %	$4,535.2	100 %	$9,755.0	100 %	$8,830.0	100 %

Sales in the second quarter of 2017 were $4.99 billion, an increase of $455 million from 2016. Sales increased $346 million due to acquisitions. The unfavorable effects of currency translation resulted in a decrease in revenues of $52 million in the second quarter of 2017. Aside from the effects of acquisitions and currency translation, revenues increased $161 million (4%) primarily due to increased demand in the quarter compared to the 2016 quarter. Sales to customers in the company's primary end markets grew. Demand from customers in pharmaceutical and biotech industries was particularly strong. Sales growth was moderate in North America, modest in Europe and strong in Asia. Based on a weakening of the currency exchange rates against the U.S. dollar, the company currently expects that there will be a continued adverse effect on reported amounts of revenue and operating income in 2017 as a result of the stronger U.S. dollar.

In the second quarter of 2017, total company operating income and operating income margin were $752 million and 15.1%, respectively, compared with $638 million and 14.1%, respectively, in 2016. The increase in operating income was primarily due to the effect of acquisitions, productivity improvements, net of inflationary cost increases, and profit on higher sales in local currencies offset in part by an increase in amortization of acquisition-related intangible assets, due to recent acquisitions, and strategic growth investments. The company’s references to strategic growth investments generally refer to targeted spending for enhancing commercial capabilities, including expansion of geographic sales reach and e-commerce platforms, marketing initiatives, focused research projects and other expenditures to enhance the customer experience. The company's references throughout this discussion to productivity improvements generally refer to improved cost efficiencies from its Practical Process Improvement (PPI) business system, reduced costs resulting from global sourcing initiatives, a lower cost structure following restructuring actions, including headcount reductions and consolidation of facilities, and low cost region manufacturing.

The company's effective tax rate was 2.1% in the second quarter of 2017. In 2017, the company continued to implement tax planning initiatives related to non-U.S. subsidiaries. The company implemented foreign tax credit planning in Sweden which resulted in $20 million of U.S. foreign tax credits, with no related incremental U.S. income tax expense. In the second quarter of 2017, the company also recorded $11 million of benefit associated with new required accounting for tax benefits from equity awards, as discussed in Note 1. The company expects its effective tax rate for all of 2017 will be less than 3% based on currently forecasted rates of profitability in the countries in which the company conducts business and expected generation of foreign tax credits. Due primarily to the non-deductibility of intangible asset amortization for tax purposes, the company’s cash payments for income taxes are higher than its income tax expense for financial reporting purposes and are expected to total $600 to $625 million in 2017.

The company's effective tax rate was 0.8% in the second quarter of 2016. In 2016, the company implemented tax planning initiatives related to non-U.S. subsidiaries. These non-U.S. subsidiaries incurred foreign tax obligations, and made cash and deemed distributions to the company’s U.S. operations which resulted in no net tax cost. As a result of these distributions, the company benefitted from U.S. foreign tax credits of $68 million, offset in part by additional U.S. taxes of $24 million on the related foreign income (which reduced the benefit from the foreign rate differential in 2016) for a net benefit of $44 million in the second quarter of 2016. The foreign tax credits are the result of foreign earnings remitted or deemed remitted to the U.S. during the reporting year and the U.S. treatment of taxes paid in the foreign jurisdictions in the years those profits were originally earned. The company intends to make similar types of distributions from non- U.S. subsidiaries when they can be made at no net tax cost. The ability of the company to make distributions in future periods of similar type and magnitude will depend on the level of earnings and cash flow in various foreign jurisdictions and on the applicable tax laws in effect at the time. Accordingly, the impact of foreign tax credits on the company's effective tax rate in future periods is likely to vary. The effective rate in both periods was also affected by relatively significant earnings in lower tax jurisdictions.

Income from continuing operations increased to $612 million in the second quarter of 2017, from $517 million in the second quarter of 2016 due to the increase in operating income in the 2017 period (discussed above). These increases were offset in part by an increase in interest expense due to increases in outstanding debt and an increase in the provision for income taxes (discussed above).

During the first six months of 2017, the company’s cash flow from operations totaled $1.21 billion compared with $1.25 billion for 2016. The decrease primarily resulted from higher investment in working capital in 2017, offset in part by higher income before amortization and depreciation in the 2017 period.

As of July 1, 2017, the company’s short-term debt totaled $1.54 billion consisting of commercial paper obligations. The company has a revolving credit facility with a bank group that provides up to $2.50 billion of unsecured multi-currency revolving credit. If the company borrows under this facility, it intends to leave undrawn an amount equivalent to outstanding commercial paper to provide a source of funds in the event that commercial paper markets are not available. As of July 1, 2017, no borrowings were outstanding under the company’s revolving credit facility, although available capacity was reduced by approximately $73 million as a result of outstanding letters of credit.

The company has a bridge loan facility to fund the acquisition of Patheon although it does not expect to draw on the facility but instead plans to raise equity and issue additional debt beyond the €2.6 billion July 2017 borrowings described in Note 14. The amount and timing of any offerings will be dependent on market conditions. Aside from the funding requirements to complete the Patheon acquisition, the company believes that its existing cash and cash equivalents of $611 million as of July 1, 2017 and its future cash flow from operations together with available borrowing capacity under its revolving credit agreement will be sufficient to meet the cash requirements of its existing businesses for the foreseeable future, including at least the next 24 months.

Critical Accounting Policies and Estimates

The company’s discussion and analysis of its financial condition and results of operations is based upon its financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses and related disclosure of contingent liabilities. On an on-going basis, management evaluates its estimates, including those related to bad debts, inventories, business combinations, intangible assets and goodwill, sales returns, income taxes, contingencies and litigation, and pension costs. Management believes the most complex and sensitive judgments, because of their significance to the consolidated financial statements, result primarily from the need to make estimates about the effects of matters that are inherently uncertain. Management bases its estimates on historical experience, current market and economic conditions and other assumptions that management believes are reasonable. The results of these estimates form the basis for judgments about the carrying value of assets and liabilities where the values are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Management’s Discussion and Analysis and Note 1 to the Consolidated Financial Statements of the company’s

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Critical Accounting Policies and Estimates (continued)

Form 10-K for 2016, describe the significant accounting estimates and policies used in preparation of the consolidated financial statements. There have been no significant changes in the company's critical accounting policies during the first six months of 2017.

Results of Operations

Second Quarter 2017 Compared With Second Quarter 2016

(In millions)	Three Months Ended July 1, 2017	July 2, 2016	Total Change	Currency Translation	Acquisitions/ Divestitures	Operations
Revenues						
Life Sciences Solutions	$1,404.6	$1,367.9	$36.7	$ (16.2)	$ 9.8	$ 43.1
Analytical Instruments	1,165.8	793.9	371.9	(9.8)	332.8	48.9
Specialty Diagnostics	861.8	851.3	10.5	(9.7)	1.0	19.2
Laboratory Products and Services	1,792.5	1,719.7	72.8	(20.7)	2.5	91.0
Eliminations	(234.7)	(197.6)	(37.1)	4.0	—	(41.1)
Consolidated Revenues	$4,990.0	$4,535.2	$454.8	$ (52.4)	$ 346.1	$ 161.1

Sales in the second quarter of 2017 were $4.99 billion, an increase of $455 million from the second quarter of 2016. Sales increased $346 million due to acquisitions. The unfavorable effects of currency translation resulted in a decrease in revenues of $52 million in 2017. Aside from the effects of acquisitions/divestitures and currency translation, revenues increased $161 million (4%) primarily due to increased demand in the quarter compared to the 2016 quarter. Sales to customers in the company's primary end markets grew. Demand from customers in pharmaceutical and biotech industries was particularly strong. Sales growth was moderate in North America, modest in Europe and strong in Asia.

In the second quarter of 2017, total company operating income and operating income margin were $752 million and 15.1%, respectively, compared with $638 million and 14.1%, respectively, in 2016. The increase in operating income was primarily due to the effect of acquisitions, productivity improvements, net of inflationary cost increases, and profit on higher sales in local currencies offset in part by an increase in amortization of acquisition-related intangible assets, due to recent acquisitions, and strategic growth investments.

In the second quarter of 2017, the company recorded restructuring and other costs, net, of $30 million, including $7 million of charges to selling, general and administrative expenses, primarily for third-party transaction costs related to the pending acquisition of Patheon. The company recorded $21 million of cash restructuring costs, primarily to achieve acquisition synergies, including severance and abandoned facilities costs associated with the closure and consolidation of facilities in the U.S. and Europe. The company’s other businesses incurred costs for continued headcount reductions and facility consolidations in an effort to streamline operations including severance at several businesses and abandoned facility expenses at businesses that have been or are being consolidated in the U.S., Europe and Asia (see Note 13).

In the second quarter of 2016, the company recorded restructuring and other costs, net, of $57 million, including $17 million of charges to cost of revenues primarily for the sale of inventories revalued at the date of acquisition; and $4 million of charges to selling, general and administrative expenses, primarily for third-party transaction costs related to the acquisitions of FEI and Affymetrix. In addition, the company recorded $23 million of cash restructuring costs, primarily to achieve acquisition synergies, including severance and abandoned facilities costs associated with the closure and consolidation of facilities in the U.S. The company’s other businesses incurred costs for continued headcount reductions and facility consolidations in an effort to streamline operations including severance at several businesses and abandoned facility expenses at businesses that have been or are being consolidated in the U.S., Europe

and Asia. The company also recorded $12 million of other restructuring charges, net, principally associated with litigation-related matters at acquired businesses and changes in estimates of environmental remediation costs.
As of August 4, 2017, the company has identified restructuring actions that will result in additional charges of approximately $80 million in 2017 and 2018, and expects to identify additional actions during 2017 which will be recorded when specified criteria are met, such as communication of benefit arrangements and abandonment of leased facilities.

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Segment Results
The company's management evaluates segment operating performance using operating income before certain charges/credits to cost of revenues and selling, general and administrative expenses, principally associated with acquisition-related activities; restructuring and other costs/income including costs arising from facility consolidations such as severance and abandoned lease expense and gains and losses from the sale of real estate and product lines; and amortization of acquisition-related intangible assets. The company uses this measure because it helps management understand and evaluate the segments' core operating results and facilitate comparison of performance for determining compensation (Note 3). Accordingly, the following segment data is reported on this basis.

	Three Months Ended		
	July 1,	July 2,	
(Dollars in millions)	2017	2016	Change
Revenues			
Life Sciences Solutions	$1,404.6	$1,367.9	3 %
Analytical Instruments	1,165.8	793.9	47 %
Specialty Diagnostics	861.8	851.3	1 %
Laboratory Products and Services	1,792.5	1,719.7	4 %
Eliminations	(234.7)	(197.6)	19 %
Consolidated Revenues	$4,990.0	$4,535.2	10 %
Segment Income			
Life Sciences Solutions	$448.1	$389.6	15 %
Analytical Instruments	232.6	144.9	61 %
Specialty Diagnostics	235.0	237.9	(1)%
Laboratory Products and Services	246.7	259.8	(5)%
Subtotal Reportable Segments	1,162.4	1,032.2	13 %
Cost of Revenues Charges	(0.7)	(17.4)	
Selling, General and Administrative Charges, Net	(6.8)	(3.8)	
Restructuring and Other Costs, Net	(22.5)	(35.4)	
Amortization of Acquisition-related Intangible Assets	(380.9)	(338.0)	
Consolidated Operating Income	$751.5	$637.6	18 %
Reportable Segments Operating Income Margin	23.3 %	22.8 %	
Consolidated Operating Income Margin	15.1 %	14.1 %	

Income from the company's reportable segments increased 13% to $1.16 billion in the second quarter of 2017 due primarily to the effect of acquisitions, profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases, offset in part by strategic growth investments.
Life Sciences Solutions

	Three Months Ended	
	July 1,	July 2,

(Dollars in millions)	2017		2016		Change	
Revenues	$1,404.6		$1,367.9		3	%
Operating Income Margin	31.9	%	28.5	%	3.4 pt	

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Sales in the Life Sciences Solutions segment increased $37 million to $1.40 billion in the second quarter of 2017. Sales increased $43 million (3%) due to higher revenues at existing businesses and $10 million due to an acquisition, offset in part by a decrease of $16 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was primarily due to increased demand for biosciences products and, to a lesser extent, bioprocess production products.

Operating income margin was 31.9% in the second quarter of 2017 compared to 28.5% in the second quarter of 2016. The increase resulted primarily from productivity improvements, net of inflationary cost increases, and, to a lesser extent, price increases and profit on higher sales in local currencies. These increases were offset in part by unfavorable sales mix and, to a lesser extent, strategic growth investments and acquisition dilution.

Analytical Instruments

(Dollars in millions)	Three Months Ended July 1, 2017	July 2, 2016	Change
Revenues	$1,165.8	$793.9	47 %
Operating Income Margin	20.0 %	18.3 %	1.7 pt

Sales in the Analytical Instruments segment increased $372 million to $1.17 billion in the second quarter of 2017. Sales increased $333 million due to acquisitions and $49 million (6%) due to higher revenues at existing businesses. The increase in revenue at existing businesses was primarily due to increased demand for products sold by the segment's chromatography and mass spectrometry business and, to a lesser extent, chemical analysis products.

Operating income margin was 20.0% in the second quarter of 2017 compared to 18.3% in the second quarter of 2016. The increase resulted primarily from the effect of acquisitions and profit on higher sales in local currencies, offset in part by strategic growth investments, unfavorable foreign currency exchange and unfavorable sales mix.

Specialty Diagnostics

(Dollars in millions)	Three Months Ended July 1, 2017	July 2, 2016	Change
Revenues	$861.8	$851.3	1 %
Operating Income Margin	27.3 %	27.9 %	-0.6 pt

Sales in the Specialty Diagnostics segment increased $11 million to $862 million in the second quarter of 2017. Sales increased $19 million (2%) due to higher revenues at existing businesses, offset in part by a decrease of $10 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was due to increased broad based higher demand with particular strength in sales of transplant diagnostics products and products sold through the segment’s healthcare market channel.

Operating income margin was 27.3% in the second quarter of 2017 and 27.9% in the second quarter of 2016. The decrease resulted primarily from strategic growth investments and, to a lesser extent, unfavorable sales mix, offset in part by profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases.

Laboratory Products and Services

(Dollars in millions)	Three Months Ended July 1, 2017	July 2, 2016	Change

Revenues	$1,792.5	$1,719.7	4 %
Operating Income Margin	13.8 %	15.1 %	-1.3 pt

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Sales in the Laboratory Products and Services segment increased $73 million to $1.79 billion in the second quarter of 2017. Sales increased $91 million (5%) due to higher revenues at existing businesses and $3 million due to an acquisition. These increases were offset in part by $21 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was primarily due to increased demand for products sold through the segment's channel business and, to a lesser extent, laboratory equipment and consumables.
Operating income margin was 13.8% in the second quarter of 2017 and 15.1% in the second quarter of 2016. The decrease was primarily due to unfavorable sales mix and, to a lesser extent, strategic growth investments offset in part by profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases.
Other Expense, Net
The company reported other expense, net, of $126 million and $117 million in the second quarter of 2017 and 2016, respectively (Note 4). Interest expense increased $15 million primarily due to increases in outstanding debt to fund acquisitions.
Provision for Income Taxes
The company's effective tax rate was 2.1% in the second quarter of 2017. In 2017, the company continued to implement tax planning initiatives related to non-U.S. subsidiaries. The company implemented foreign tax credit planning in Sweden which resulted in $20 million of U.S. foreign tax credits, with no related incremental U.S. income tax expense. In the second quarter of 2017, the company also recorded $11 million of benefit associated with new required accounting for tax benefits from equity awards, as discussed in Note 1. The company expects its effective tax rate for all of 2017 will be less than 3% based on currently forecasted rates of profitability in the countries in which the company conducts business and expected generation of foreign tax credits. Due primarily to the non-deductibility of intangible asset amortization for tax purposes, the company’s cash payments for income taxes are higher than its income tax expense for financial reporting purposes and are expected to total $600 to $625 million in 2017.
The company's effective tax rate was 0.8% in the second quarter of 2016. In 2016, the company implemented tax planning initiatives related to non-U.S. subsidiaries. These non-U.S. subsidiaries incurred foreign tax obligations, and made cash and deemed distributions to the company’s U.S. operations which resulted in no net tax cost. As a result of these distributions, the company benefitted from U.S. foreign tax credits of $68 million, offset in part by additional U.S. taxes of $24 million on the related foreign income (which reduced the benefit from the foreign rate differential in 2016) for a net benefit of $44 million in the second quarter of 2016. The foreign tax credits are the result of foreign earnings remitted or deemed remitted to the U.S. during the reporting year and the U.S. treatment of taxes paid in the foreign jurisdictions in the years those profits were originally earned. The company intends to make similar types of distributions from non- U.S. subsidiaries when they can be made at no net tax cost. The ability of the company to make distributions in future periods of similar type and magnitude will depend on the level of earnings and cash flow in various foreign jurisdictions and on the applicable tax laws in effect at the time. Accordingly, the impact of foreign tax credits on the company's effective tax rate in future periods is likely to vary. The effective rate in both periods was also affected by relatively significant earnings in lower tax jurisdictions.
The company has operations and a taxable presence in approximately 50 countries outside the U.S. All of these countries except one have a lower tax rate than the U.S. The countries in which the company has a material presence that have significantly lower tax rates than the U.S. include Germany, the Netherlands, Singapore, Sweden, Switzerland and the United Kingdom. The company’s ability to obtain a benefit from lower tax rates outside the U.S. is dependent on its relative levels of income in countries outside the U.S. and on the statutory tax rates in those countries. Based on the dispersion of the company’s non-U.S. income tax provision among many countries, the company believes that a change in the statutory tax rate in any individual country is not likely to materially affect the company’s income tax provision or net income, aside from any resulting one-time adjustment to the company’s deferred tax balances to reflect a new rate.

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First Six Months of 2017 Compared With First Six Months of 2016

(In millions)	Six Months Ended July 1, 2017	July 2, 2016	Total Change	Currency Translation	Acquisitions/ Divestitures	Operations
Revenues						
Life Sciences Solutions	$2,768.1	$2,585.6	$182.5	$ (33.3)	$ 88.7	$ 127.1
Analytical Instruments	2,217.8	1,553.2	664.6	(22.6)	599.0	88.2
Specialty Diagnostics	1,728.2	1,705.9	22.3	(19.4)	1.8	39.9
Laboratory Products and Services	3,491.5	3,368.5	123.0	(42.5)	5.8	159.7
Eliminations	(450.6)	(383.2)	(67.4)	9.1	(3.6)	(72.9)
Consolidated Revenues	$9,755.0	$8,830.0	$925.0	$ (108.7)	$ 691.7	$ 342.0

Sales in the first six months of 2017 were $9.76 billion, an increase of $925 million from the first six months of 2016. Sales increased $692 million due to acquisitions. The unfavorable effects of currency translation resulted in a decrease in revenues of $109 million in 2017. Aside from the effects of currency translation and acquisitions, revenues increased $342 million (4%) primarily due to increased demand. Sales to customers in each of the company's primary end markets grew. Demand from customers in pharmaceutical and biotech industries was particularly strong. Sales growth was moderate in North America and Europe and strong in Asia.

In the first six months of 2017, total company operating income and operating income margin were $1.37 billion and 14.1%, respectively, compared with $1.16 billion and 13.1%, respectively, in the first six months of 2016. The increase in operating income was primarily due to the effects of acquisitions, profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases, offset in part by an increase in amortization of acquisition-related intangible assets, due to recent acquisitions, and strategic growth investments.

In the first six months of 2017, the company recorded restructuring and other costs, net, of $116 million, including $32 million of charges to cost of revenues primarily for the sale of inventories revalued at the date of acquisition and $38 million of charges to selling, general and administrative expenses primarily for changes in estimates of acquisition contingent consideration and third-party transaction costs associated with recent acquisitions, as well as the pending acquisition of Patheon. In addition, the company recorded $39 million of cash restructuring costs, primarily to achieve acquisition synergies, including severance and abandoned facilities costs associated with the closure and consolidation of facilities in the U.S. The company’s other businesses incurred costs for continued headcount reductions and facility consolidations in an effort to streamline operations including severance at several businesses and abandoned facility expenses at businesses that have been or are being consolidated in the U.S., Europe and Asia. The company also recorded $7 million of other costs, net, principally charges for litigation-related matters and the settlement of pension plans (see Note 13).

In the first six months of 2016, the company recorded restructuring and other costs, net, of $147 million, including $28 million of charges to cost of revenues primarily for the sale of inventories revalued at the date of acquisition; $33 million of charges to selling, general and administrative expenses, primarily for third-party transaction and integration costs related to the acquisition of Affymetrix. In addition, the company recorded $91 million of cash restructuring costs primarily for actions to achieve acquisition synergies including severance as well as abandoned facilities costs associated with the closure and consolidation of facilities in the U.S. The company’s other businesses incurred costs for continued headcount reductions and facility consolidations in an effort to streamline operations, including severance at several businesses and abandoned facility expenses at businesses that have been or are being consolidated in the U.S., Europe and Asia. These costs were partially offset by net gains on the settlement of litigation and real estate.

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Segment Results

	Six Months Ended		
(Dollars in millions)	July 1, 2017	July 2, 2016	Change
Revenues			
Life Sciences Solutions	$2,768.1	$2,585.6	7 %
Analytical Instruments	2,217.8	1,553.2	43 %
Specialty Diagnostics	1,728.2	1,705.9	1 %
Laboratory Products and Services	3,491.5	3,368.5	4 %
Eliminations	(450.6)	(383.2)	18 %
Consolidated Revenues	$9,755.0	$8,830.0	10 %
Segment Income			
Life Sciences Solutions	$882.0	$740.9	19 %
Analytical Instruments	424.4	256.6	65 %
Specialty Diagnostics	468.9	468.0	— %
Laboratory Products and Services	462.9	496.7	(7)%
Subtotal Reportable Segments	2,238.2	1,962.2	14 %
Cost of Revenues Charges	(31.6)	(28.0)	
Selling, General and Administrative Charges, Net	(38.3)	(32.7)	
Restructuring and Other Costs, Net	(46.0)	(86.0)	
Amortization of Acquisition-related Intangible Assets	(748.4)	(660.0)	
Consolidated Operating Income	$1,373.9	$1,155.5	19 %
Reportable Segments Operating Income Margin	22.9 %	22.2 %	
Consolidated Operating Income Margin	14.1 %	13.1 %	

Income from the company’s reportable segments increased 14% to $2.24 billion in the first six months of 2017 due primarily to the effects of acquisitions, profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases, offset in part by strategic growth investments.

Life Sciences Solutions

	Six Months Ended		
(Dollars in millions)	July 1, 2017	July 2, 2016	Change
Revenues	$2,768.1	$2,585.6	7 %
Operating Income Margin	31.9 %	28.7 %	3.2 pt

Sales in the Life Sciences Solutions segment increased $183 million to $2.77 billion in the first six months of 2017. Sales increased $127 million (5%) due to higher revenues at existing businesses and $89 million due to acquisitions, offset in part by a decrease of $33 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was primarily due to increased demand for biosciences products as well as bioprocess production products and, to a lesser extent, genetic sciences products.

Operating income margin was 31.9% in the first six months of 2017 compared to 28.7% in the first six months of 2016. The increase resulted primarily from productivity improvements, net of inflationary cost increases, and, to a lesser extent, profit

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on higher sales in local currencies and price increases. These increases were offset in part by acquisition dilution, strategic growth investments and, to a lesser extent, unfavorable sales mix.

Analytical Instruments

	Six Months Ended		
(Dollars in millions)	July 1, 2017	July 2, 2016	Change
Revenues	$2,217.8	$1,553.2	43 %
Operating Income Margin	19.1 %	16.5 %	2.6 pt

Sales in the Analytical Instruments segment increased $665 million to $2.22 billion in the first six months of 2017. Sales increased $599 million due to acquisitions and $88 million (6%) due to higher revenues at existing businesses, offset in part by a decrease of $23 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was primarily due to increased demand for products sold by the segment's chromatography and mass spectrometry business.

Operating income margin was 19.1% in the first six months of 2017 compared to 16.5% in the first six months of 2016. The increase resulted primarily from the effect of acquisitions, profit on higher sales in local currencies and, to a lesser extent, productivity improvements, net of inflationary cost increases, offset in part by strategic growth investments and unfavorable foreign currency exchange.

Specialty Diagnostics

	Six Months Ended		
(Dollars in millions)	July 1, 2017	July 2, 2016	Change
Revenues	$1,728.2	$1,705.9	1 %
Operating Income Margin	27.1 %	27.4 %	-0.3 pt

Sales in the Specialty Diagnostics segment increased $22 million to $1.73 billion in the first six months of 2017. Sales increased $40 million (2%) due to higher revenues at existing businesses and $2 million due to an acquisition, offset in part by a decrease of $19 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was due to increased broad based higher demand with particular strength in sales of clinical diagnostics products and products sold through the segment’s healthcare market channel.

Operating income margin was 27.1% in the first six months of 2017 compared to 27.4% in the first six months of 2016. The decrease resulted primarily from strategic growth investments offset in part by productivity improvements, net of inflationary cost increases, and profit on higher sales in local currencies.

Laboratory Products and Services

	Six Months Ended		
(Dollars in millions)	July 1, 2017	July 2, 2016	Change
Revenues	$3,491.5	$3,368.5	4 %
Operating Income Margin	13.3 %	14.7 %	-1.4 pt

Sales in the Laboratory Products and Services segment increased $123 million to $3.49 billion in 2017. Sales increased $160 million (5%) due to higher revenues at existing businesses and $6 million due to an acquisition. These increases were offset in part by $43 million due to the unfavorable effects of currency translation. The increase in revenue at existing businesses was primarily due to increased demand for products sold through the segment's channel business and, to a lesser extent, laboratory equipment and consumables.

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Operating income margin was 13.3% in the first six months of 2017 compared to 14.7% in the first six months of 2016. The decrease was primarily due to unfavorable sales mix and strategic growth investments offset in part by profit on higher sales in local currencies and productivity improvements, net of inflationary cost increases.

Other Expense, Net

The company reported other expense, net, of $245 million and $211 million in the first six months of 2017 and 2016, respectively (Note 4). Interest expense increased $44 million primarily due to an increase in outstanding debt.

Provision for Income Taxes

The company recorded a benefit from income taxes in the first six months of 2017 as a result of a $65 million favorable adjustment to deferred tax balances due to extension of a tax holiday agreement in Singapore and $35 million of benefit associated with new required accounting for tax benefits from equity awards, as discussed in Note 1. The company implemented foreign tax credit planning in Sweden which resulted in $20 million of foreign tax credits, with no related incremental U.S. income tax expense.

The company's effective tax rate was 2.6% in the first six months of 2016. In 2016, the company implemented tax planning initiatives related to non-U.S. subsidiaries. These non-U.S. subsidiaries incurred foreign tax obligations, and made cash and deemed distributions to the company’s U.S. operations which resulted in no net tax cost. As a result of these distributions, the company benefitted from U.S. foreign tax credits of $114 million, offset in part by additional U.S. taxes of $40 million on the related foreign income (which reduced the benefit from the foreign rate differential in 2016) for a net benefit of $74 million. The foreign tax credits are the result of foreign earnings remitted or deemed remitted to the U.S. during the reporting year and the U.S. treatment of taxes paid in the foreign jurisdictions in the years those profits were originally earned. The company intends to make similar types of distributions from non-U.S. subsidiaries in 2017 when they can be made at no net tax cost. The ability of the company to make distributions in future periods of similar type and magnitude will depend on the level of earnings and cash flow in various foreign jurisdictions and on the applicable tax laws in effect at that time. Accordingly, the impact of foreign tax credits on the company’s effective tax rate in future periods is likely to vary. The tax provision in the 2016 period was unfavorably affected by $9 million, or 0.9 percentage points, as a result of adjustments to deferred tax balances due to changes in tax rates. The effective rate in both periods was also affected by relatively significant earnings in lower tax jurisdictions.

Recent Accounting Pronouncements

A description of recently issued accounting standards is included under the heading “Recent Accounting Pronouncements” in Note 1.

Contingent Liabilities

The company is contingently liable with respect to certain legal proceedings and related matters. An unfavorable outcome that differs materially from current accrual estimates, if any, for one or more of the matters described under the headings “Product Liability, Workers Compensation and Other Personal Injury Matters," "Intellectual Property Matters" and "Commercial Matters" in Note 9 could have a material adverse effect on the company’s financial position as well as its results of operations and cash flows.

Liquidity and Capital Resources

Consolidated working capital was $2.38 billion at July 1, 2017, compared with $2.16 billion at December 31, 2016. Included in working capital were cash and cash equivalents of $611 million at July 1, 2017 and $786 million at December 31, 2016.

First Six Months of 2017

Cash provided by operating activities was $1.21 billion during the first six months of 2017. Increases in accounts receivable and inventories used cash of $127 million and $146 million, respectively, primarily to support growth in sales in local currencies. An increase in other assets used cash of $178 million primarily due to the timing of payments. A decrease in other liabilities used cash of $161 million primarily due to the timing of payments for incentive compensation and income taxes. Cash payments for income taxes decreased to $369 million during the first six months of 2017, compared with $516 million in the first six months of 2016. The company made cash contributions to its pension and postretirement benefit plans totaling $181 million during the first six months of 2017. Payments for restructuring actions, principally severance costs and lease and other expenses of real estate consolidation, used cash of $48 million during the first six months of 2017.

THERMO FISHER SCIENTIFIC INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION
AND RESULTS OF OPERATIONS
Liquidity and Capital Resources (continued)

During the first six months of 2017, the company’s investing activities used $477 million of cash. Acquisitions used cash of $307 million. The company’s investing activities also included the purchase of $181 million of property, plant and equipment. In July 2017, the company completed an acquisition for approximately $45 million in cash. In May 2017, the company commenced a tender offer to acquire Patheon N.V. for approximately $7.2 billion in cash (Note 2). The transaction, which is expected to close by the end of 2017, is subject to the satisfaction of customary closing conditions, including the receipt of applicable regulatory approvals. The company has committed debt financing for the acquisition (Note 8).

The company’s financing activities used $1.08 billion of cash during the first six months of 2017. Issuance of senior notes provided cash of $519 million and an increase in commercial paper obligations provided cash of $496 million. Repayment of senior notes and a term loan used cash of $1.33 billion. The company’s financing activities also included the repurchase of $750 million of the company’s common stock and the payment of $118 million in cash dividends, offset in part by $99 million of net proceeds from employee stock option exercises. On July 7, 2016, the Board of Directors authorized the repurchase of up to $1.50 billion of the company’s common stock. At August 4, 2017, $500 million was available for future repurchases of the company’s common stock under this authorization.

The company's commitments for purchases of property, plant and equipment, contractual obligations and other commercial commitments did not change materially between December 31, 2016 and July 1, 2017 except for the agreement to acquire Patheon. The company expects that for all of 2017, expenditures for property, plant and equipment, net of disposals, will approximate $500 million.

As of July 1, 2017, the company’s short-term debt totaled $1.54 billion consisting of commercial paper obligations. The company has a revolving credit facility with a bank group that provides up to $2.50 billion of unsecured multi-currency revolving credit. If the company borrows under this facility, it intends to leave undrawn an amount equivalent to outstanding commercial paper to provide a source of funds in the event that commercial paper markets are not available. As of July 1, 2017, no borrowings were outstanding under the company’s revolving credit facility, although available capacity was reduced by approximately $73 million as a result of outstanding letters of credit.

Approximately half of the company’s cash balances and cash flows from operations are from outside the U.S. The company uses its non-U.S. cash for needs outside of the U.S. including acquisitions and repayment of acquisition-related intercompany debt to the U.S. In addition, the company also transfers cash to the U.S. using non-taxable returns of capital as well as dividends where the related U.S. foreign tax credit equals or exceeds any tax cost arising from the dividends. As a result of using such means of transferring cash to the U.S., the company does not expect any material adverse liquidity effects from its significant non-U.S. cash balances for the foreseeable future.

The company has a bridge loan facility to fund the acquisition of Patheon although it does not expect to draw on the facility but instead plans to raise equity and issue additional debt beyond the €2.6 billion July 2017 borrowings described in Note 14. The amount and timing of any offerings will be dependent on market conditions. Aside from the funding requirements to complete the Patheon acquisition, the company believes that its existing cash and cash equivalents of $611 million as of July 1, 2017 and its future cash flow from operations together with available borrowing capacity under its revolving credit agreement will be sufficient to meet the cash requirements of its existing businesses for the foreseeable future, including at least the next 24 months.

First Six Months of 2016

Cash provided by operating activities was $1.25 billion during the first six months of 2016. Increases in accounts receivable and inventories used cash of $95 million and $26 million, respectively, primarily to support growth in sales in local currencies. An increase in other assets used cash of $85 million primarily due to the timing of payments. Other liabilities decreased by $144 million primarily due to the timing of payments for income taxes and incentive compensation. Cash payments for income taxes totaled $516 million. The company made cash contributions to its pension and postretirement benefit plans totaling $26 million during the first six months of 2016. Payments for restructuring actions, principally severance costs and lease and other expenses of real estate consolidation, used cash of $43 million during the first six months of 2016.

During the first six months of 2016, the company’s investing activities used $1.24 billion of cash. Acquisitions used cash of $1.03 billion. The company’s investing activities also included the purchase of $230 million of property, plant and equipment.

The company’s financing activities provided $229 million of cash during the first six months of 2016. Issuance of debt provided cash of $1.99 billion and an increase in commercial paper obligations provided cash of $936 million. The company’s financing activities also included the repurchase of $1.00 billion of the company's common stock and the payment of $119 million in cash dividends, offset in part by $78 million of net proceeds from employee stock option exercises.

THERMO FISHER SCIENTIFIC INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION
AND RESULTS OF OPERATIONS
Liquidity and Capital Resources (continued)

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The company's exposure to market risk from changes in interest rates and currency exchange rates has not changed materially from its exposure at year-end 2016.

Item 4. Controls and Procedures

Management’s Evaluation of Disclosure Controls and Procedures

The company’s management, with the participation of the company’s chief executive officer and chief financial officer, evaluated the effectiveness of the company’s disclosure controls and procedures as of July 1, 2017. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of the company’s disclosure controls and procedures as of July 1, 2017, the company’s chief executive officer and chief financial officer concluded that, as of such date, the company’s disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There have been no changes in the company’s internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) during the fiscal quarter ended July 1, 2017, that have materially affected or are reasonably likely to materially affect the company’s internal control over financial reporting.

PART II OTHER INFORMATION

Item 1. Legal Proceedings

There are various lawsuits and claims against the company involving product liability, intellectual property, employment and commercial issues. See “Note 9 to our Consolidated Financial Statements – Commitments and Contingencies.”

Item 1A. Risk Factors

Set forth below are the risks that we believe are material to our investors. This section contains forward-looking statements. You should refer to the explanation of the qualifications and limitations on forward-looking statements beginning on page 30.

We must develop new products, adapt to rapid and significant technological change and respond to introductions of new products by competitors to remain competitive. Our growth strategy includes significant investment in and expenditures for product development. We sell our products in several industries that are characterized by rapid and significant technological changes, frequent new product and service introductions and enhancements and evolving industry standards. Competitive factors include technological innovation, price, service and delivery, breadth of product line, customer support, e-business capabilities and the ability to meet the special requirements of customers. Our competitors may adapt more quickly to new technologies and changes in customers’ requirements than we can. Without the timely introduction of new products, services and enhancements, our products and services will likely become technologically obsolete over time, in which case our revenue and operating results would suffer.

THERMO FISHER SCIENTIFIC INC.
Risk Factors (continued)

Many of our existing products and those under development are technologically innovative and require significant planning, design, development and testing at the technological, product and manufacturing-process levels. Our customers use many of our products to develop, test and manufacture their own products. As a result, we must anticipate industry trends and develop products in advance of the commercialization of our customers' products. If we fail to adequately predict our customers' needs and future activities, we may invest heavily in research and development of products and services that do not lead to significant revenue.

It may be difficult for us to implement our strategies for improving internal growth. Some of the markets in which we compete have been flat or declining over the past several years. To address this issue, we are pursuing a number of strategies to improve our internal growth, including:

- strengthening our presence in selected geographic markets;
- allocating research and development funding to products with higher growth prospects;
- developing new applications for our technologies;
- expanding our service offerings;
- continuing key customer initiatives;
- combining sales and marketing operations in appropriate markets to compete more effectively;
- finding new markets for our products; and
- continuing the development of commercial tools and infrastructure to increase and support cross-selling opportunities of products and services to take advantage of our depth in product offerings.

We may not be able to successfully implement these strategies, and these strategies may not result in the expected growth of our business.

Our business is affected by general economic conditions and related uncertainties affecting markets in which we operate. Our business is affected by general economic conditions, both inside and outside the U.S. If the global economy and financial markets, or economic conditions in Europe, the U.S. or other key markets, are unstable, it could adversely affect the business, results of operations and financial condition of the company and its customers, distributors, and suppliers, having the effect of

- reducing demand for some of our products;
- increasing the rate of order cancellations or delays;
- increasing the risk of excess and obsolete inventories;
- increasing pressure on the prices for our products and services; and
- creating longer sales cycles and greater difficulty in collecting sales proceeds.

Demand for some of our products depends on capital spending policies of our customers and on government funding policies. Our customers include pharmaceutical and chemical companies, laboratories, universities, healthcare providers, government agencies and public and private research institutions. Many factors, including public policy spending priorities, available resources and product and economic cycles, have a significant effect on the capital spending policies of these entities.

Spending by some of these customers fluctuates based on budget allocations and the timely passage of the annual federal budget. An impasse in federal government budget decisions could lead to substantial delays or reductions in federal spending.

As a multinational corporation, we are exposed to fluctuations in currency exchange rates, which could adversely affect our cash flows and results of operations. International markets contribute a substantial portion of our revenues, and we intend to continue expanding our presence in these regions. The exposure to fluctuations in currency exchange rates takes on different forms. International revenues and costs are subject to the risk that fluctuations in exchange rates could adversely affect our reported revenues and profitability when translated into U.S. dollars for financial reporting purposes. These fluctuations could also adversely affect the demand for products and services provided by us. As a multinational corporation, our businesses occasionally invoice third-party customers in currencies other than the one in which they primarily do business (the "functional currency"). Movements in the invoiced currency relative to the functional currency could adversely impact our cash flows and our results of operations. Should our international sales grow, exposure to fluctuations in currency exchange rates could have a larger effect on our financial results. In the first six months of 2017, currency translation had an unfavorable effect of $109 million on revenues due to the strengthening of the U.S. dollar relative to other currencies in which the company sells products and services. Significant developments stemming from the recent U.S. presidential election or the U.K.'s referendum on membership in the EU could have an adverse effect on us. The new U.S. administration has called for substantial changes to trade agreements, such as the North American Free Trade Agreement (NAFTA), and has raised the possibility of imposing significant increases on tariffs on goods imported into the United States, particularly from China and Mexico. The new administration has also indicated an intention to request Congress to make significant changes, replacement or elimination of the Patient Protection and Affordable Care Act, and government negotiation/regulation of drug prices paid by government programs. Changes in U.S. social, political, regulatory and economic conditions or laws and policies governing the health care system and drug prices, foreign trade, manufacturing, and development and investment in the territories and countries where we or our customers operate could adversely affect our operating results and our business.

Additionally, on June 23, 2016, the United Kingdom held a referendum and voted in favor of leaving the European Union, or EU. This referendum has created political and economic uncertainty, particularly in the United Kingdom and the EU, and this uncertainty may last for years. Our business could be affected during this period of uncertainty, and perhaps longer, by the impact of the United Kingdom's referendum. In addition, our business could be negatively affected by new trade agreements between the United Kingdom and other countries, including the United States, and by the possible imposition of trade or other regulatory barriers in the United Kingdom. These possible negative impacts, and others resulting from the United Kingdom's actual or threatened withdrawal from the EU, may adversely affect our operating results and our customers' businesses.

Our inability to protect our intellectual property could have a material adverse effect on our business. In addition, third parties may claim that we infringe their intellectual property, and we could suffer significant litigation or licensing expense as a result. We place considerable emphasis on obtaining patent and trade secret protection for significant new technologies, products and processes because of the length of time and expense associated with bringing new products through the development process and into the marketplace. Our success depends in part on our ability to develop patentable products and obtain and enforce patent protection for our products both in the United States and in other countries. We own numerous U.S. and foreign patents, and we intend to file additional applications, as appropriate, for patents covering our products. Patents may not be issued for any pending or future patent applications owned by or licensed to us, and the claims allowed under any issued patents may not be sufficiently broad to protect our technology. Any issued patents owned by or licensed to us may be challenged, invalidated or circumvented, and the rights under these patents may not provide us with competitive advantages. In addition, competitors may design around our technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, which could make it easier for competitors to capture increased market position. We could incur substantial costs to defend ourselves in suits brought against us or in suits in which we may assert our patent rights against others. An unfavorable outcome of any such litigation could materially adversely affect our business and results of operations.

We also rely on trade secrets and proprietary know-how with which we seek to protect our products, in part, by confidentiality agreements with our collaborators, employees and consultants. These agreements may be breached and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently developed by our competitors.

Third parties may assert claims against us to the effect that we are infringing on their intellectual property rights. Our Life Technologies subsidiary is party to several lawsuits in which plaintiffs claim we infringe their intellectual property (Note 9). We could incur substantial costs and diversion of management resources in defending these claims, which could have a material adverse effect on our business, financial condition and results of operations. In addition, parties making these claims could secure a judgment awarding substantial damages, as well as injunctive or other equitable relief, which could effectively block our ability to make, use, sell, distribute, or market our products and services in the United States or abroad. In the event that a claim relating to intellectual property is asserted against us, or third parties not affiliated with us hold pending or issued patents that relate to our products or technology, we may seek licenses to such intellectual property or challenge those patents. However, we may be unable to obtain these licenses on commercially reasonable terms, if at all, and our challenge of the patents may be unsuccessful. Our failure

to obtain the necessary licenses or other rights could prevent the sale, manufacture, or distribution of our products and, therefore, could have a material adverse effect on our business, financial condition and results of operations.
Changes in governmental regulations may reduce demand for our products or increase our expenses. We compete in many markets in which we and our customers must comply with federal, state, local and international regulations, such as environmental, health and safety and food and drug regulations. We develop, configure and market our products to meet customer needs created by those regulations. Any significant change in regulations could reduce demand for our products or increase our expenses. For example, many of our instruments are marketed to the pharmaceutical industry for use in discovering and developing drugs. Changes in the U.S. Food and Drug Administration’s regulation of the drug discovery and development process could have an adverse effect on the demand for these products.

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Risk Factors (continued)

If our security products do not operate as designed and fail to detect explosives or radiation, we could be exposed to product liability and related claims for which we may not have adequate insurance coverage. Products currently or previously sold by our environmental and process instruments and radiation measurement and security instruments businesses include fixed and portable instruments used for chemical, radiation and trace explosives detection. These products are used in airports, embassies, cargo facilities, border crossings and other high-threat facilities for the detection and prevention of terrorist acts. If any of these products were to malfunction, it is possible that explosive or radioactive material could fail to be detected by our product, which could lead to product liability claims. There are also many other factors beyond our control that could lead to liability claims, such as the reliability and competence of the customers' operators and the training of such operators. Any such product liability claims brought against us could be significant and any adverse determination may result in liabilities in excess of our insurance coverage. Although we carry product liability insurance, we cannot be certain that our current insurance will be sufficient to cover these claims or that it can be maintained on acceptable terms, if at all.
Our inability to complete pending acquisitions or to successfully integrate any new or previous acquisitions could have a material adverse effect on our business. Our business strategy includes the acquisition of technologies and businesses that complement or augment our existing products and services. In May 2017, we entered into an agreement to purchase, and commenced a tender offer to acquire, all of the issued and outstanding shares of Patheon N.V. Certain acquisitions, including the Patheon acquisition, may be difficult to complete for a number of reasons, including the need for antitrust and/or other regulatory approvals. Any acquisition we may complete may be made at a substantial premium over the fair value of the net identifiable assets of the acquired company. Further, we may not be able to integrate acquired businesses successfully into our existing businesses, make such businesses profitable, or realize anticipated cost savings or synergies, if any, from these acquisitions, which could adversely affect our business.
Moreover, we have acquired many companies and businesses. As a result of these acquisitions, we recorded significant goodwill and indefinite-lived intangible assets (primarily tradenames) on our balance sheet, which amount to approximately $21.85 billion and $1.28 billion, respectively, as of July 1, 2017. In addition, we have definite-lived intangible assets totaling $12.30 billion as of July 1, 2017. We assess the realizability of goodwill and indefinite-lived intangible assets annually as well as whenever events or changes in circumstances indicate that these assets may be impaired. We assess the realizability of definite-lived intangible assets whenever events or changes in circumstances indicate that these assets may be impaired. These events or circumstances would generally include operating losses or a significant decline in earnings associated with the acquired business or asset. Our ability to realize the value of the goodwill and intangible assets will depend on the future cash flows of these businesses. These cash flows in turn depend in part on how well we have integrated these businesses. If we are not able to realize the value of the goodwill and intangible assets, we may be required to incur material charges relating to the impairment of those assets.
We are subject to laws and regulations governing government contracts, and failure to address these laws and regulations or comply with government contracts could harm our business by leading to a reduction in revenue associated with these customers. We have agreements relating to the sale of our products to government entities and, as a result, we are subject to various statutes and regulations that apply to companies doing business with the government. The laws governing government contracts differ from the laws governing private contracts and government contracts may contain pricing terms and conditions that are not applicable to private contracts. We are also subject to investigation for compliance with the regulations governing government contracts. A failure to comply with these regulations could result in suspension of these contracts, criminal, civil and administrative penalties or debarment.
Because we compete directly with certain of our larger customers and product suppliers, our results of operations could be adversely affected in the short term if these customers or suppliers abruptly discontinue or significantly modify their relationship with us. Our largest customer in the laboratory products business is also a significant competitor. Our business may be harmed in the short term if our competitive relationship in the marketplace with

certain of our large customers results in a discontinuation of their purchases from us. In addition, we manufacture products that compete directly with products that we source from third-party suppliers. We also source competitive products from multiple suppliers. Our business could be adversely affected in the short term if any of our large third-party suppliers abruptly discontinues selling products to us.

Because we rely heavily on third-party package-delivery services, a significant disruption in these services or significant increases in prices may disrupt our ability to ship products, increase our costs and lower our profitability.

We ship a significant portion of our products to our customers through independent package delivery companies, such as Federal Express in the U.S. and DHL in Europe. We also maintain a small fleet of vehicles dedicated to the delivery of our products and ship our products through other carriers, including national and regional trucking firms, overnight carrier services and the U.S. Postal Service. If one or more of these third-party package-delivery providers were to experience a major work stoppage, preventing our products from being delivered in a timely fashion or causing us to incur additional shipping costs we could not pass on to our customers, our costs could increase and our relationships with certain of our customers could be adversely affected. In addition, if one or

THERMO FISHER SCIENTIFIC INC.
Risk Factors (continued)

more of these third-party package-delivery providers were to increase prices, and we were not able to find comparable alternatives or make adjustments in our delivery network, our profitability could be adversely affected.

We are required to comply with a wide variety of laws and regulations, and are subject to regulation by various federal, state and foreign agencies. For example, some of our operations are subject to regulation by the U.S. Food and Drug Administration and similar international agencies. These regulations govern a wide variety of product activities, from design and development to labeling, manufacturing, promotion, sales and distribution. If we fail to comply with the U.S. Food and Drug Administration's regulations or those of similar international agencies, we may have to recall products and/or cease their manufacture and distribution, which would increase our costs and reduce our revenues. We are also subject to a variety of federal, state, local and international laws and regulations that govern, among other things, the importation and exportation of products, the handling, transportation and manufacture of substances that could be classified as hazardous, and our business practices in the U.S. and abroad such as anti-corruption and anti-competition laws. A failure to comply with these laws and regulations could result in criminal, civil and administrative penalties.

Our business could be adversely affected by disruptions at our sites. We rely upon our manufacturing operations to produce many of the products we sell and our warehouse facilities to store products, pending sale. Any significant disruption of those operations for any reason, such as strikes or other labor unrest, power interruptions, fire, or other events beyond our control could adversely affect our sales and customer relationships and therefore adversely affect our business. We have significant operations in California, near major earthquake faults, which make us susceptible to earthquake risk. Although most of our raw materials are available from a number of potential suppliers, our operations also depend upon our ability to obtain raw materials at reasonable prices. If we are unable to obtain the materials we need at a reasonable price, we may not be able to produce certain of our products or we may not be able to produce certain of these products at a marketable price, which could have an adverse effect on our results of operations.

Fluctuations in our effective tax rate may adversely affect our results of operations and cash flows. As a global company, we are subject to taxation in numerous countries, states and other jurisdictions. In preparing our financial statements, we record the amount of tax that is payable in each of the countries, states and other jurisdictions in which we operate. Our future effective tax rate, however, may be lower or higher than experienced in the past due to numerous factors, including a change in the mix of our profitability from country to country, changes in accounting for income taxes and recently enacted and future changes in tax laws in jurisdictions in which we operate. Any of these factors could cause us to experience an effective tax rate significantly different from previous periods or our current expectations, which could have an adverse effect on our business, results of operations and cash flows.

We may incur unexpected costs from increases in fuel and raw material prices, which could reduce our earnings and cash flow. Our primary commodity exposures are for fuel, petroleum-based resins and steel. While we may seek to minimize the impact of price increases through higher prices to customers and various cost-saving measures, our earnings and cash flows could be adversely affected in the event these measures are insufficient to cover our costs.

A significant disruption in, or breach in security of, our information technology systems could adversely affect our business. As a part of our ongoing effort to upgrade our current information systems, we periodically implement new enterprise resource planning software and other software applications to manage certain of our business operations. As we implement and add functionality, problems could arise that we have not foreseen. Such problems could disrupt our ability to provide quotes, take customer orders and otherwise run our business in a timely manner. When we upgrade or change systems, we may suffer interruptions in service, loss of data or reduced functionality. In addition, if our new systems fail to provide accurate pricing and cost data our results of operations and cash flows could be adversely affected.

We also rely on our technology infrastructure, among other functions, to interact with suppliers, sell our products and services, fulfill orders and bill, collect and make payments, ship products, provide services and support to customers, track customers, fulfill contractual obligations and otherwise conduct business. Our systems may be vulnerable to damage or interruption from natural disasters, power loss, telecommunication failures, terrorist attacks, computer viruses, computer denial-of-service attacks, unauthorized access to customer or employee data or company trade secrets, and other attempts to harm our systems. Certain of our systems are not redundant, and our disaster recovery planning is not sufficient for every eventuality. Despite any precautions we may take, such problems could result in, among other consequences, interruptions in our services, which could harm our reputation and financial results. Any of the cyber-attacks, breaches or other disruptions or damage described above could interrupt our operations, delay production and shipments, result in theft of our and our customers' intellectual property and trade secrets, damage customer and business partner relationships and our reputation or result in defective products or services, legal claims and proceedings, liability and penalties under privacy laws and increased cost for security and remediation, each of which could adversely affect our business and financial results.

Our debt may restrict our investment opportunities or limit our activities. As of July 1, 2017, we had approximately $16.80 billion in outstanding indebtedness. In addition, we have availability to borrow under a revolving credit facility that provides for up to $2.50 billion of unsecured multi-currency revolving credit. We may also obtain additional long-term debt and lines of credit to meet future financing needs, which would have the effect of increasing our total leverage. For example, in July the company issued €2.6 billion of senior notes to fund part of the Patheon acquisition. Our leverage could have negative consequences, including increasing our vulnerability to adverse economic and industry conditions, limiting our ability to obtain additional financing and limiting our ability to acquire new products and technologies through strategic acquisitions.

Our ability to make scheduled payments, refinance our obligations or obtain additional financing will depend on our future operating performance and on economic, financial, competitive and other factors beyond our control. Our business may not generate sufficient cash flow to meet our obligations. If we are unable to service our debt, refinance our existing debt or obtain additional financing, we may be forced to delay strategic acquisitions, capital expenditures or research and development expenditures.

Additionally, the agreements governing our debt require that we maintain certain financial ratios, and contain affirmative and negative covenants that restrict our activities by, among other limitations, limiting our ability to incur additional indebtedness, merge or consolidate with other entities, make investments, create liens, sell assets and enter into transactions with affiliates. The covenants in our revolving credit facility (the “Facility”) include a total debt-to-Consolidated EBITDA ratio and an interest coverage ratio. Specifically, the company has agreed that, so long as any lender has any commitment under the Facility, any letter of credit is outstanding under the Facility, or any loan or other obligation is outstanding under the Facility, it will not permit (as the following terms are defined in the credit agreement governing the Facility) the Consolidated Leverage Ratio (the ratio of consolidated Indebtedness to Consolidated EBITDA) to be greater than 4.0 to 1.0 as of July 1, 2017 with such ratio stepping down to 3.5 to 1.0 beginning in the third quarter of 2017; provided that the leverage ratio may be temporarily increased to 4.5 to 1.0 (with subsequent step down to 3.5 to 1.0) in the case of a Qualified Acquisition.

The company has also agreed that so long as any lender has any commitment under the Facility or any letter of credit is outstanding under the Facility, or any loan or other obligation is outstanding under any Facility (including term loan and bridge facilities), it will not permit the Consolidated Interest Coverage Ratio (the ratio of Consolidated EBITDA to Consolidated Interest Expense) to be less than 3.0 to 1.0 as at the last day of any fiscal quarter.

Our ability to comply with these financial restrictions and covenants is dependent on our future performance, which is subject to prevailing economic conditions and other factors, including factors that are beyond our control such as foreign exchange rates and interest rates. Our failure to comply with any of these restrictions or covenants may result in an event of default under the applicable debt instrument, which could permit acceleration of the debt under that instrument and require us to prepay that debt before its scheduled due date. Also, an acceleration of the debt under certain of our debt instruments would trigger an event of default under other of our debt instruments.

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Item 2. Unregistered Sales of Equity Securities and Use of Proceeds
Issuer Purchases of Equity Securities
A summary of the share repurchase activity for the company's second quarter of 2017 follows:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (1)	Maximum Dollar Amount of Shares That May Yet Be Purchased Under the Plans or Programs (1) (in millions)
Fiscal April (Apr. 2 - May 6)	1,626,633	$ 153.69	1,626,633	$ 500.0
Fiscal May (May 7 - Jun. 3)	—		—	500.0
Fiscal June (Jun. 4 - Jul. 1)	—		—	500.0
Total Second Quarter	1,626,633	$ 153.69	1,626,633	$ 500.0

(1) On July 7, 2016, the Board of Directors authorized the repurchase of up to $1.50 billion of the company’s common stock. All of the shares of common stock repurchased by the company during the second quarter of 2017 were purchased under this program.

Item 6. Exhibits
See Exhibit Index on page 50.

SIGNATURES

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.

Date: August 4, 2017 THERMO FISHER SCIENTIFIC INC.

/s/ Stephen Williamson
Stephen Williamson
Senior Vice President and Chief Financial Officer

/s/ Peter E. Hornstra
Peter E. Hornstra
Vice President and Chief Accounting Officer

THERMO FISHER SCIENTIFIC INC.
EXHIBIT INDEX

Exhibit Number	Description of Exhibit
2.1	Purchase Agreement, dated as of May 15, 2017, by and between Thermo Fisher Scientific Inc., Thermo Fisher (CN) Luxembourg S.à r.l. and Patheon N.V. (filed as Exhibit 99.(D)(1) to the Registrant's Tender Offer Statement on Schedule TO-T filed May 31, 2017 and incorporated in this document by reference).
4.1	Sixteenth Supplemental Indenture, dated as of July 24, 2017, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed July 24, 2017 [File No. 1-8002] and incorporated in this document by reference).
31.1	Certification of Chief Executive Officer required by Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer required by Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer required by Exchange Act Rules 13a-14(b) and 15d-14(b), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.**
32.2	Certification of Chief Financial Officer required by Exchange Act Rules 13a-14(b) and 15d-14(b), 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 Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Definition Linkbase Document.
101.LAB	XBRL Taxonomy Label Linkbase Document.
101.PRE	XBRL Taxonomy Presentation Linkbase Document.
	The Registrant agrees, pursuant to Item 601(b)(4)(iii)(A) of Regulation S-K, to furnish to the Commission, upon request, a copy of each instrument with respect to long-term debt of the Registrant or its consolidated subsidiaries.

*Indicates management contract or compensatory plan, contract or arrangement.
** Certification is not deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that section. Such certification is not deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act except to the extent that the registrant specifically incorporates it by reference.
Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheet at July 1, 2017 and December 31, 2016, (ii) Consolidated Statement of Income for the three and six months ended July 1, 2017 and July 2, 2016, (iii) Consolidated Statement of Comprehensive Income for the three and six months ended July 1, 2017 and July 2, 2016, (iv) Consolidated Statement of Cash Flows for the six months ended July 1, 2017 and July 2, 2016, (v) Consolidated Statement of Shareholders' Equity for the six months ended July 1, 2017 and July 2, 2016 and (vi) Notes to Consolidated Financial Statements.