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

Form 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 30, 2019

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____.

Commission File Number: 01-14010

Waters Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

13-3668640
(I.R.S. Employer
Identification No.)

34 Maple Street
Milford, Massachusetts 01757
(Address, including zip code, of principal executive offices)
(508) 478-2000
(Registrant's telephone number, including area code)

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 (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

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

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

Large accelerated filer ☒

Accelerated filer ☐

Non-accelerated filer ☐

Smaller reporting company ☐

Emerging growth company ☐

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

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	WAT	New York Stock Exchange, Inc.

Indicate the number of shares outstanding of the registrant's common stock as of April 26, 2019: 69,475,245

WATERS CORPORATION AND SUBSIDIARIES

QUARTERLY REPORT ON FORM 10-Q

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Item 1: Financial Statements

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(unaudited)

	March 30, 2019	December 31, 2018
ASSETS	(In thousands, except per share data)	
Current assets:		
Cash and cash equivalents	\$ 684,970	\$ 796,280
Investments	482,293	938,944
Accounts receivable, net	508,285	568,316
Inventories	333,308	291,569
Other current assets	68,935	68,054
Total current assets	2,077,791	2,663,163
Property, plant and equipment, net	355,965	343,083
Intangible assets, net	243,415	246,902
Goodwill	356,632	355,614
Operating lease assets	94,680	—
Other assets	121,245	118,664
Total assets	<u>\$ 3,249,728</u>	<u>\$ 3,727,426</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Notes payable and debt	\$ 100,263	\$ 178
Accounts payable	72,367	68,168
Accrued employee compensation	31,563	64,545
Deferred revenue and customer advances	222,263	164,965
Current operating lease liabilities	26,926	—
Accrued treasury stock repurchases	25,208	23,005
Accrued income taxes	19,854	22,943
Accrued warranty	11,462	12,300
Other current liabilities	93,373	92,827
Total current liabilities	603,279	448,931
Long-term liabilities:		
Long-term debt	1,048,283	1,148,172
Long-term income tax liabilities	431,224	430,866
Long-term operating lease liabilities	67,788	—
Long-term portion of retirement benefits	56,376	55,853
Other long-term liabilities	75,036	76,346
Total long-term liabilities	1,678,707	1,711,237
Total liabilities	2,281,986	2,160,168
Commitments and contingencies (Notes 6, 7, 8 and 12)		
Stockholders' equity:		
Preferred stock, par value \$0.01 per share, 5,000 shares authorized, none issued at March 30, 2019 and December 31, 2018	—	—
Common stock, par value \$0.01 per share, 400,000 shares authorized, 160,825 and 160,472 shares issued, 70,136 and 73,115 shares outstanding at March 30, 2019 and December 31, 2018, respectively	1,608	1,605
Additional paid-in capital	1,872,216	1,834,741
Retained earnings	6,104,191	5,995,205
Treasury stock, at cost, 90,689 and 87,357 shares at March 30, 2019 and December 31, 2018, respectively	(6,901,629)	(6,146,322)
Accumulated other comprehensive loss	(108,644)	(117,971)
Total stockholders' equity	967,742	1,567,258
Total liabilities and stockholders' equity	<u>\$ 3,249,728</u>	<u>\$ 3,727,426</u>

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(unaudited)

	Three Months Ended	
	March 30, 2019	March 31, 2018
	(In thousands, except per share data)	
Revenues:		
Product sales	\$ 320,503	\$ 339,117
Service sales	193,359	191,553
Total net sales	513,862	530,670
Costs and operating expenses:		
Cost of product sales	132,390	140,466
Cost of service sales	88,641	80,955
Selling and administrative expenses	134,339	130,407
Research and development expenses	35,060	34,480
Purchased intangibles amortization	2,281	1,659
Litigation settlement	—	(1,672)
Total costs and operating expenses	392,711	386,295
Operating income	121,151	144,375
Other (expense) income	(525)	346
Interest expense	(11,563)	(13,838)
Interest income	8,315	9,666
Income before income taxes	117,378	140,549
Provision for income taxes	8,392	28,598
Net income	\$ 108,986	\$ 111,951
Net income per basic common share	\$ 1.52	\$ 1.42
Weighted-average number of basic common shares	71,704	78,883
Net income per diluted common share	\$ 1.51	\$ 1.40
Weighted-average number of diluted common shares and equivalents	72,415	79,715

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(unaudited)

	Three Months Ended	
	March 30, 2019	March 31, 2018
	(In thousands)	
Net income	\$ 108,986	\$ 111,951
Other comprehensive income:		
Foreign currency translation	7,522	23,913
Unrealized gains (losses) on investments before income taxes	2,344	(2,976)
Income tax (expense) benefit	(547)	93
Unrealized gains (losses) on investments, net of tax	1,797	(2,883)
Retirement liability adjustment before reclassifications	(61)	(385)
Amounts reclassified to other (expense) income	93	907
Retirement liability adjustment before income taxes	32	522
Income tax expense	(24)	(116)
Retirement liability adjustment, net of tax	8	406
Other comprehensive income	9,327	21,436
Comprehensive income	<u>\$ 118,313</u>	<u>\$ 133,387</u>

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)

	Three Months Ended	
	March 30, 2019	March 31, 2018
	(In thousands)	
Cash flows from operating activities:		
Net income	\$ 108,986	\$ 111,951
Adjustments to reconcile net income to net cash provided by operating activities:		
Stock-based compensation	9,941	9,892
Deferred income taxes	1,442	1,071
Depreciation	12,006	16,083
Amortization of intangibles	12,758	12,557
Change in operating assets and liabilities:		
Decrease in accounts receivable	59,331	40,588
Increase in inventories	(44,438)	(28,101)
Increase in other current assets	(3,547)	(13,049)
Decrease (increase) in other assets	4,637	(4,409)
Decrease in accounts payable and other current liabilities	(33,485)	(34,258)
Increase in deferred revenue and customer advances	57,539	45,096
Effect of the 2017 Tax & Jobs Act	(3,229)	12,450
(Decrease) increase in other liabilities	(6,162)	5,970
Net cash provided by operating activities	175,779	175,841
Cash flows from investing activities:		
Additions to property, plant, equipment and software capitalization	(25,666)	(15,992)
Investment in unaffiliated companies	—	(3,215)
Purchases of investments	(26,732)	(170,041)
Maturities and sales of investments	486,437	1,085,087
Net cash provided by investing activities	434,039	895,839
Cash flows from financing activities:		
Proceeds from debt issuances	166	81
Payments on debt	(80)	(750,000)
Proceeds from stock plans	27,631	24,287
Purchases of treasury shares	(753,105)	(282,370)
Proceeds from derivative contracts	2,254	1,937
Net cash used in financing activities	(723,134)	(1,006,065)
Effect of exchange rate changes on cash and cash equivalents	2,006	8,588
(Decrease) increase in cash and cash equivalents	(111,310)	74,203
Cash and cash equivalents at beginning of period	796,280	642,319
Cash and cash equivalents at end of period	<u>\$ 684,970</u>	<u>\$ 716,522</u>

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

WATERS CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited, in thousands)

	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance December 31, 2017	159,845	\$ 1,598	\$1,745,088	\$5,405,380	\$(4,808,211)	\$ (110,067)	\$ 2,233,788
Adoption of new accounting pronouncement	—	—	—	(3,969)	—	—	(3,969)
Net income	—	—	—	111,951	—	—	111,951
Other comprehensive income	—	—	—	—	—	21,436	21,436
Issuance of common stock for employees:							
Employee Stock Purchase Plan	10	—	1,565	—	—	—	1,565
Stock options exercised	222	2	22,707	—	—	—	22,709
Treasury stock	—	—	—	—	(282,370)	—	(282,370)
Stock-based compensation	123	2	9,782	—	—	—	9,784
Balance March 31, 2018	<u>160,200</u>	<u>\$ 1,602</u>	<u>\$1,779,142</u>	<u>\$5,513,362</u>	<u>\$(5,090,581)</u>	<u>\$ (88,631)</u>	<u>\$ 2,114,894</u>
	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
Balance December 31, 2018	160,472	\$ 1,605	\$1,834,741	\$5,995,205	\$(6,146,322)	\$ (117,971)	\$ 1,567,258
Net income	—	—	—	108,986	—	—	108,986
Other comprehensive income	—	—	—	—	—	9,327	9,327
Issuance of common stock for employees:							
Employee Stock Purchase Plan	10	—	1,670	—	—	—	1,670
Stock options exercised	239	2	26,097	—	—	—	26,099
Treasury stock	—	—	—	—	(755,307)	—	(755,307)
Stock-based compensation	104	1	9,708	—	—	—	9,709
Balance March 30, 2019	<u>160,825</u>	<u>\$ 1,608</u>	<u>\$1,872,216</u>	<u>\$6,104,191</u>	<u>\$(6,901,629)</u>	<u>\$ (108,644)</u>	<u>\$ 967,742</u>

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

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(unaudited)

1 Basis of Presentation and Summary of Significant Accounting Policies

Waters Corporation (the “Company,” “we,” “our,” or “us”) is a specialty measurement company that operates with a fundamental underlying purpose to advance the science that enables our customers to enhance human health and well-being. The Company has pioneered analytical workflow solutions involving liquid chromatography, mass spectrometry and thermal analysis innovations serving the life, materials and food sciences for more than 60 years. The Company primarily designs, manufactures, sells and services high performance liquid chromatography (“HPLC”), ultra performance liquid chromatography (“UPLC™” and together with HPLC, referred to as “LC”) and mass spectrometry (“MS”) technology systems and support products, including chromatography columns, other consumable products and comprehensive post-warranty service plans. These systems are complementary products that are frequently employed together (“LC-MS”) and sold as integrated instrument systems using common software platforms. LC is a standard technique and is utilized in a broad range of industries to detect, identify, monitor and measure the chemical, physical and biological composition of materials, and to purify a full range of compounds. MS technology, principally in conjunction with chromatography, is employed in drug discovery and development, including clinical trial testing, the analysis of proteins in disease processes (known as “proteomics”), nutritional safety analysis and environmental testing. LC-MS instruments combine a liquid phase sample introduction and separation system with mass spectrometric compound identification and quantification. In addition, the Company designs, manufactures, sells and services thermal analysis, rheometry and calorimetry instruments through its TA™ product line. These instruments are used in predicting the suitability and stability of fine chemicals, pharmaceuticals, water, polymers, metals and viscous liquids for various industrial, consumer goods and healthcare products, as well as for life science research. The Company is also a developer and supplier of advanced software-based products that interface with the Company’s instruments, as well as other manufacturers’ instruments.

The Company’s interim fiscal quarter typically ends on the thirteenth Saturday of each quarter. Since the Company’s fiscal year end is December 31, the first and fourth fiscal quarters may have more or less than thirteen complete weeks. The Company’s first fiscal quarters for 2019 and 2018 ended on March 30, 2019 and March 31, 2018, respectively.

The accompanying unaudited interim consolidated financial statements have been prepared in accordance with the instructions to the Quarterly Report on Form 10-Q and do not include all of the information and footnote disclosures required for annual financial statements prepared in accordance with generally accepted accounting principles (“GAAP”) in the United States of America. The consolidated financial statements include the accounts of the Company and its subsidiaries, which are wholly owned. All inter-company balances and transactions have been eliminated.

The preparation of consolidated financial statements in conformity with GAAP requires the Company to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent liabilities at the dates of the financial statements. Actual amounts may differ from these estimates under different assumptions or conditions.

It is management’s opinion that the accompanying interim consolidated financial statements reflect all adjustments (which are normal and recurring) that are necessary for a fair statement of the results for the interim periods. The interim consolidated financial statements should be read in conjunction with the consolidated financial statements included in the Company’s Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the U.S. Securities and Exchange Commission (“SEC”) on March 1, 2019.

Translation of Foreign Currencies

The functional currency of each of the Company’s foreign operating subsidiaries is the local currency of its country of domicile, except for the Company’s subsidiaries in Hong Kong, Singapore and the Cayman Islands, where the underlying transactional cash flows are denominated in currencies other than the respective local currency of domicile. The functional currency of the Hong Kong, Singapore and Cayman Islands subsidiaries is the U.S. dollar, based on the respective entity’s cash flows.

For most of the Company’s foreign operations, assets and liabilities are translated into U.S. dollars at exchange rates prevailing on the balance sheet date, while revenues and expenses are translated at average exchange rates prevailing during the respective period. Any resulting translation gains or losses are included in accumulated other comprehensive income in the consolidated balance sheets.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)*Cash, Cash Equivalents and Investments*

Cash equivalents represent highly liquid investments, with original maturities of 90 days or less, while investments with longer maturities are classified as investments. The Company maintains cash balances in various operating accounts in excess of federally insured limits, and in foreign subsidiary accounts in currencies other than the U.S. dollar. As of March 30, 2019 and December 31, 2018, \$411 million out of \$1,167 million and \$471 million out of \$1,735 million, respectively, of the Company's total cash, cash equivalents and investments were held by foreign subsidiaries. In addition, \$263 million out of \$1,167 million and \$251 million out of \$1,735 million of cash, cash equivalents and investments were held in currencies other than the U.S. dollar at March 30, 2019 and December 31, 2018, respectively.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company has very limited use of rebates and other cash considerations payable to customers and, as a result, the transaction price determination does not have any material variable consideration. The allowance for doubtful accounts is the best estimate of the amount of probable credit losses in the existing accounts receivable. The allowance is based on a number of factors, including historical experience and the customer's credit-worthiness. The allowance for doubtful accounts is reviewed on at least a quarterly basis. Past due balances over 90 days and over a specified amount are reviewed individually for collectibility. Account balances are charged against the allowance when the Company determines it is probable that the receivable will not be recovered. The Company does not have any off-balance sheet credit exposure related to its customers. Historically, the Company has not experienced significant bad debt losses.

The following is a summary of the activity of the Company's allowance for doubtful accounts for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Balance at Beginning of Period	Additions	Deduction	Balance at End of Period
Allowance for Doubtful Accounts				
March 30, 2019	\$ 7,663	\$ 2,159	\$ (2,324)	\$ 7,498
March 31, 2018	\$ 6,109	\$ 1,056	\$ (1,033)	\$ 6,132

Fair Value Measurements

In accordance with the accounting standards for fair value measurements and disclosures, certain of the Company's assets and liabilities are measured at fair value on a recurring basis as of March 30, 2019 and December 31, 2018. Fair values determined by Level 1 inputs utilize observable data, such as quoted prices in active markets. Fair values determined by Level 2 inputs utilize data points other than quoted prices in active markets that are observable either directly or indirectly. Fair values determined by Level 3 inputs utilize unobservable data points for which there is little or no market data, which require the reporting entity to develop its own assumptions.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

The following table represents the Company's assets and liabilities measured at fair value on a recurring basis at March 30, 2019 (in thousands):

	Total at March 30, 2019	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
U.S. Treasury securities	\$ 98,576	\$ —	\$ 98,576	\$ —
Foreign government securities	3,476	—	3,476	—
Corporate debt securities	367,621	—	367,621	—
Time deposits	52,507	—	52,507	—
Waters 401(k) Restoration Plan assets	33,951	33,951	—	—
Foreign currency exchange contracts	355	—	355	—
Interest rate cross-currency swap agreements	7,120	—	7,120	—
Total	\$563,606	\$ 33,951	\$ 529,655	\$ —
Liabilities:				
Contingent consideration	\$ 2,591	\$ —	\$ —	\$ 2,591
Foreign currency exchange contracts	619	—	619	—
Total	\$ 3,210	\$ —	\$ 619	\$ 2,591

The following table represents the Company's assets and liabilities measured at fair value on a recurring basis at December 31, 2018 (in thousands):

	Total at December 31, 2018	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
U.S. Treasury securities	\$ 164,315	\$ —	\$ 164,315	\$ —
Foreign government securities	3,463	—	3,463	—
Corporate debt securities	723,059	—	723,059	—
Time deposits	108,638	—	108,638	—
Waters 401(k) Restoration Plan assets	33,104	33,104	—	—
Foreign currency exchange contracts	503	—	503	—
Interest rate cross-currency swap agreements	1,093	—	1,093	—
Total	\$ 1,034,175	\$ 33,104	\$1,001,071	\$ —
Liabilities:				
Contingent consideration	\$ 2,476	\$ —	\$ —	\$ 2,476
Foreign currency exchange contracts	224	—	224	—
Total	\$ 2,700	\$ —	\$ 224	\$ 2,476

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)*Fair Value of 401(k) Restoration Plan Assets*

The 401(k) Restoration Plan is a nonqualified defined contribution plan and the assets were held in registered mutual funds and have been classified as Level 1. The fair values of the assets in the plan are determined through market and observable sources from daily quoted prices on nationally recognized securities exchanges.

Fair Value of Cash Equivalents, Investments, Foreign Currency Exchange Contracts and Interest Rate Cross-Currency Swap Agreements

The fair values of the Company's cash equivalents, investments and foreign currency exchange contracts are determined through market and observable sources and have been classified as Level 2. These assets and liabilities have been initially valued at the transaction price and subsequently valued, typically utilizing third-party pricing services. The pricing services use many inputs to determine value, including reportable trades, benchmark yields, credit spreads, broker/dealer quotes, current spot rates and other industry and economic events. The Company validates the prices provided by third-party pricing services by reviewing their pricing methods and obtaining market values from other pricing sources.

Fair Value of Contingent Consideration

The fair value of the Company's liability for contingent consideration relates to earnout payments in connection with the July 2014 acquisition of Medimass Research, Development and Service Kft. and is determined using a probability-weighted discounted cash flow model, which uses significant unobservable inputs, and has been classified as Level 3. Subsequent changes in the fair value of the contingent consideration liability are recorded in the results of operations. The fair value of the contingent consideration liability associated with future earnout payments is based on several factors, including the estimated future results and a discount rate that reflects both the likelihood of achieving the estimated future results and the Company's creditworthiness. A change in any of these unobservable inputs can significantly change the fair value of the contingent consideration. Although there is no contractual limit, the fair value of future contingent consideration payments was estimated to be \$3 million and \$2 million at March 30, 2019 and December 31, 2018, respectively, based on the Company's best estimate, as the earnout is based on future sales of certain products, some of which are currently in development, through 2034.

Fair Value of Other Financial Instruments

The Company's accounts receivable, accounts payable and variable interest rate debt are recorded at cost, which approximates fair value due to their short-term nature. The carrying value of the Company's fixed interest rate debt was \$510 million at both March 30, 2019 and December 31, 2018, respectively. The fair value of the Company's fixed interest rate debt was estimated using discounted cash flow models, based on estimated current rates offered for similar debt under current market conditions for the Company. The fair value of the Company's fixed interest rate debt was estimated to be \$508 million and \$502 million at March 30, 2019 and December 31, 2018, respectively, using Level 2 inputs.

Derivative Transactions

The Company is a global company that operates in over 35 countries and, as a result, the Company's net sales, cost of sales, operating expenses and balance sheet amounts are significantly impacted by fluctuations in foreign currency exchange rates. The Company is exposed to currency price risk on foreign currency exchange rate fluctuations when it translates its non-U.S. dollar foreign subsidiaries' financial statements into U.S. dollars, and when any of the Company's subsidiaries purchase or sell products or services in a currency other than its own currency.

The Company's principal strategies in managing exposures to changes in foreign currency exchange rates are to (1) naturally hedge the foreign-currency-denominated liabilities on the Company's balance sheet against corresponding assets of the same currency, such that any changes in liabilities due to fluctuations in foreign currency exchange rates are typically offset by corresponding changes in assets and (2) mitigate foreign exchange risk exposure of international operations by hedging the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. The Company presents the derivative transactions in financing activities in the statement of cash flows.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Foreign Currency Exchange Contracts

The Company does not specifically enter into any derivatives that hedge foreign-currency-denominated operating assets, liabilities or commitments on its balance sheet, other than a portion of certain third-party accounts receivable and accounts payable, and the Company's net worldwide intercompany receivables and payables, which are eliminated in consolidation. The Company periodically aggregates its net worldwide balances by currency and then enters into foreign currency exchange contracts that mature within 90 days to hedge a portion of the remaining balance to minimize some of the Company's currency price risk exposure. The foreign currency exchange contracts are not designated for hedge accounting treatment. Principal hedged currencies include the Euro, Japanese yen, British pound, Mexican peso and Brazilian real.

Interest Rate Cross-Currency Swap Agreements

In 2018, the Company entered into three-year interest rate cross-currency swap derivative agreements with an aggregate notional value of \$300 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. Under hedge accounting, the change in fair value of the derivative that relates to changes in the foreign currency spot rate are recorded in the currency translation adjustment in other comprehensive income and remain in accumulated comprehensive income in stockholders' equity until the sale or substantial liquidation of the foreign operation. The difference between the interest rate received and paid under the interest rate cross-currency swap derivative agreement is recorded in interest income in the statement of operations.

The Company's foreign currency exchange contracts and interest rate cross-currency swap agreements included in the consolidated balance sheets are classified as follows (in thousands):

	March 30, 2019		December 31, 2018	
	Notional Value	Fair Value	Notional Value	Fair Value
Foreign currency exchange contracts:				
Other current assets	\$ 34,219	\$ 355	\$ 112,212	\$ 503
Other current liabilities	\$ 98,745	\$ 619	\$ 40,175	\$ 224
Interest rate cross-currency swap agreements:				
Other assets	\$ 300,000	\$ 7,120	\$ 300,000	\$ 1,093
Accumulated other comprehensive income		\$ (7,120)		\$ (1,093)

The following is a summary of the activity included in the statements of comprehensive income related to the foreign currency exchange contracts (in thousands):

	Financial Statement Classification	Three Months Ended	
		March 30, 2019	March 31, 2018
Foreign currency exchange contracts:			
Realized (losses) gains on closed contracts	Cost of sales	\$ (543)	\$ 1,937
Unrealized gains (losses) on open contracts	Cost of sales	526	(985)
Cumulative net pre-tax (losses) gains	Cost of sales	\$ (17)	\$ 952
Interest rate cross-currency swap agreements:			
Interest earned	Interest income	\$ 2,227	\$ —
Unrealized gains on contracts	Stockholders' equity	\$ 7,120	\$ —

In April 2019, the Company entered into three-year interest rate cross-currency swap derivative agreements with a notional value of \$110 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Stockholders' Equity

In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. This new program replaced the remaining amounts available from the pre-existing program. During the three months ended March 30, 2019 and March 31, 2018, the Company repurchased 3.3 million and 1.3 million shares of the Company's outstanding common stock at a cost of \$747 million and \$275 million, respectively, under the January 2019 authorization and other previously announced programs. As of March 30, 2019, the Company had repurchased an aggregate of 2.5 million shares at a cost of \$598 million under the January 2019 repurchase program and had a total of \$3.4 billion authorized for future repurchases. In addition, the Company repurchased \$8 million of common stock related to the vesting of restricted stock units during both the three months ended March 30, 2019 and March 31, 2018, respectively. The Company believes that it has the financial flexibility to fund these share repurchases given current cash levels and debt borrowing capacity, as well as to invest in research, technology and business acquisitions.

As of March 30, 2019, the Company accrued \$25 million as a result of treasury stock purchases that were settled in the second quarter of 2019.

Product Warranty Costs

The Company accrues estimated product warranty costs at the time of sale, which are included in cost of sales in the consolidated statements of operations. While the Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers, the Company's warranty obligation is affected by product failure rates, material usage and service delivery costs incurred in correcting a product failure. The amount of the accrued warranty liability is based on historical information, such as past experience, product failure rates, number of units repaired and estimated costs of material and labor. The liability is reviewed for reasonableness at least quarterly.

The following is a summary of the activity of the Company's accrued warranty liability for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Balance at Beginning of Period	Accruals for Warranties	Settlements Made	Balance at End of Period
Accrued warranty liability:				
March 30, 2019	\$ 12,300	\$ 1,500	\$ (2,338)	\$ 11,462
March 31, 2018	\$ 13,026	\$ 1,767	\$ (2,167)	\$ 12,626

Restructuring and Other Charges

In January 2019, the Company made organizational changes to better align our resources with our growth and innovation strategies, resulting in a worldwide workforce reduction, impacting 1% of the Company's employees. The Company recorded \$8 million of severance and related costs during 2019.

2 Revenue Recognition

The Company recognizes revenue upon transfer of control of promised products and services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. The Company generally enters into contracts that include a combination of products and services. Revenue is allocated to distinct performance obligations and is recognized net of allowances for returns and discounts.

The Company recognizes revenue on product sales at the time control of the product transfers to the customer. In substantially all of the Company's arrangements, title of the product transfers at shipping point and, as a result, the Company determined control transfers at the point of shipment. In more limited cases, there are destination-based shipping terms and, thus, control is deemed to transfer when the products arrive at the customer site. All incremental costs of obtaining a contract are expensed as and when incurred if the expected amortization period of the asset that would have been recognized is one year or less. Shipping and handling costs are included as a component of cost of sales. In situations where the control of the goods transfers prior to the completion of the Company's obligation to

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

ship the products to its customers, the Company has elected the practical expedient to account for the shipping services as a fulfillment cost. Accordingly, such costs are recognized when control of the related goods is transferred to the customer. In more rare situations, the Company has revenue associated with products that contain specific customer acceptance criteria and the related revenue is not recognized before the customer acceptance criteria are satisfied. The Company elected to exclude from the measurement of the transaction price all taxes assessed by a governmental authority that are both imposed on and concurrent with specific revenue-producing transactions and collected by the Company from a customer.

Generally, the Company's contracts for products include a performance obligation related to installation. The Company has determined that the installation represents a distinct performance obligation and revenue is recognized separately upon the completion of installation. The Company determines the amount of the transaction price to allocate to the installation service based on the standalone selling price of the product and the service, which requires judgment. The Company determines relative standalone selling price of installation based upon a number of factors, including hourly service billing rates and estimated installation hours. In developing these estimates, the Company considers past history, competition, billing rates of current services and other factors.

The Company has sales from standalone software, which is included in instrument systems revenue. These arrangements typically include software licenses and maintenance contracts, both of which the Company has determined are distinct performance obligations. The Company determines the amount of the transaction price to allocate to the license and maintenance contract based on the relative standalone selling price of each performance obligation. Software license revenue is recognized at the point in time when control has been transferred to the customer. The revenue allocated to the software maintenance contract is recognized on a straight-line basis over the maintenance period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. Unspecified rights to software upgrades are typically sold as part of the maintenance contract on a when-and-if-available basis.

Payment terms and conditions vary among the Company's revenue streams, although terms generally include a requirement of payment within 30 to 60 days of product shipment. Prior to providing payment terms to customers, an evaluation of the customer's credit risk is performed. Returns and customer credits are infrequent and insignificant and are recorded as a reduction to sales. Rights of return are not included in sales arrangements and, therefore, there is minimal variable consideration included in the transaction price of our products.

Service revenue includes (i) service and software maintenance contracts and (ii) service calls (time and materials). Instrument service contracts and software maintenance contracts are typically annual contracts, which are billed at the beginning of the contract or maintenance period. The amount of the service and software maintenance contract is recognized on a straight-line basis to revenue over the maintenance service period, which is the contractual term of the contract, as a time-based measure of progress best reflects the Company's performance in satisfying this obligation. There are no deferred costs associated with the service contract, as the cost of the service is recorded when the service is performed. Service calls are recognized to revenue at the time a service is performed.

The Company's deferred revenue liabilities on the consolidated balance sheets consists of the obligation on instrument service contracts and customer payments received in advance, prior to transfer of control of the instrument. The Company records deferred revenue primarily related to its service contracts, where consideration is billable at the beginning of the service period.

The following is a summary of the activity of the Company's deferred revenue and customer advances for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	March 30, 2019	March 31, 2018
Balance at the beginning of the period	\$ 204,257	\$ 192,590
Recognition of revenue included in balance at beginning of the period	(77,742)	(93,286)
Revenue deferred during the period, net of revenue recognized	134,506	147,939
Balance at the end of the period	<u>\$ 261,021</u>	<u>\$ 247,243</u>

The Company classified \$39 million of deferred revenue and customer advances in other long-term liabilities at both March 30, 2019 and December 31, 2018.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

The amount of deferred revenue and customer advances equals the transaction price allocated to unfulfilled performance obligations for the period presented. Such amounts are expected to be recognized in the future as follows (in thousands):

	<u>March 30, 2019</u>
Deferred revenue and customer advances expected to be recognized in:	
One year or less	\$ 222,263
13-24 months	22,180
25 months and beyond	16,578
Total	<u>\$ 261,021</u>

3 Marketable Securities

The Company's marketable securities within cash equivalents and investments included in the consolidated balance sheets are detailed as follows (in thousands):

	<u>March 30, 2019</u>			
	<u>Amortized Cost</u>	<u>Unrealized Gain</u>	<u>Unrealized Loss</u>	<u>Fair Value</u>
U.S. Treasury securities	\$ 98,723	\$ 12	\$ (159)	\$ 98,576
Foreign government securities	3,489	1	(14)	3,476
Corporate debt securities	368,163	121	(663)	367,621
Time deposits	52,507	—	—	52,507
Total	<u>\$ 522,882</u>	<u>\$ 134</u>	<u>\$ (836)</u>	<u>\$ 522,180</u>
Amounts included in:				
Cash equivalents	\$ 39,886	\$ 1	\$ —	\$ 39,887
Investments	482,996	133	(836)	482,293
Total	<u>\$ 522,882</u>	<u>\$ 134</u>	<u>\$ (836)</u>	<u>\$ 522,180</u>

	<u>December 31, 2018</u>			
	<u>Amortized Cost</u>	<u>Unrealized Gain</u>	<u>Unrealized Loss</u>	<u>Fair Value</u>
U.S. Treasury securities	\$ 164,619	\$ 16	\$ (320)	\$ 164,315
Foreign government securities	3,486	1	(24)	3,463
Corporate debt securities	725,778	41	(2,760)	723,059
Time deposits	108,638	—	—	108,638
Total	<u>\$ 1,002,521</u>	<u>\$ 58</u>	<u>\$ (3,104)</u>	<u>\$ 999,475</u>
Amounts included in:				
Cash equivalents	\$ 60,532	\$ —	\$ (1)	\$ 60,531
Investments	941,989	58	(3,103)	938,944
Total	<u>\$ 1,002,521</u>	<u>\$ 58</u>	<u>\$ (3,104)</u>	<u>\$ 999,475</u>

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

The estimated fair value of marketable debt securities by maturity date is as follows (in thousands):

	March 30, 2019	December 31, 2018
Due in one year or less	\$ 437,648	\$ 797,649
Due after one year through three years	84,532	201,826
Total	<u>\$ 522,180</u>	<u>\$ 999,475</u>

4 Inventories

Inventories are classified as follows (in thousands):

	March 30, 2019	December 31, 2018
Raw materials	\$ 119,101	\$ 111,641
Work in progress	18,314	15,552
Finished goods	195,893	164,376
Total inventories	<u>\$ 333,308</u>	<u>\$ 291,569</u>

5 Goodwill and Other Intangibles

The carrying amount of goodwill was \$357 million and \$356 million at March 30, 2019 and December 31, 2018, respectively. During the three months ended March 30, 2019, the effect of foreign currency translation increased goodwill by \$1 million.

The Company's intangible assets included in the consolidated balance sheets are detailed as follows (dollars in thousands):

	March 30, 2019			December 31, 2018		
	Gross Carrying Amount	Accumulated Amortization	Weighted- Average Amortization Period	Gross Carrying Amount	Accumulated Amortization	Weighted- Average Amortization Period
Capitalized software	\$456,388	\$ 311,229	5 years	\$454,307	\$ 307,634	5 years
Purchased intangibles	201,126	145,970	11 years	201,566	144,184	11 years
Trademarks and IPR&D	13,817	—	—	13,677	—	—
Licenses	5,710	5,119	6 years	5,568	4,875	6 years
Patents and other intangibles	79,940	51,248	8 years	77,753	49,276	8 years
Total	<u>\$756,981</u>	<u>\$ 513,566</u>	7 years	<u>\$752,871</u>	<u>\$ 505,969</u>	7 years

The gross carrying value of intangible assets and accumulated amortization for intangible assets decreased by \$7 million and \$5 million, respectively, in the three months ended March 30, 2019 due to the effects of foreign currency translation. Amortization expense for intangible assets was \$13 million for both the three months ended March 30, 2019 and March 31, 2018. Amortization expense for intangible assets is estimated to be \$52 million per year for each of the next five years.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)**6 Debt**

In November 2017, the Company entered into a new credit agreement (the “2017 Credit Agreement”) that provides for a \$1.5 billion revolving facility and a \$300 million term loan. The revolving facility and term loan both mature on November 30, 2022 and require no scheduled prepayments before that date.

The interest rates applicable to the 2017 Credit Agreement are, at the Company’s option, equal to either the alternate base rate (which is a rate per annum equal to the greatest of (a) the prime rate in effect on such day, (b) the Federal Reserve Bank of New York Rate on such day plus 1/2 of 1% per annum and (c) the adjusted LIBO rate on such day (or if such day is not a business day, the immediately preceding business day) for a deposit in U.S. dollars with a maturity of one month plus 1% per annum) or the applicable 1, 2, 3 or 6 month adjusted LIBO rate or EURIBO rate for Euro-denominated loans, in each case, plus an interest rate margin based upon the Company’s leverage ratio, which can range between 0 and 12.5 basis points for alternate base rate loans and between 80 and 112.5 basis points for LIBO rate or EURIBO rate loans. The facility fee on the 2017 Credit Agreement ranges between 7.5 and 25 basis points per annum, based on the leverage ratio, of the amount of the revolving facility commitments and the outstanding term loan. The 2017 Credit Agreement requires that the Company comply with an interest coverage ratio test of not less than 3.50:1 as of the end of any fiscal quarter for any period of four consecutive fiscal quarters and a leverage ratio test of not more than 3.50:1 as of the end of any fiscal quarter. In addition, the 2017 Credit Agreement includes negative covenants, affirmative covenants, representations and warranties and events of default that are customary for investment grade credit facilities.

As of both March 30, 2019 and December 31, 2018, the Company had a total of \$560 million of outstanding senior unsecured notes. Interest on the fixed rate senior unsecured notes is payable semi-annually each year. Interest on the floating rate senior unsecured notes is payable quarterly. The Company may prepay all or some of the senior unsecured notes at any time in an amount not less than 10% of the aggregate principal amount outstanding, plus the applicable make-whole amount or prepayment premium for Series H and J senior unsecured notes. In the event of a change in control of the Company (as defined in the note purchase agreement), the Company may be required to prepay the senior unsecured notes at a price equal to 100% of the principal amount thereof, plus accrued and unpaid interest. These senior unsecured notes require that the Company comply with an interest coverage ratio test of not less than 3.50:1 for any period of four consecutive fiscal quarters and a leverage ratio test of not more than 3.50:1 as of the end of any fiscal quarter. In addition, these senior unsecured notes include customary negative covenants, affirmative covenants, representations and warranties and events of default.

In February 2019, certain defined terms related to the subsidiary guarantors were amended in the 2017 Credit Agreement and senior unsecured note agreements. In addition, the Company amended the senior unsecured note agreements to allow the Company to elect an increase in the permitted leverage ratio from 3.50:1 to 4.0:1, for a period of three consecutive quarters, for a material acquisition of \$400 million or more. During the period of time where the leverage ratio exceeds 3.50:1, the interest payable on the senior unsecured notes shall increase by 0.50%. The debt covenants in the senior unsecured note agreements were also modified to address the change in accounting guidance for leases.

In 2018, the Company entered into three-year interest rate cross-currency swap derivative agreements with an aggregate notional value of \$300 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. In April 2019, the Company entered into three-year interest rate cross-currency swap derivative agreements with a notional value of \$110 million to hedge the variability in the movement of foreign currency exchange rates on a portion of its Euro-denominated net asset investments. See Note 1, “Basis of Presentation and Summary of Significant Accounting Policies.”

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

The Company had the following outstanding debt at March 30, 2019 and December 31, 2018 (in thousands):

	March 30, 2019	December 31, 2018
Foreign subsidiary lines of credit	\$ 263	\$ 178
Senior unsecured notes - Series B - 5.00%, due February 2020	100,000	—
Total notes payable and debt, current	100,263	178
Senior unsecured notes - Series B - 5.00%, due February 2020	—	100,000
Senior unsecured notes - Series E - 3.97%, due March 2021	50,000	50,000
Senior unsecured notes - Series F - 3.40%, due June 2021	100,000	100,000
Senior unsecured notes - Series G - 3.92%, due June 2024	50,000	50,000
Senior unsecured notes - Series H - floating rate*, due June 2024	50,000	50,000
Senior unsecured notes - Series I - 3.13%, due May 2023	50,000	50,000
Senior unsecured notes - Series K - 3.44%, due May 2026	160,000	160,000
Credit agreement	590,000	590,000
Unamortized debt issuance costs	(1,717)	(1,828)
Total long-term debt	1,048,283	1,148,172
Total debt	\$ 1,148,546	\$ 1,148,350

* Series H senior unsecured notes bear interest at a 3-month LIBOR for that floating rate interest period plus 1.25%.

As of both March 30, 2019 and December 31, 2018, the Company had a total amount available to borrow under the 2017 Credit Agreement of \$1,208 million after outstanding letters of credit. The weighted-average interest rates applicable to the senior unsecured notes and credit agreement borrowings collectively were 3.80% and 3.83% at March 30, 2019 and December 31, 2018, respectively. As of March 30, 2019, the Company was in compliance with all debt covenants.

The Company and its foreign subsidiaries also had available short-term lines of credit totaling \$90 million at both March 30, 2019 and December 31, 2018, for the purpose of short-term borrowing and issuance of commercial guarantees. The weighted-average interest rates applicable to these short-term borrowings were 4.44% and 1.88% for March 30, 2019 and December 31, 2018, respectively.

7 Income Taxes

The four principal jurisdictions in which the Company manufactures are the U.S., Ireland, the U.K. and Singapore, where the statutory tax rates are 21%, 12.5%, 19% and 17%, respectively, as of March 30, 2019. The Company has a contractual tax rate of 0% on qualifying activities in Singapore through March 2021, based upon the achievement of certain contractual milestones, which the Company expects to continue to meet. The effect of applying the contractual tax rate rather than the statutory tax rate to income from qualifying activities in Singapore increased the Company's net income for the three months ended March 30, 2019 and March 31, 2018 by \$4 million and \$6 million, respectively, and increased the Company's net income per diluted share by \$0.06 and \$0.07, respectively.

The Company's effective tax rate for the three months ended March 30, 2019 and March 31, 2018 was 7.1% and 20.3%, respectively. The income tax provision includes a \$7 million and \$6 million income tax benefit related to stock-based compensation for the three months ended March 30, 2019 and March 31, 2018, respectively. The effective tax rate for the three months ended March 30, 2019 includes a \$3 million income tax benefit related to the finalization of certain regulations relating to the Tax Cuts and Jobs Act (the "2017 Tax Act"). This income tax benefit decreased the effective tax rate by 2.9 percentage points for the three months ended March 30, 2019. The effective tax rate for the three months ended March 31, 2018 includes \$12 million of additional income tax expense related to the change in foreign currency exchange rates on the earnings taxed in December 2017 under the toll charge of the 2017 Tax Act. This additional income tax expense increased the effective tax rate by 8.9 percentage points for the three months ended March 31, 2018. The remaining differences between the effective tax rates can primarily be attributed to differences in the proportionate amounts of pre-tax income recognized in jurisdictions with different effective tax rates.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

The Company accounts for its uncertain tax positions in accordance with the accounting standards for income taxes, which require financial statement reporting of the expected future tax consequences of uncertain tax positions on the presumption that all concerned tax authorities possess full knowledge of those tax positions, as well as all of the pertinent facts and circumstances, but prohibit any discounting of unrecognized tax benefits associated with those positions for the time value of money. The Company continues to classify interest and penalties related to unrecognized tax benefits as a component of the provision for income taxes.

The following is a summary of the activity of the Company's uncertain tax positions for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	<u>March 30, 2019</u>	<u>March 31, 2018</u>
Balance at the beginning of the period	\$ 26,108	\$ 5,843
Net reductions for lapse of statutes taken during the period	(43)	(83)
Net additions for tax positions taken during the current period	325	177
Balance at the end of the period	<u>\$ 26,390</u>	<u>\$ 5,937</u>

With limited exceptions, the Company is no longer subject to tax audit examinations in significant jurisdictions for the years ended on or before December 31, 2013. However, carryforward tax attributes that were generated in years beginning on or before January 1, 2014 may still be adjusted upon examination by tax authorities if the attributes are utilized. The Company continuously monitors the lapsing of statutes of limitations on potential tax assessments for related changes in the measurement of unrecognized tax benefits, related net interest and penalties, and deferred tax assets and liabilities. As of March 30, 2019, the Company expects to record additional reductions in the measurement of its unrecognized tax benefits and related net interest and penalties of less than \$1 million within the next twelve months due to potential tax audit settlements and the lapsing of statutes of limitations on potential tax assessments. The Company does not expect to record any other material reductions in the measurement of its unrecognized tax benefits within the next twelve months.

8 Leases

The Company adopted new accounting guidance regarding the accounting for leases as of January 1, 2019 using a modified retrospective transition approach that was applied to leases existing as of, or entered into after, January 1, 2019. The Company elected the package of transition provisions available for expired or existing contracts, which allowed the Company to carryforward historical assessments of (1) whether contracts are or contain leases, (2) lease classification and (3) initial direct costs. Upon adoption, the Company recorded a right-of-use lease asset and lease liabilities in the amount \$100 million as of January 1, 2019. The adoption of this standard did not have a material impact on the Company's results of operations, cash flows and retained earnings.

Prior to the adoption of the new lease accounting standard, undiscounted future minimum rents payable as of December 31, 2018 under non-cancelable leases with initial terms exceeding one year were as follows (in thousands):

2019	\$ 28,417
2020	23,424
2021	16,032
2022	11,816
2023 and thereafter	<u>23,269</u>
Total future minimum lease payments	<u>\$102,958</u>

The Company's operating leases consist of property leases for sales, demonstration, laboratory, warehouse and office spaces, automotive leases for sales and service personnel and equipment leases, primarily used in our manufacturing and distribution operations. The lease policies described below were effective as of January 1, 2019. For leases with terms greater than 12 months, the Company recorded the related right-of-use asset and lease liability obligation at the present value of lease payments over the term of the leases. Some of the Company's leases include rental escalation clauses, renewal options and/or termination options that are factored into our determination of lease payments. A

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

certain number of these leases contain rent escalation clauses, either fixed or adjusted periodically for inflation of market rates, that are factored into the Company's determination of lease payments. The Company also has variable lease payments that do not depend on a rate or index, primarily for items such as common area maintenance and real estate taxes, which are recorded as variable costs when incurred.

In addition, the Company's lease agreements that contain lease and non-lease components are generally accounted for as a single lease component. The Company has elected not to apply the recognition requirements of the new accounting guidance to leases with terms less than 12 months. For these leases, the Company recognizes lease payments in net income on a straight-line basis over the term of the lease. As of March 30, 2019 and March 31, 2018, the Company does not have leases that are classified as finance leases.

When available, the Company uses the rate implicit in the lease to discount lease payments to determine the present value of the lease liabilities; however, most of the leases do not provide a readily determinable implicit rate and, as required by the accounting guidance, the Company estimated its incremental secured borrowing rate to discount the lease payments based on information available at lease commencement (or, for the leases in existence on the adoption date, the January 1, 2019 information). The Company's incremental borrowing rate reflects the estimated rate of interest that the Company would pay to borrow on a collateralized basis over a similar term to the lease payments in a similar economic environment.

As of March 30, 2019, the Company has lease agreements that expire at various dates through 2033, with a weighted-average remaining lease term of 4.8 years. Rental expense was \$9 million for the three months ended March 30, 2019 under the new lease accounting standard and \$7 million for the three months ended March 31, 2018 under the previous lease accounting standard. The weighted-average discount rate used to determine the present value of lease liabilities was 3.95%. Cash paid for amounts included in the measurement of lease liabilities in operating activities in the statement of cash flows was \$9 million during the three months ended March 30, 2019.

The Company's right-of-use lease assets and lease liabilities included in the consolidated balance sheets are classified as follows (in thousands):

	Financial Statement Classification	March 30, 2019
Assets:		
Property operating lease assets	Operating lease assets	\$ 64,439
Automobile operating lease assets	Operating lease assets	27,573
Equipment operating lease assets	Operating lease assets	2,668
Total lease assets		<u>\$ 94,680</u>
Liabilities:		
Current operating lease liabilities	Current operating lease liabilities	\$ 26,926
Long-term operating lease liabilities	Long-term operating lease liabilities	67,788
Total lease liabilities		<u>\$ 94,714</u>

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Undiscounted future minimum rents payable as of March 30, 2019 under non-cancelable leases with initial terms exceeding one year reconcile to lease liabilities included in the consolidated balance sheet as follows (in thousands):

2019 (remaining 9 months)	\$ 22,145
2020	25,541
2021	16,426
2022	11,579
2023	6,039
2024 and thereafter	23,816
Total future minimum lease payments	105,546
Less: amount of lease payments representing interest	(10,832)
Present value of future minimum lease payments	94,714
Less: current operating lease liabilities	(26,926)
Long-term operating lease liabilities	<u>\$ 67,788</u>

9 Stock-Based Compensation

The Company maintains various shareholder-approved, stock-based compensation plans which allow for the issuance of incentive or non-qualified stock options, stock appreciation rights, restricted stock or other types of awards (e.g. restricted stock units and performance stock units).

The Company accounts for stock-based compensation costs in accordance with the accounting standards for stock-based compensation, which require that all share-based payments to employees be recognized in the statements of operations, based on their grant date fair values. The Company recognizes the expense using the straight-line attribution method. The stock-based compensation expense recognized in the consolidated statements of operations is based on awards that ultimately are expected to vest; therefore, the amount of expense has been reduced for estimated forfeitures. Forfeitures are estimated based on historical experience. If actual results differ significantly from these estimates, stock-based compensation expense and the Company's results of operations could be materially impacted. In addition, if the Company employs different assumptions in the application of these standards, the compensation expense that the Company records in the future periods may differ significantly from what the Company has recorded in the current period.

The consolidated statements of operations for the three months ended March 30, 2019 and March 31, 2018 include the following stock-based compensation expense related to stock option awards, restricted stock awards, restricted stock unit awards, performance stock unit awards and the employee stock purchase plan (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Cost of sales	\$ 575	\$ 605
Selling and administrative expenses	8,125	8,483
Research and development expenses	1,241	804
Total stock-based compensation	<u>\$ 9,941</u>	<u>\$ 9,892</u>

Stock Options

In determining the fair value of the stock options, the Company makes a variety of assumptions and estimates, including volatility measures, expected yields and expected stock option lives. The fair value of each option grant was estimated on the date of grant using the Black-Scholes option pricing model. The Company uses implied volatility on its publicly-traded options as the basis for its estimate of expected volatility. The Company believes that implied volatility is the most appropriate indicator of expected volatility because it is generally reflective of historical volatility and expectations of how future volatility will differ from historical volatility. The expected life assumption for grants is based on historical experience for the population of non-qualified stock option exercises. The risk-free interest rate is the yield currently available on U.S. Treasury zero-coupon issues with a remaining term approximating the expected term used as the input to the Black-Scholes model. The relevant data used to determine the value of the stock options granted during the three months ended March 30, 2019 and March 31, 2018 are as follows:

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Options Issued and Significant Assumptions Used to Estimate Option Fair Values	Three Months Ended	
	March 30, 2019	March 31, 2018
Options issued in thousands	136	133
Risk-free interest rate	2.5%	2.7%
Expected life in years	5	6
Expected volatility	24.2%	23.2%
Expected dividends	—	—

Weighted-Average Exercise Price and Fair Value of Options on the Date of Grant	Three Months Ended	
	March 30, 2019	March 31, 2018
Exercise price	\$ 232.08	\$ 206.66
Fair value	\$ 61.97	\$ 58.38

The following table summarizes stock option activity for the plans for the three months ended March 30, 2019 (in thousands, except per share data):

	Number of Shares	Exercise Price per Share			Weighted-Average Exercise Price per Share
Outstanding at December 31, 2018	1,790	\$ 38.09	to	\$208.47	\$ 142.47
Granted	136	\$183.41	to	\$238.52	\$ 232.08
Exercised	(239)	\$ 38.09	to	\$208.47	\$ 108.57
Outstanding at March 30, 2019	1,687	\$ 61.63	to	\$238.52	\$ 154.42

Restricted Stock

During the three months ended March 30, 2019, the Company granted five thousand shares of restricted stock. The weighted-average fair value per share of these awards on the grant date was \$183.41.

Restricted Stock Units

The following table summarizes the unvested restricted stock unit award activity for the three months ended March 30, 2019 (in thousands, except per share data):

	Shares	Weighted-Average Fair Value per Share
Unvested at December 31, 2018	304	\$ 153.31
Granted	78	\$ 238.52
Vested	(102)	\$ 138.48
Forfeited	(6)	\$ 158.22
Unvested at March 30, 2019	274	\$ 182.98

Restricted stock units are generally granted annually in February and vest in equal annual installments over a five-year period.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Performance Stock Units

The Company's performance stock units are equity compensation awards with a market vesting condition based on the Company's Total Shareholder Return ("TSR") relative to the TSR of the components of the S&P Health Care Index. TSR is the change in value of a stock price over time, including the reinvestment of dividends. The vesting schedule ranges from 0% to 200% of the target shares awarded.

In determining the fair value of the performance stock units, the Company makes a variety of assumptions and estimates, including volatility measures, expected yields and expected terms. The fair value of each performance stock unit grant was estimated on the date of grant using the Monte Carlo simulation model. The Company uses implied volatility on its publicly-traded options as the basis for its estimate of expected volatility. The Company believes that implied volatility is the most appropriate indicator of expected volatility because it is generally reflective of historical volatility and expectations of how future volatility will differ from historical volatility. The expected life assumption for grants is based on the performance period of the underlying performance stock units. The risk-free interest rate is the yield currently available on U.S. Treasury zero-coupon issues with a remaining term approximating the expected term used as the input to the Monte Carlo simulation model. The correlation coefficient is used to model the way in which each company in the S&P Health Care Index tends to move in relation to each other during the performance period. The relevant data used to determine the value of the performance stock units granted during the three months ended March 30, 2019 and March 31, 2018 are as follows:

Performance Stock Units Issued and Significant Assumptions Used to Estimate Fair Values	Three Months Ended	
	March 30, 2019	March 31, 2018
Performance stock units issued (in thousands)	12	15
Risk-free interest rate	2.4%	2.0%
Expected life in years	2.8	2.9
Expected volatility	23.5%	18.0%
Average volatility of peer companies	26.2%	25.8%
Correlation coefficient	34.2%	37.4%
Expected dividends	—	—

The following table summarizes the unvested performance stock unit award activity for the three months ended March 30, 2019 (in thousands, except per share data):

	Shares	Weighted-Average Fair Value per Share
Unvested at December 31, 2018	100	\$ 212.34
Granted	12	\$ 391.21
Unvested at March 30, 2019	112	\$ 231.50

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

10 Earnings Per Share

Basic and diluted EPS calculations are detailed as follows (in thousands, except per share data):

Three Months Ended March 30, 2019			
	Net Income (Numerator)	Weighted- Average Shares (Denominator)	Per Share Amount
Net income per basic common share	\$ 108,986	71,704	\$ 1.52
Effect of dilutive stock option, restricted stock, performance stock unit and restricted stock unit securities	—	711	(0.01)
Net income per diluted common share	<u>\$ 108,986</u>	<u>72,415</u>	<u>\$ 1.51</u>

Three Months Ended March 31, 2018			
	Net Income (Numerator)	Weighted- Average Shares (Denominator)	Per Share Amount
Net income per basic common share	\$ 111,951	78,883	\$ 1.42
Effect of dilutive stock option, restricted stock, performance stock unit and restricted stock unit securities	—	832	(0.02)
Net income per diluted common share	<u>\$ 111,951</u>	<u>79,715</u>	<u>\$ 1.40</u>

For the three months ended March 30, 2019 and March 31, 2018, the Company had 0.1 million and 0.3 million stock options that were antidilutive, respectively, due to having higher exercise prices than the Company's average stock price during the period. These securities were not included in the computation of diluted EPS. The effect of dilutive securities was calculated using the treasury stock method.

11 Accumulated Other Comprehensive Income

The components of accumulated other comprehensive income (loss) are detailed as follows (in thousands):

	Currency Translation	Unrealized Gain (Loss) on Retirement Plans	Unrealized Gain (Loss) on Investments	Accumulated Other Comprehensive Income (Loss)
Balance at December 31, 2018	\$ (105,697)	\$ (9,869)	\$ (2,405)	\$ (117,971)
Other comprehensive income, net of tax	7,522	8	1,797	9,327
Balance at March 30, 2019	<u>\$ (98,175)</u>	<u>\$ (9,861)</u>	<u>\$ (608)</u>	<u>\$ (108,644)</u>

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

12 Retirement Plans

The Company sponsors various retirement plans. The components of net periodic benefit cost other than the service cost component are included in other (expense) income in the consolidated statements of operations. The summary of the components of net periodic pension costs for the plans for the three months ended March 30, 2019 and March 31, 2018 is as follows (in thousands):

	Three Months Ended					
	March 30, 2019			March 31, 2018		
	U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans	U.S. Pension Plans	U.S. Retiree Healthcare Plan	Non-U.S. Pension Plans
Service cost	\$ —	\$ 142	\$ 1,082	\$ 142	\$ 132	\$ 1,374
Interest cost	13	159	434	1,619	156	428
Expected return on plan assets	—	(177)	(543)	(2,785)	(178)	(493)
Net amortization:						
Prior service credit	—	(5)	(37)	—	(8)	(31)
Net actuarial loss	—	—	135	769	—	177
Net periodic pension cost (benefit)	<u>\$ 13</u>	<u>\$ 119</u>	<u>\$ 1,071</u>	<u>\$ (255)</u>	<u>\$ 102</u>	<u>\$ 1,455</u>

In 2018, the Company terminated and settled its frozen U.S. defined benefit pension plan, the Waters Retirement Plan, by making lump-sum cash payments and purchasing annuity contracts for participants to permanently extinguish the pension plan's obligations. The Company also anticipates that it will settle the Waters Retirement Restoration Plan during 2019, and the Company may incur pension accounting charges in connection with the termination of this plan.

During fiscal year 2019, the Company expects to contribute a total of approximately \$3 million to \$6 million to the Company's defined benefit plans.

13 Business Segment Information

The Company's business activities, for which discrete financial information is available, are regularly reviewed and evaluated by the chief operating decision maker. As a result of this evaluation, the Company determined that it has two operating segments: Waters TM and TA TM.

The Waters operating segment is primarily in the business of designing, manufacturing, selling and servicing LC and MS instruments, columns and other precision chemistry consumables that can be integrated and used along with other analytical instruments. The TA operating segment is primarily in the business of designing, manufacturing, selling and servicing thermal analysis, rheometry and calorimetry instruments. The Company's two operating segments have similar economic characteristics; product processes; products and services; types and classes of customers; methods of distribution; and regulatory environments. Because of these similarities, the two segments have been aggregated into one reporting segment for financial statement purposes. Please refer to the consolidated financial statements for financial information regarding the one reportable segment of the Company.

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Net sales for the Company's products and services are as follows for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Product net sales:		
Waters instrument systems	\$ 184,612	\$ 198,103
Chemistry consumables	99,253	98,710
TA instrument systems	36,638	42,304
Total product sales	320,503	339,117
Service net sales:		
Waters service	176,049	174,333
TA service	17,310	17,220
Total service sales	193,359	191,553
Total net sales	<u>\$ 513,862</u>	<u>\$ 530,670</u>

Net sales are attributable to geographic areas based on the region of destination. Geographic sales information is presented below for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Net Sales:		
Asia:		
China	\$ 90,091	\$ 93,828
Japan	43,504	42,765
Asia Other	66,917	63,687
Total Asia	200,512	200,280
Americas:		
United States	149,157	146,821
Americas Other	32,711	34,889
Total Americas	181,868	181,710
Europe	131,482	148,680
Total net sales	<u>\$ 513,862</u>	<u>\$ 530,670</u>

Net sales by customer class are as follows for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Pharmaceutical	\$ 294,512	\$ 305,328
Industrial	155,218	162,330
Academic and governmental	64,132	63,012
Total net sales	<u>\$ 513,862</u>	<u>\$ 530,670</u>

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

Net sales for the Company recognized at a point in time versus over time are as follows for the three months ended March 30, 2019 and March 31, 2018 (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Net sales recognized at a point in time:		
Instrument systems	\$ 221,250	\$ 240,407
Chemistry consumables	99,253	98,710
Service sales recognized at a point in time (time & materials)	72,759	72,518
Total net sales recognized at a point in time	393,262	411,635
Net sales recognized over time:		
Service and software sales recognized over time (contracts)	120,600	119,035
Total net sales	<u>\$ 513,862</u>	<u>\$ 530,670</u>

14 Recent Accounting Standard Changes and Developments

Recently Adopted Accounting Standards

In February 2016, accounting guidance was issued regarding the accounting for leases. This new comprehensive lease standard amends various aspects of existing accounting guidance for leases. The core principle of the new guidance requires lessees to present the assets and liabilities that arise from leases on their balance sheets. This guidance was effective for annual and interim reporting periods beginning after December 15, 2018. The Company has adopted this standard using a modified retrospective transition approach to be applied to leases existing as of, or entered into after, January 1, 2019. The adoption of this standard did have a material effect on the Company's balance sheet by recording a right-of-use lease asset and lease liabilities in the amount \$100 million as of January 1, 2019; however, it did not have a material impact on the Company's results of operations, cash flows and retained earnings.

In March 2017, accounting guidance was issued to amend the amortization period for certain purchased callable debt securities held at a premium. Specifically, the amortization period for certain callable debt securities was shortened to end at the earliest call date. This guidance was effective for annual and interim periods beginning after December 15, 2018. The Company adopted this standard as of January 1, 2019 and the adoption of this standard did not have a material impact on the Company's financial position, results of operations and cash flows.

In February 2018, accounting guidance was issued to address the impact of the 2017 Tax Act on items recorded in accumulated other comprehensive income. Current accounting guidance requires deferred tax liabilities and assets to be adjusted for the effect of a change in tax laws or rates with the effect recorded in income from continuing operations, even if the related tax effects were originally recognized in other comprehensive income, the new guidance allows a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the 2017 Tax Act. This guidance was effective for annual and interim periods beginning after December 15, 2018. The Company adopted this standard as of January 1, 2019 and the adoption of this standard did not have a material impact on the Company's financial position, results of operations and cash flows.

Recently Issued Accounting Standards

In June 2016, accounting guidance was issued that modifies the recognition of credit losses related to financial assets, such as debt securities, trade receivables, net investments in leases, off-balance sheet credit exposures, and other financial assets that have the contractual right to receive cash. Current guidance requires the recognition of a credit loss when it is considered probable that a loss event has occurred. The new guidance requires the measurement of expected credit losses to be based upon relevant information, including historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the asset. As such, expected credit losses may be recognized sooner under the new guidance due to the broader range of information that will be required to determine credit loss estimates. The new guidance also amends the current other-than-temporary impairment model used for debt securities classified as available-for-sale. When the fair value of an available-for-sale debt security is below its amortized cost, the new guidance requires the total unrealized loss to be bifurcated into its credit and non-credit

CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (unaudited) – (Continued)

components. Any expected credit losses or subsequent recoveries will be recognized in earnings and any changes not considered credit related will continue to be recognized within other comprehensive income. This guidance is effective for annual and interim periods beginning after December 15, 2019. The Company currently does not expect that the adoption of this standard will have a material effect on the Company's financial position, results of operations and cash flows.

In January 2017, accounting guidance was issued that simplifies the accounting for goodwill impairment. The guidance eliminates step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. This guidance is effective for annual and interim periods beginning after December 15, 2019 and early adoption is permitted. The Company currently does not expect that the adoption of this standard will have a material effect on the Company's financial position, results of operations and cash flows.

In August 2018, accounting guidance was issued that modifies the disclosure requirements of fair value measurements. The amendments remove disclosures that are no longer considered cost beneficial, clarify the specific requirements of disclosure and add disclosure requirements identified as relevant. This guidance is effective for annual and interim periods beginning after December 15, 2019 and early adoption is permitted. The Company does not expect that the adoption of this standard will have a material impact on the Company's financial position, results of operations and cash flows.

In August 2018, accounting guidance was issued that modifies the disclosure requirements of retirement benefit plans. The amendments remove disclosures that are no longer considered cost beneficial, clarify the specific requirements of disclosure and add disclosure requirement identified as relevant. This guidance is effective for annual and interim periods beginning after December 15, 2020 and early adoption is permitted. The Company does not expect that the adoption of this standard will have a material impact on the Company's financial position, results of operations and cash flows.

Item 2: Management's Discussion and Analysis of Financial Condition and Results of Operations

Business and Financial Overview

The Company has two operating segments: Waters TM and TA TM. Waters products and services primarily consist of high performance liquid chromatography ("HPLC"), ultra performance liquid chromatography ("UPLC TM" and together with HPLC, referred to as "LC"), mass spectrometry ("MS") and precision chemistry consumable products and related services. TA products and services primarily consist of thermal analysis, rheometry and calorimetry instrument systems and service sales. The Company's products are used by pharmaceutical, biochemical, industrial, nutritional safety, environmental, academic and governmental customers. These customers use the Company's products to detect, identify, monitor and measure the chemical, physical and biological composition of materials and to predict the suitability and stability of fine chemicals, pharmaceuticals, water, polymers, metals and viscous liquids in various industrial, consumer goods and healthcare products.

The Company's operating results are as follows for the three months ended March 30, 2019 and March 31, 2018 (dollars in thousands, except per share data):

	Three Months Ended		% change
	March 30, 2019	March 31, 2018	
Revenues:			
Product sales	\$ 320,503	\$ 339,117	(5%)
Service sales	193,359	191,553	1%
Total net sales	513,862	530,670	(3%)
Costs and operating expenses:			
Cost of sales	221,031	221,421	—
Selling and administrative expenses	134,339	130,407	3%
Research and development expenses	35,060	34,480	2%
Purchased intangibles amortization	2,281	1,659	37%
Litigation settlement	—	(1,672)	100%
Operating income	121,151	144,375	(16%)
Operating income as a % of sales	23.6%	27.2%	
Other (expense) income	(525)	346	(252%)
Interest expense, net	(3,248)	(4,172)	(22%)
Income before income taxes	117,378	140,549	(16%)
Provision for income taxes	8,392	28,598	(71%)
Net income	\$ 108,986	\$ 111,951	(3%)
Net income per diluted common share	\$ 1.51	\$ 1.40	8%

In the first quarter of 2019, the Company's net sales decreased 3% as compared to the first quarter of 2018, with foreign currency translation reducing sales growth by 3%. Unless otherwise noted, sales growth or decline percentages are presented as compared with the same period in the prior year. Instrument system sales decreased 8% in the quarter, as a result of weaker demand for our products by our customers due to uncertainty caused by macroeconomic impacts relating to Brexit and governmental policy changes in certain regions. Foreign currency translation decreased instrument system sales by 2%. Recurring revenues (combined sales of precision chemistry consumables and services) increased 1% in the quarter, as a result of a larger installed base of customers and higher billing demand for service sales. In the first quarter of 2019, recurring revenues were negatively impacted by foreign currency translation which lowered sales by 3% as well as one less calendar day as compared to the first quarter of 2018.

Geographically, the Company's sales were flat in Asia and the Americas, and decreased 12% in Europe, with the effect of foreign currency translation negatively impacting sales growth in Europe and Asia by 7% and 2%, respectively, during the first quarter of 2019. In the first quarter of 2019, China sales declined 4%, primarily as a result of economic uncertainty stemming from governmental policy in our food and pharmaceutical markets. Sales in the U.S. increased 2% and sales in Asia Other increased 5%, despite India's sales declining 1%. Foreign currency translation negatively impacted India's sales growth by 7% in the first quarter of 2019.

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During the first quarter of 2019, sales to pharmaceutical customers declined 4%, with the effect of foreign currency translation decreasing sales growth by 4%, primarily driven by the negative effect of foreign currency translation in Europe and India of 8% and 10%, respectively. Combined sales to industrial customers, which include material characterization, food, environmental and fine chemical markets, declined 4% and were driven by a 9% decline in TA sales. During the first quarter of 2019, combined sales to academic and governmental customers increased 2%, which was driven by sales growth in the U.S. and Europe.

Operating income was \$121 million in the first quarter of 2019, a decrease of 16% as compared to the first quarter of 2018. This decrease was primarily a result of the effect of lower sales volumes in the first quarter of 2019. Operating income in the first quarter of 2019 also included \$8 million of severance-related costs in connection with a reduction in workforce. In addition, operating income in the first quarter of 2018 included the benefit of a \$2 million litigation settlement.

The Company generated \$176 million of net cash flows from operations in the first quarter of both 2019 and 2018. Cash flows used in investing activities included capital expenditures related to property, plant, equipment and software capitalization of \$26 million and \$16 million in the first quarter of 2019 and 2018, respectively. The first quarter of 2019 includes \$7 million of capital expenditures related to the expansion of the Company's precision chemistry consumable operations in the U.S. The Company has incurred \$26 million on this facility through the end of the first quarter of 2019 and anticipates spending a total of \$215 million to build and equip this new state-of-the-art manufacturing facility.

In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. During the first quarters of 2019 and 2018, the Company repurchased \$747 million and \$275 million of the Company's outstanding common stock, respectively, under authorized share repurchase programs. The Company believes that it has the financial flexibility to fund these share repurchases given current cash and investment levels and debt borrowing capacity, as well as to invest in research, technology and business acquisitions to further grow the Company's sales and profits.

Results of Operations

Sales by Geography

Geographic sales information is presented below for the three months ended March 30, 2019 and March 31, 2018 (dollars in thousands):

	Three Months Ended		
	March 30, 2019	March 31, 2018	% change
Net Sales:			
Asia:			
China	\$ 90,091	\$ 93,828	(4%)
Japan	43,504	42,765	2%
Asia Other	66,917	63,687	5%
Total Asia	200,512	200,280	—
Americas:			
United States	149,157	146,821	2%
Americas Other	32,711	34,889	(6%)
Total Americas	181,868	181,710	—
Europe	131,482	148,680	(12%)
Total net sales	\$ 513,862	\$ 530,670	(3%)

In the first quarter of 2019, sales decreased in China primarily as a result of economic uncertainty caused by certain regulatory changes in our food and pharmaceutical markets. The increase in sales in Japan for the first quarter was

driven by TA products and services despite a 3% decrease due to the effect of foreign currency translation. Sales in the rest of Asia were driven by service revenues and LC-MS instrument systems, primarily to pharmaceutical customers. Sales growth in the U.S. was driven by recurring revenues and sales to industrial, academic and governmental customers. Sales declines in the rest of the Americas were broad-based across all product and customer classes, primarily in South America. The sales decline in Europe was primarily attributed to the effect of foreign currency translation, which decreased sales 7% for the quarter.

Net sales by customer class are presented below for the three months ended March 30, 2019 and March 31, 2018 (dollars in thousands):

	Three Months Ended		
	March 30, 2019	March 31, 2018	% change
Pharmaceutical	\$ 294,512	\$ 305,328	(4%)
Industrial	155,218	162,330	(4%)
Academic and governmental	64,132	63,012	2%
Total net sales	<u>\$ 513,862</u>	<u>\$ 530,670</u>	<u>(3%)</u>

In the first quarter of 2019, the decline in sales to pharmaceutical customers was primarily due to a negative impact from the effect of foreign currency translation, which decreased sales to pharmaceutical customers by 4%, as well as a slower release of capital budgets by our customers due to uncertain macroeconomic conditions due to Brexit, particularly in Europe, and regulatory changes in our food and pharmaceutical markets in China. The decline in sales to industrial customers in the quarter is primarily due to a 9% decline in TA sales. The increase in sales to academic and governmental customers was broad-based across all product classes, with increases in the U.S. and Europe being offset by declines in other regions.

Waters Products and Services Net Sales

Net sales for Waters products and services are as follows for the three months ended March 30, 2019 and March 31, 2018 (dollars in thousands):

	Three Months Ended				
	March 30, 2019	% of Total	March 31, 2018	% of Total	% change
Waters instrument systems	\$ 184,612	40%	\$ 198,103	42%	(7%)
Chemistry consumables	99,253	22%	98,710	21%	1%
Total Waters product sales	283,865	62%	296,813	63%	(4%)
Waters service	176,049	38%	174,333	37%	1%
Total Waters net sales	<u>\$ 459,914</u>	<u>100%</u>	<u>\$ 471,146</u>	<u>100%</u>	<u>(2%)</u>

The effect of foreign currency translation decreased Waters sales by 3% for the quarter. Precision chemistry consumables sales increased in the first quarter of 2019 on the uptake in columns and application-specific testing kits and were driven by sales in the U.S. and China primarily to pharmaceutical customers. Waters service sales benefited from increased sales of service plans and higher service demand billings to a higher installed base of customers and broad-based across all geographic regions, except in Europe, where a 7% decline in service was impacted by a 6% decrease due to the effect of foreign currency translation. Waters recurring revenues were also negatively impacted by one less calendar day and the negative impact of foreign currency translation which lowered sales by 3% in the first quarter of 2019 as compared to the first quarter of 2018. Waters instrument system sales (LC and MS technology-based) decreased in all major geographical regions, primarily due to lower sales to pharmaceutical and industrial customers due to uncertainty caused by macroeconomic conditions relating to Brexit and other regulatory changes in certain regions.

In the first quarter of 2019, Waters sales increased 1% in the Americas, were flat in Asia and decreased 10% in Europe. Within Asia, Waters sales decreased 4% in China, were flat in Japan and increased 6% in the rest of Asia. Waters sales in Europe were negatively impacted by 7% due to the effect of foreign currency translation.

TA Product and Services Net Sales

Net sales for TA products and services are as follows for the three months ended March 30, 2019 and March 31, 2018 (dollars in thousands):

	Three Months Ended				
	March 30, 2019	% of Total	March 31, 2018	% of Total	% change
TA instrument systems	\$ 36,638	68%	\$ 42,304	71%	(13%)
TA service	17,310	32%	17,220	29%	1%
Total TA net sales	<u>\$ 53,948</u>	<u>100%</u>	<u>\$ 59,524</u>	<u>100%</u>	<u>(9%)</u>

The decline in TA instrument system sales in the first quarter of 2019 was primarily due to lower customer demand due to the timing of the release of capital budgets by our customers and was broad-based across all TA technologies. TA service sales increased in the quarter due to sales of service plans and billings to a higher installed base of customers. The effect of foreign currency translation decreased TA's sales 1% in the first quarter of 2019.

In the first quarter of 2019, TA sales were flat in Asia and decreased 5% and 30% in the Americas and Europe, respectively. Within Asia, a 25% increase in Japan was offset by declines of 8% and 2% in China and the rest of Asia, respectively.

Cost of Sales

Cost of sales for the first quarter of 2019 were flat as compared to the first quarter of 2018 due to a change in sales mix and lower manufacturing efficiencies on lower sales volumes. Cost of sales is affected by many factors, including, but not limited to, foreign currency translation, product mix, product costs of instrument systems and amortization of software platforms. At current foreign currency exchange rates, the Company expects foreign currency translation to negatively impact gross profit for the remainder of 2019.

Selling and Administrative Expenses

Selling and administrative expenses increased 3% in the first quarter of 2019 as compared to the first quarter of 2018. Selling and administrative expenses were impacted by higher merit compensation costs and \$8 million of severance-related costs in connection with a reduction in workforce. In addition, the effect of foreign currency translation reduced selling and administrative expenses by 5% in the first quarter of 2019.

As a percentage of net sales, selling and administrative expenses were 26.1% and 24.6% for the first quarters of 2019 and 2018, respectively.

Research and Development Expenses

Research and development expenses increased 2% in the first quarter of 2019, primarily as a result of merit compensation and costs associated with new products and the development of new technology initiatives. In addition, the effect of foreign currency translation decreased research and development expenses by 2% in the quarter on the Company's U.K.-based research and development expenses, as the British pound weakened against the U.S. dollar as compared to the first quarter of 2018.

Litigation Settlement

In the second quarter of 2017, the Company incurred an \$11 million litigation provision related to the issuance of a verdict in a patent litigation case. In the first quarter of 2018, the Company resolved the case with a final settlement that resulted in a gain of \$2 million.

Interest Expense, Net

The decrease in net interest expense in 2019 was primarily attributable to lower interest income on lower cash, cash equivalents and investment balances, lower interest expense on lower outstanding debt balances and the additional interest income from the three-year U.S.-to-Euro interest rate cross-currency swap agreements entered into during the second half of 2018.

Provision for Income Taxes

The four principal jurisdictions in which the Company manufactures are the U.S., Ireland, the U.K. and Singapore, where the statutory tax rates are 21%, 12.5%, 19% and 17%, respectively, as of March 30, 2019. The Company has a contractual tax rate of 0% on qualifying activities in Singapore through March 2021, based upon the achievement of certain contractual milestones, which the Company expects to continue to meet. The effect of applying the contractual tax rate rather than the statutory tax rate to income from qualifying activities in Singapore increased the Company's net income for the quarter in 2019 and 2018 by \$4 million and \$6 million, respectively, and increased the Company's net income per diluted share by \$0.06 and \$0.07, respectively.

The Company's effective tax rate for the 2019 and 2018 quarters was 7.1% and 20.3%, respectively. The income tax provision includes a \$7 million and \$6 million income tax benefit related to stock-based compensation for the three months ended March 30, 2019 and March 31, 2018, respectively. The effective tax rate for the 2019 quarter includes a \$3 million income tax benefit related to the finalization of certain regulations relating to the Tax Cuts and Jobs Act (the "2017 Tax Act"). This income tax benefit decreased the effective tax rate by 2.9 percentage points for the 2019 quarter. The effective tax rate for the 2018 quarter includes \$12 million of additional income tax expense related to the change in foreign currency exchange rates on the earnings taxed in December 2017 under the toll charge of the 2017 Tax Act. This additional income tax expense increased the effective tax rate by 8.9 percentage points for the 2018 quarter. The remaining differences between the effective tax rates can primarily be attributed to differences in the proportionate amounts of pre-tax income recognized in jurisdictions with different effective tax rates.

Liquidity and Capital Resources

Condensed Consolidated Statements of Cash Flows (in thousands):

	Three Months Ended	
	March 30, 2019	March 31, 2018
Net income	\$ 108,986	\$ 111,951
Depreciation and amortization	24,764	28,640
Stock-based compensation	9,941	9,892
Deferred income taxes	1,442	1,071
Change in accounts receivable	59,331	40,588
Change in inventories	(44,438)	(28,101)
Change in accounts payable and other current liabilities	(33,485)	(34,258)
Change in deferred revenue and customer advances	57,539	45,096
Effect of the 2017 Tax Act	(3,229)	12,450
Other changes	(5,072)	(11,488)
Net cash provided by operating activities	175,779	175,841
Net cash provided by investing activities	434,039	895,839
Net cash used in financing activities	(723,134)	(1,006,065)
Effect of exchange rate changes on cash and cash equivalents	2,006	8,588
(Decrease) increase in cash and cash equivalents	\$ (111,310)	\$ 74,203

Cash Flow from Operating Activities

Net cash provided by operating activities was \$176 million during both the three months ended March 30, 2019 and March 31, 2018. The changes within net cash provided by operating activities include the following significant changes in the sources and uses of net cash provided by operating activities, aside from the changes in net income:

- The changes in accounts receivable were primarily attributable to timing of payments made by customers and timing of sales. Days sales outstanding increased to 88 days at March 30, 2019 as compared to 85 days at March 31, 2018.

- The changes in inventory were primarily attributable to anticipated annual increases in sales volumes, as well as new product launches and a build of safety stock inventory in advance of the Brexit decision.
- The changes in accounts payable and other current liabilities were a result of the timing of payments to vendors, as well as the annual payment of management incentive compensation.
- Net cash provided from deferred revenue and customer advances results from annual increases in new service contracts as a higher installed base of customers renew annual service contracts.
- Other changes were attributable to variation in the timing of various provisions, expenditures, prepaid income taxes and accruals in other current assets, other assets and other liabilities.

Cash Flow from Investing Activities

Net cash provided by investing activities totaled \$434 million in the three months ended March 30, 2019 compared to net cash provided by investing activities that totaled \$896 million in the three months ended March 31, 2018. Additions to fixed assets and capitalized software were \$26 million and \$16 million in the first three months of 2019 and 2018, respectively. In February 2018, the Company's Board of Directors approved expanding its precision chemistry consumable manufacturing operations in the U.S. The Company anticipates spending an estimated \$215 million to build and equip this new state-of-the-art manufacturing facility, which will be paid for with existing cash and investments. The Company does not expect to issue any debt in relation to this expansion. The Company has incurred \$11 million of costs associated with the construction of this facility during the first quarter of 2019, and has incurred a total of \$26 million through the end of the first quarter 2019.

During the three months ended March 30, 2019 and March 31, 2018, the Company purchased \$27 million and \$170 million of investments, respectively, while \$486 million and \$1,085 million of investments matured, respectively, and were used for financing activities described below.

Cash Flow from Financing Activities

During the three months ended March 30, 2019 and March 31, 2018, the Company's net debt borrowings were flat and decreased by \$750 million, respectively. During the three months ended March 31, 2018, the Company reduced its outstanding debt using cash repatriated under the 2017 Tax Cuts and Jobs Act (the "2017 Tax Act"). As of March 30, 2019, the Company had a total of \$1,149 million in outstanding debt, which consisted of \$560 million in outstanding senior unsecured notes, \$300 million borrowed under a term loan and \$290 million borrowed under a revolving credit facility, with both the term loan and revolving credit facilities under the credit agreement dated November 2017 ("2017 Credit Agreement"). As of March 30, 2019, the Company had a total amount available to borrow under the 2017 Credit Agreement of \$1,208 million after outstanding letters of credit. As of March 30, 2019, the Company was in compliance with all debt covenants.

In February 2019, certain defined terms related to the subsidiary guarantors were amended in the 2017 Credit Agreement and senior unsecured note agreements. In addition, the Company amended the senior unsecured note agreements to allow the Company to elect an increase in the permitted leverage ratio from 3.50:1 to 4.0:1, for a period of three consecutive quarters, for a material acquisition of \$400 million or more. During the period of time where the leverage ratio exceeds 3.50:1, the interest payable on the senior unsecured notes shall increase by 0.50%. The debt covenants in the senior unsecured note agreements were also modified to address the change in accounting guidance for leases.

In 2018 and April 2019, the Company entered into \$410 million of U.S.-to-Euro interest rate cross-currency swap agreements that hedge the Company's net investment in its Euro denominated net assets. As a result of entering into these agreements, the Company anticipates lowering net interest expense by approximately \$12 million annually over the three-year term of the agreements.

In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock over a two-year period. This new program replaced the remaining amounts available from the pre-existing program. During the first quarter of 2019 and 2018, the Company repurchased \$745 million and \$275 million, respectively, of the Company's outstanding common stock under authorized share repurchase programs. In addition, the Company repurchased \$8 million of common stock related to the vesting of restricted stock units during both the three months ended March 30, 2019 and March 31, 2018. The Company expects to increase its share

repurchase activity in 2019 as compared to 2018 and intends to use existing cash and investments, cash flows from operations and, as needed, borrowings under its existing credit facilities to fund its repurchases under its share repurchase program.

The Company received \$28 million and \$24 million of proceeds from the exercise of stock options and the purchase of shares pursuant to the Company's employee stock purchase plan during the three months ended March 30, 2019 and March 31, 2018, respectively.

The Company had cash, cash equivalents and investments of \$1,167 million as of March 30, 2019. The majority of the Company's cash, cash equivalents and investments are generated from foreign operations, with \$411 million held by foreign subsidiaries at March 30, 2019, of which \$263 million was held in currencies other than U.S. dollars. The Company believes it has sufficient levels of cash flow and access to its existing cash, cash equivalents and investments to fund operations and capital expenditures, service debt interest, finance potential acquisitions and continue the authorized stock repurchase program in the U.S. These cash requirements are managed by the Company's cash flow from operations, its existing cash, cash equivalents and investments, and the use of the Company's revolving credit facility.

Management believes, as of the date of this report, that the Company's financial position, along with expected future cash flows from earnings based on historical trends and the ability to raise funds from external sources and the borrowing capacity from existing, committed credit facilities, will be sufficient to service debt and fund working capital and capital spending requirements, authorized share repurchase amounts and potential acquisitions for at least the next twelve months. The Company has conducted a post-tax reform evaluation of its capital allocation strategy and the Company is currently planning to use its existing cash, cash equivalents and investments, cash flow from operations and available debt capacity to repurchase up to \$4 billion of the Company's common stock over the next two years. The Company is currently planning to increase its outstanding debt balances up to approximately 2.5 times the Company's net debt-to-earnings before interest, taxes, depreciation and amortization ratio to fund a significant portion of these share repurchases. In addition, as of December 31, 2018, the Company determined that it will provide income taxes on all future foreign earnings and reverse its historical assertion that its foreign earnings were permanently invested. However, the Company will continue to be permanently reinvested in relation to the cumulative historical outside basis difference that is not related to the unremitted earnings. There have been no other significant changes to the Company's financial position.

Contractual Obligations, Commercial Commitments, Contingent Liabilities and Dividends

A summary of the Company's contractual obligations and commercial commitments is included in the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019. The Company reviewed its contractual obligations and commercial commitments as of March 30, 2019 and determined that there were no material changes outside the ordinary course of business from the information set forth in the Annual Report on Form 10-K.

From time to time, the Company and its subsidiaries are involved in various litigation matters arising in the ordinary course of business. The Company believes that it has meritorious arguments in its current litigation matters and that any outcome, either individually or in the aggregate, will not be material to the Company's financial position or results of operations.

During fiscal year 2019, the Company expects to contribute a total of approximately \$3 million to \$6 million to its defined benefit plans, excluding the U.S. defined benefit pension plans.

The Company has not paid any dividends and has no plans, at this time, to pay any dividends in the future.

Off-Balance Sheet Arrangements

The Company has not created, and is not party to, any special-purpose or off-balance sheet entities for the purpose of raising capital, incurring debt or operating parts of its business that are not consolidated (to the extent of the Company's ownership interest therein) into the consolidated financial statements. The Company has not entered into any transactions with unconsolidated entities whereby it has subordinated retained interests, derivative instruments or other contingent arrangements that expose the Company to material continuing risks, contingent liabilities or any other obligation under a variable interest in an unconsolidated entity that provides financing, liquidity, market risk or credit risk support to the Company.

The Company enters into standard indemnification agreements in its ordinary course of business. Pursuant to these agreements, the Company indemnifies, holds harmless and agrees to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners or customers, in connection with patent, copyright or other intellectual property infringement claims by any third party with respect to its current products, as well as claims relating to property damage or personal injury resulting from the performance of services by the Company or its subcontractors. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is unlimited. Historically, the Company's costs to defend lawsuits or settle claims relating to such indemnity agreements have been minimal and management accordingly believes the estimated fair value of these agreements is immaterial.

Critical Accounting Policies and Estimates

In the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019, the Company's most critical accounting policies and estimates upon which its financial status depends were identified as those relating to revenue recognition, loss provisions on accounts receivable and inventory, valuation of long-lived assets, intangible assets and goodwill, income taxes, uncertain tax positions, warranty, litigation, pension and other postretirement benefit obligations, stock-based compensation, business combinations and asset acquisitions and valuation of contingent consideration. The Company reviewed its policies and determined that those policies remain the Company's most critical accounting policies for the three months ended March 30, 2019. The Company did not make any changes in those policies during the three months ended March 30, 2019.

New Accounting Pronouncements

Please refer to Note 14, Recent Accounting Standard Changes and Developments, in the Condensed Notes to Consolidated Financial Statements.

Special Note Regarding Forward-Looking Statements

Certain of the statements in this Quarterly Report on Form 10-Q, including the information incorporated by reference herein, may contain forward-looking statements with respect to future results and events, including any statements regarding, among other items, anticipated trends or growth in the Company's business, including, but not limited to, the impact of new or proposed tariff or trade regulations or changes in the interpretation or enforcement of existing regulations; the impact of foreign currency translation on financial results; development of products by acquired businesses; the growth rate of sales and research and development expenses; the impact of costs associated with developing new technologies and bringing these new technologies to market; the impact of new product launches and the associated costs, such as the amortization expense related to software platforms; geographic sales mix of business; development of products by acquired businesses and the amount of contingent payments to the sellers of an acquired business; anticipated expenses, including interest expense, capitalized software costs and effective tax rates; the impact of the 2017 Tax Act in the U.S.; the impact and outcome of the Company's various ongoing tax audit examinations; the achievement of contractual milestones to preserve foreign tax rates; the impact and outcome of litigation matters; the impact of the loss of intellectual property protection; the impact of new accounting standards and pronouncements; the adequacy of the Company's supply chain and manufacturing capabilities and facilities; the impact of regulatory compliance; the Company's expected cash flow, borrowing capacity, debt repayment and refinancing; the Company's ability to fund working capital, capital expenditures, service debt, repay outstanding lines of credit, make authorized share repurchases, fund potential acquisitions and pay any adverse litigation or tax audit liabilities, particularly in the U.S.; future impairment charges; the Company's contributions to defined benefit plans; the Company's expectations regarding changes to its financial position; compliance with applicable environmental laws; and the impact of recent acquisitions on sales and earnings.

Many of these statements appear, in particular, under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part I, Item 2 of this Quarterly Report on Form 10-Q. Statements that are not statements of historical fact may be deemed forward-looking statements. You can identify these forward-looking statements by the use of the words "feels", "believes", "anticipates", "plans", "expects", "may", "will", "would", "intends", "suggests", "appears", "estimates", "projects", "should" and similar expressions, whether in the negative or affirmative. These statements are subject to various risks and uncertainties, many of which are outside the control of the Company, including, and without limitation:

- Foreign currency exchange rate fluctuations that could adversely affect translation of the Company's future sales, financial operating results and the condition of its non-U.S. operations, especially when a currency weakens against the U.S. dollar.
- Current global economic, sovereign and political conditions and uncertainties, particularly regarding the effect of new or proposed tariff or trade regulations or changes in the interpretation or enforcement of existing regulations; the U.K. voting to exit the European Union as well as the Chinese government's ongoing tightening of restrictions on procurement by government-funded customers; the Company's ability to access capital and maintain liquidity in volatile market conditions; changes in timing and demand for the Company's products among the Company's customers and various market sectors or geographies, particularly if they should reduce capital expenditures or are unable to obtain funding, as in the cases of governmental, academic and research institutions; the effect of mergers and acquisitions on customer demand for the Company's products; and the Company's ability to sustain and enhance service.
- Negative industry trends; changes in the competitive landscape as a result of changes in ownership, mergers and continued consolidation among the Company's competitors; introduction of competing products by other companies and loss of market share; pressures on prices from customers or resulting from competition; regulatory, economic and competitive obstacles to new product introductions; lack of acceptance of new products; expansion of our business in developing markets; spending by certain end-markets; ability to obtain alternative sources for components and modules; and the possibility that future sales of new products related to acquisitions, which trigger contingent purchase payments, may exceed the Company's expectations.
- Increased regulatory burdens as the Company's business evolves, especially with respect to the United States Food and Drug Administration and the United States Environmental Protection Agency, among others, as well as regulatory, environmental and logistical obstacles affecting the distribution of the Company's products, completion of purchase order documentation by our customers and ability of customers to obtain letters of credit or other financing alternatives.
- Risks associated with lawsuits, particularly involving claims for infringement of patents and other intellectual property rights.
- The impact and costs incurred from changes in accounting principles and practices; the impact and costs of changes in statutory or contractual tax rates in jurisdictions in which the Company operates, specifically as it relates to the 2017 Tax Act in the U.S.; shifts in taxable income among jurisdictions with different effective tax rates; and the outcome of and costs associated with ongoing and future tax audit examinations or changes in respective country legislation affecting the Company's effective rates.

Certain of these and other factors are discussed under the heading "Risk Factors" under Part I, Item 1A of the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements, whether because of these factors or for other reasons. All forward-looking statements speak only as of the date of this Quarterly Report on Form 10-Q and are expressly qualified in their entirety by the cautionary statements included in this report. Except as required by law, the Company does not assume any obligation to update any forward-looking statements.

Item 3: *Quantitative and Qualitative Disclosures About Market Risk*

The Company is exposed to the risk of interest rate fluctuations from the investments of cash generated from operations. Investments with maturities greater than 90 days are classified as investments, and are held primarily in U.S. dollar-denominated treasury bills and commercial paper, bank deposits and corporate debt securities. As of March 30, 2019, the Company estimates that a hypothetical adverse change of 100 basis points across all maturities would not have a material effect on the fair market value of its portfolio.

The Company is also exposed to the risk of exchange rate fluctuations. The Company maintains cash balances in various operating accounts in excess of federally insured limits, and in foreign subsidiary accounts in currencies other than the U.S. dollar. As of March 30, 2019 and December 31, 2018, \$411 million out of \$1,167 million and \$471 million out of \$1,735 million, respectively, of the Company's total cash, cash equivalents and investments were held by foreign subsidiaries. In addition, \$263 million out of \$1,167 million and \$251 million out of \$1,735 million of cash, cash equivalents and investments were held in currencies other than the U.S. dollar at March 30, 2019 and December 31, 2018, respectively. As of March 30, 2019, the Company had no holdings in auction rate securities or commercial paper issued by structured investment vehicles.

Assuming a hypothetical adverse change of 10% in year-end exchange rates (a strengthening of the U.S. dollar), the fair market value of the Company's cash, cash equivalents and investments held in currencies other than the U.S. dollar as of March 30, 2019 would decrease by approximately \$26 million, of which the majority would be recorded to foreign currency translation in other comprehensive income within stockholders' equity.

There have been no other material changes in the Company's market risk during the three months ended March 30, 2019. For information regarding the Company's market risk, refer to Item 7A of Part II of the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019.

Item 4: Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company's chief executive officer and chief financial officer (principal executive officer and principal financial officer), with the participation of management, evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report on Form 10-Q. Based on this evaluation, the Company's chief executive officer and chief financial officer concluded that the Company's disclosure controls and procedures were effective as of March 30, 2019 (1) to ensure that information required to be disclosed by the Company, including its consolidated subsidiaries, in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its chief executive officer and chief financial officer, to allow timely decisions regarding the required disclosure and (2) to provide reasonable assurance that information required to be disclosed by the 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.

Changes in Internal Controls Over Financial Reporting

No change was identified in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter ended March 30, 2019 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Part II: Other Information

Item 1: Legal Proceedings

There have been no material changes in the Company's legal proceedings during the three months ended March 30, 2019 as described in Item 3 of Part I of the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019.

Item 1A: Risk Factors

Information regarding risk factors of the Company is set forth under the heading "Risk Factors" under Part I, Item 1A in the Company's Annual Report on Form 10-K/A for the year ended December 31, 2018, as filed with the SEC on March 1, 2019. The Company reviewed its risk factors as of March 30, 2019 and determined that there were no material changes from the ones set forth in the Form 10-K. Note, however, the discussion under the subheading "Special Note Regarding Forward-Looking Statements" in Part I, Item 2 of this Quarterly Report on Form 10-Q. These risks are not the only ones facing the Company. Additional risks and uncertainties not currently known to the Company or that the Company currently deems to be immaterial also may materially adversely affect the Company's business, financial condition and operating results.

Item 2: Unregistered Sales of Equity Securities and Use of Proceeds

Purchases of Equity Securities by the Issuer

The following table provides information about purchases by the Company during the three months ended March 30, 2019 of equity securities registered by the Company under the Exchange Act (in thousands, except per share data):

<u>Period</u>	<u>Total Number of Shares Purchased (1)</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Programs (2)</u>	<u>Maximum Dollar Value of Shares that May Yet Be Purchased Under the Programs (2)</u>
January 1, 2019 to January 26, 2019	923	\$ 196.31	923	\$ 3,968,621
January 27, 2019 to February 23, 2019	1,085	\$ 232.20	1,059	\$ 3,722,869
February 24, 2019 to March 30, 2019	1,324	\$ 243.34	1,316	\$ 3,402,436
Total	<u>3,332</u>	\$ 226.68	<u>3,298</u>	\$ 3,402,436

- (1) The Company repurchased 34 thousand shares of common stock at a cost of \$8 million related to the vesting of restricted stock units during the three months ended March 30, 2019.
- (2) In January 2019, the Company's Board of Directors authorized the Company to repurchase up to \$4 billion of its outstanding common stock in open market or private transactions over a two-year period. This new program replaced the remaining amounts available under the pre-existing authorization.

Item 6: Exhibits

Exhibit Number	Description of Document
31.1	Chief Executive Officer Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Chief Financial Officer Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Chief Executive Officer Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(*)
32.2	Chief Financial Officer Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.(*)
101	The following materials from Waters Corporation’s Quarterly Report on Form 10-Q for the quarter ended March 30, 2019, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Balance Sheets (unaudited), (ii) the Consolidated Statements of Operations (unaudited), (iii) the Consolidated Statements of Comprehensive Income (unaudited), (iv) the Consolidated Statements of Cash Flows (unaudited) and (vi) Condensed Notes to Consolidated Financial Statements (unaudited).
(*) This exhibit shall not be deemed “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any filing, except to the extent the Company specifically incorporates it by reference.	

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

WATERS CORPORATION

/s/ Sherry L. Buck

Sherry L. Buck

*Senior Vice President and
Chief Financial Officer*

Date: May 3, 2019

**CHIEF EXECUTIVE OFFICER CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Christopher J. O'Connell, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Waters Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 3, 2019

/s/ Christopher J. O'Connell

Christopher J. O'Connell
Chief Executive Officer

**CHIEF FINANCIAL OFFICER CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Sherry L. Buck, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Waters Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 3, 2019

/s/ Sherry L. Buck

Sherry L. Buck
Chief Financial Officer

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

The certification set forth below is hereby made solely for the purpose of satisfying the requirements of Section 906 of the Sarbanes-Oxley Act of 2002 and may not be relied upon or used for any other purposes.

In connection with the Quarterly Report of Waters Corporation (the “Company”) on Form 10-Q for the period ended March 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Christopher J. O’Connell, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge: (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: May 3, 2019

By: /s/ Christopher J. O’Connell

Christopher J. O’Connell

Chief Executive Officer

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

The certification set forth below is hereby made solely for the purpose of satisfying the requirements of Section 906 of the Sarbanes-Oxley Act of 2002 and may not be relied upon or used for any other purposes.

In connection with the Quarterly Report of Waters Corporation (the “Company”) on Form 10-Q for the period ended March 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I, Sherry L. Buck, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge: (1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

A signed original of this written statement required by Section 906 or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Date: May 3, 2019

By: /s/ Sherry L. Buck

Sherry L. Buck

Chief Financial Officer