AIR PRODUCTS & CHEMICALS INC /DE/
Form 10-Q
July 26, 2018

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended 30 June 2018

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 001-04534

AIR PRODUCTS AND CHEMICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	23-1274455
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)
7201 Hamilton Boulevard, Allentown, Pennsylvania	18195-1501
(Address of Principal Executive Offices)	(Zip Code)

610-481-4911

(Registrant's Telephone Number, Including Area Code)

Not Applicable

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

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

Large accelerated filer x	Accelerated filer ¨	Non-accelerated filer ¨	Smaller reporting company ¨	Emerging growth company ¨
	(Do not check if a smaller reporting company)			

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

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at 30 June 2018
Common Stock, $1 par value	219,272,496

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
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PART I. FINANCIAL INFORMATION

PART II. OTHER INFORMATION

PART I. FINANCIAL INFORMATION
Item 1. Financial Statements
AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

	Three Months Ended		Nine Months Ended	
	30 June		30 June	
(Millions of dollars, except for share and per share data)	2018	2017	2018	2017
Sales	$2,259.0	$2,121.9	$6,631.3	$5,984.5
Cost of sales	1,545.4	1,486.0	4,623.7	4,206.5
Selling and administrative	188.6	184.1	574.8	526.4
Research and development	15.0	14.6	44.1	44.4
Business separation costs	—	—	—	32.5
Cost reduction and asset actions	—	42.7	—	103.0
Goodwill and intangible asset impairment charge	—	162.1	—	162.1
Other income (expense), net	5.8	26.3	43.2	73.0
Operating Income	515.8	258.7	1,431.9	982.6
Equity affiliates' income (loss)	58.1	(36.9)	115.6	35.3
Interest expense	34.9	29.8	95.1	89.8
Other non-operating income (expense), net	12.8	3.7	33.7	8.8
Income From Continuing Operations Before Taxes	551.8	195.7	1,486.1	936.9
Income tax provision	107.1	89.3	455.1	262.2
Income From Continuing Operations	444.7	106.4	1,031.0	674.7
Income (Loss) From Discontinued Operations, net of tax	43.2	(2.3)	42.2	1,871.5
Net Income	487.9	104.1	1,073.2	2,546.2
Net Income Attributable to Noncontrolling Interests of Continuing Operations	14.0	2.2	28.3	14.5
Net Income Attributable to Air Products	$473.9	$101.9	$1,044.9	$2,531.7
Net Income Attributable to Air Products				
Income from continuing operations	$430.7	$104.2	$1,002.7	$660.2
Income (Loss) from discontinued operations	43.2	(2.3)	42.2	1,871.5
Net Income Attributable to Air Products	$473.9	$101.9	$1,044.9	$2,531.7
Basic Earnings Per Common Share Attributable to Air Products				
Income from continuing operations	$1.96	$.48	$4.57	$3.03
Income (Loss) from discontinued operations	.20	(.01)	.19	8.59
Net Income Attributable to Air Products	$2.16	$.47	$4.76	$11.62
Diluted Earnings Per Common Share Attributable to Air Products				
Income from continuing operations	$1.95	$.47	$4.54	$3.00
Income (Loss) from discontinued operations	.20	(.01)	.19	8.52
Net Income Attributable to Air Products	$2.15	$.46	$4.73	$11.52
Weighted Average Common Shares – Basic (in millions)	219.5	218.1	219.3	217.9
Weighted Average Common Shares – Diluted (in millions)	220.9	219.8	220.7	219.8
Dividends Declared Per Common Share – Cash	$1.10	$.95	$3.15	$2.76

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

	Three Months Ended 30 June	
(Millions of dollars)	2018	2017
Net Income	$487.9	$104.1
Other Comprehensive Income (Loss), net of tax:		
Translation adjustments, net of tax of $5.2 and ($33.1)	(392.4)	141.4
Net gain on derivatives, net of tax of $8.8 and $9.6	27.1	23.0
Pension and postretirement benefits	—	.1
Reclassification adjustments:		
Currency translation adjustment	—	8.2
Derivatives, net of tax of ($5.5) and ($7.9)	(17.7)	(23.6)
Pension and postretirement benefits, net of tax of $7.8 and $12.8	26.0	27.7
Total Other Comprehensive Income (Loss)	(357.0)	176.8
Comprehensive Income	130.9	280.9
Net Income Attributable to Noncontrolling Interests	14.0	2.2
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	(14.5)	.2
Comprehensive Income Attributable to Air Products	$131.4	$278.5

	Nine Months Ended 30 June	
(Millions of dollars)	2018	2017
Net Income	$1,073.2	$2,546.2
Other Comprehensive Income (Loss), net of tax:		
Translation adjustments, net of tax of ($14.6) and ($8.8)	(130.4)	9.8
Net gain (loss) on derivatives, net of tax of $7.5 and ($6.8)	35.4	(2.2)
Pension and postretirement benefits, net of tax of $– and $1.2	—	3.9
Reclassification adjustments:		
Currency translation adjustment	3.1	57.3
Derivatives, net of tax of ($7.1) and $5.4	(24.4)	7.8
Pension and postretirement benefits, net of tax of $26.7 and $39.4	75.5	85.2
Total Other Comprehensive Income (Loss)	(40.8)	161.8
Comprehensive Income	1,032.4	2,708.0
Net Income Attributable to Noncontrolling Interests	28.3	14.5
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interests	(10.4)	2.1
Comprehensive Income Attributable to Air Products	$1,014.5	$2,691.4

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED BALANCE SHEETS
(Unaudited)

(Millions of dollars, except for share data)	30 June 2018	30 September 2017
Assets		
Current Assets		
Cash and cash items	$2,986.5	$3,273.6
Short-term investments	7.3	404.0
Trade receivables, net	1,227.6	1,174.0
Inventories	322.1	335.4
Contracts in progress, less progress billings	93.9	84.8
Prepaid expenses	104.1	191.4
Other receivables and current assets	314.0	403.3
Current assets of discontinued operations	—	10.2
Total Current Assets	5,055.5	5,876.7
Investment in net assets of and advances to equity affiliates	1,259.3	1,286.9
Plant and equipment, at cost	21,387.5	19,547.8
Less: accumulated depreciation	11,485.5	11,107.6
Plant and equipment, net	9,902.0	8,440.2
Goodwill, net	794.1	721.5
Intangible assets, net	449.0	368.3
Noncurrent capital lease receivables	1,058.2	1,131.8
Other noncurrent assets	687.9	641.8
Total Noncurrent Assets	14,150.5	12,590.5
Total Assets	$19,206.0	$18,467.2
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	$1,968.4	$1,814.3
Accrued income taxes	46.0	98.6
Short-term borrowings	90.4	144.0
Current portion of long-term debt	5.0	416.4
Current liabilities of discontinued operations	—	15.7
Total Current Liabilities	2,109.8	2,489.0
Long-term debt	3,377.1	3,402.4
Long-term debt – related party	398.7	—
Other noncurrent liabilities	1,831.8	1,611.9
Deferred income taxes	678.6	778.4
Total Noncurrent Liabilities	6,286.2	5,792.7
Total Liabilities	8,396.0	8,281.7
Commitments and Contingencies - See Note 14		
Air Products Shareholders' Equity		
Common stock (par value $1 per share; issued 2018 and 2017 - 249,455,584 shares)	249.4	249.4
Capital in excess of par value	1,020.0	1,001.1
Retained earnings	13,200.2	12,846.6
Accumulated other comprehensive loss	(1,877.8)	(1,847.4)
Treasury stock, at cost (2018 - 30,183,088 shares; 2017 - 31,109,510 shares)	(2,105.8)	(2,163.5)
Total Air Products Shareholders' Equity	10,486.0	10,086.2

Noncontrolling Interests	324.0	99.3
Total Equity	10,810.0	10,185.5
Total Liabilities and Equity	$19,206.0	$18,467.2

The accompanying notes are an integral part of these statements.

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AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Nine Months Ended 30 June	
(Millions of dollars)	2018	2017
Operating Activities		
Net income	$1,073.2	$2,546.2
Less: Net income attributable to noncontrolling interests of continuing operations	28.3	14.5
Net income attributable to Air Products	1,044.9	2,531.7
Income from discontinued operations	(42.2)	(1,871.5)
Income from continuing operations attributable to Air Products	1,002.7	660.2
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	713.5	634.8
Deferred income taxes	(86.9)	(78.1)
Tax reform repatriation	310.3	—
Undistributed earnings of unconsolidated affiliates	(27.7)	(34.4)
Gain on sale of assets and investments	(5.2)	(7.9)
Share-based compensation	30.4	27.4
Noncurrent capital lease receivables	73.7	69.4
Goodwill and intangible asset impairment charge	—	162.1
Equity method investment impairment charge	—	79.5
Write-down of long-lived assets associated with cost reduction actions	—	59.1
Other adjustments	(23.2)	110.7
Working capital changes that provided (used) cash, excluding effects of acquisitions and divestitures:		
Trade receivables	(50.5)	(25.7)
Inventories	16.0	44.8
Contracts in progress, less progress billings	(10.4)	(18.6)
Other receivables	95.9	80.0
Payables and accrued liabilities	(164.9)	(99.9)
Other working capital	(10.4)	(50.0)
Cash Provided by Operating Activities	1,863.3	1,613.4
Investing Activities		
Additions to plant and equipment	(1,158.1)	(806.8)
Acquisitions, less cash acquired	(320.2)	—
Investment in and advances to unconsolidated affiliates	—	(8.1)
Proceeds from sale of assets and investments	45.8	20.7
Purchases of investments	(349.8)	(2,488.6)
Proceeds from investments	745.2	1,473.5
Other investing activities	(1.8)	(1.5)
Cash Used for Investing Activities	(1,038.9)	(1,810.8)
Financing Activities		
Long-term debt proceeds	.5	2.2
Payments on long-term debt	(418.2)	(483.5)
Net decrease in commercial paper and short-term borrowings	(46.1)	(799.2)
Dividends paid to shareholders	(656.6)	(580.9)
Proceeds from stock option exercises	58.2	38.2
Other financing activities	(35.6)	(31.2)
Cash Used for Financing Activities	(1,097.8)	(1,854.4)
Discontinued Operations		
Cash used for operating activities	(12.8)	(768.0)
Cash provided by investing activities	18.6	3,750.6

Cash provided by financing activities	—	69.5
Cash Provided by Discontinued Operations	5.8	3,052.1
Effect of Exchange Rate Changes on Cash	(19.5)	1.5
(Decrease) Increase in cash and cash items	(287.1)	1,001.8
Cash and Cash items – Beginning of Year	3,273.6	1,330.8
Cash and Cash Items – End of Period	$2,986.5	$2,332.6

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)
(Millions of dollars unless otherwise indicated, except for share and per share data)

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

Refer to our 2017 Form 10-K for a description of major accounting policies. There have been no significant changes to these accounting policies during the first nine months of fiscal year 2018 other than those detailed in Note 2, New Accounting Guidance, under *Accounting Guidance Implemented in 2018*.

Certain prior year information included in the interim consolidated financial statements and the accompanying notes has been reclassified to conform to the fiscal year 2018 presentation. The notes to the interim consolidated financial statements, unless otherwise indicated, are on a continuing operations basis.

The interim consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries ("we," "our," "us," the "Company," "Air Products," or "registrant") included herein have been prepared by us, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles (GAAP) have been condensed or omitted pursuant to such rules and regulations. In our opinion, the accompanying statements reflect adjustments necessary to present fairly the financial position, results of operations, and cash flows for those periods indicated and contain adequate disclosure to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the notes. The interim results for the periods indicated herein, however, do not reflect certain adjustments, such as the valuation of inventories on the last-in, first-out (LIFO) cost basis, which are only finally determined on an annual basis. In order to fully understand the basis of presentation, the consolidated financial statements and related notes included herein should be read in conjunction with the consolidated financial statements and notes thereto included in our 2017 Form 10-K. Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented in 2018

Income Taxes

In March 2018, the Financial Accounting Standards Board (FASB) issued an update for Staff Accounting Bulletin (SAB) No. 118 issued by the SEC in December 2017 related to the U.S. Tax Cuts and Jobs Act ("the Tax Act"). We adopted the SEC guidance under SAB No. 118 in the first quarter of fiscal year 2018. We continue to report the impacts of the Tax Act as provisional based on reasonable estimates as of 30 June 2018. The SEC guidance provides a one-year measurement period to complete accounting for provisional amounts. For additional details, see Note 19, Income Taxes.

Presentation of Net Periodic Pension and Postretirement Benefit Cost

In March 2017, the FASB issued guidance for improving the presentation of net periodic pension cost and net periodic postretirement benefit cost. The amendments require the service cost component of net periodic benefit cost to be presented in the same operating income line items as other compensation costs arising from services rendered by employees during the period. The non-service costs (e.g., interest cost, expected return on plan assets, amortization of actuarial gains/losses, settlements) should be presented in the consolidated income statement outside of operating income. The amendments also allow only the service cost component to be eligible for capitalization when applicable. We early adopted this guidance during the first quarter of fiscal year 2018. The amendments have been applied retrospectively for the income statement presentation requirements and prospectively for the limit on costs eligible for capitalization. We applied the practical expedient to use the amounts disclosed in its retirement benefits note for the prior comparative periods as the estimation basis for applying the retrospective presentation requirements.

Prior to adoption of the guidance, we classified all net periodic benefit costs within operating costs, primarily within "Cost of sales" and "Selling and administrative" on the consolidated income statements. The line item classification changes required by the new guidance did not impact our pre tax earnings or net income; however, "Operating income" and "Other non-operating income (expense), net" changed by immaterial offsetting amounts.

Derivative Contract Novations

In March 2016, the FASB issued guidance to clarify that a change in the counterparty to a derivative instrument that has been designated as a hedging instrument does not, in and of itself, require re-designation of that hedging relationship provided that all other hedge accounting criteria continue to be met. We adopted this guidance in the first quarter of fiscal year 2018. This guidance did not have an impact on our consolidated financial statements upon adoption.

New Accounting Guidance to be Implemented

Revenue Recognition

In May 2014, the FASB issued guidance based on the principle that revenue is recognized in an amount expected to be collected and to which the entity expects to be entitled in exchange for the transfer of goods or services. We will adopt this guidance in fiscal year 2019 under the modified retrospective approach. Upon adoption, we will no longer present "Contracts in progress, less progress billings" on our consolidated balance sheets and will have expanded disclosure requirements. Otherwise, we do not expect adoption of this guidance to have a material impact on our consolidated financial statements.

Leases

In February 2016, the FASB issued guidance that requires lessees to recognize a right-of-use asset and lease liability on the balance sheet for all leases, including operating leases, with a term in excess of 12 months. The guidance also expands the quantitative and qualitative disclosure requirements. The guidance is effective in fiscal year 2020, with early adoption permitted, and must be applied using a modified retrospective approach.

The Company is the lessee under various agreements for real estate, distribution equipment, aircraft, and vehicles that are currently accounted for as operating leases. The new guidance will require the Company to record all leases, including operating leases, on the balance sheet with a right-of-use asset and corresponding liability for future payment obligations.

We plan to adopt this guidance in fiscal year 2020. We are currently evaluating the impact this guidance will have on our consolidated financial statements, including the assessment of our current lease population under the revised definition of what qualifies as a leased asset. We plan to implement a new application to administer the accounting and disclosure requirements under the new guidance.

Credit Losses on Financial Instruments

In June 2016, the FASB issued guidance on the measurement of credit losses, which requires measurement and recognition of expected credit losses for financial assets, including trade receivables and capital lease receivables, held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. The method to determine a loss is different from the existing guidance, which requires a credit loss to be recognized when it is probable. The guidance is effective beginning in fiscal year 2021, with early adoption permitted beginning in fiscal year 2020. We are currently evaluating the impact this guidance will have on our consolidated financial statements.

Cash Flow Statement Classification

In August 2016, the FASB issued guidance to reduce diversity in practice on how certain cash receipts and cash payments are classified in the statement of cash flows. The guidance is effective beginning in fiscal year 2019, with early adoption permitted, and should be applied retrospectively. We plan to adopt this guidance in fiscal year 2019 and do not expect adoption to have a significant impact on our consolidated financial statements.

Intra-Entity Asset Transfers

In October 2016, the FASB issued guidance on accounting for the income tax effects of intra-entity transfers of assets other than inventory. Current guidance prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. Under the new guidance, the income tax consequences of an intra-entity asset transfer are recognized when the transfer occurs. The guidance is effective beginning in fiscal year 2019, with early adoption permitted as of the beginning of an annual reporting period. The guidance must be applied on a modified retrospective basis through a cumulative-effect adjustment to retained earnings as of the date of adoption. We are currently evaluating the impact this guidance will have on our consolidated financial statements and plan to adopt the guidance in fiscal year 2019.

Derecognition of Nonfinancial Assets

In February 2017, the FASB issued an update to clarify the scope of guidance on gains and losses from the derecognition of nonfinancial assets and to add guidance for partial sales of nonfinancial assets. The update must be adopted at the same time as the new guidance on revenue recognition discussed above, which we will adopt in fiscal year 2019. The guidance may be applied retrospectively or with a cumulative-effect adjustment to retained earnings as of the date of adoption. We are currently evaluating the impact this update will have on our consolidated financial statements.

Hedging Activities
In August 2017, the FASB issued guidance on hedging activities to expand the related presentation and disclosure requirements, change how companies assess effectiveness, and eliminate the separate measurement and reporting of hedge ineffectiveness. The guidance also enables more financial and nonfinancial hedging strategies to become eligible for hedge accounting. The guidance is effective in fiscal year 2020, with early adoption permitted. For cash flow and net investment hedges existing at the date of adoption, an entity should apply a cumulative-effect adjustment to eliminate the separate measurement of ineffectiveness within equity as of the beginning of the fiscal year the guidance is adopted. The amended presentation and disclosure guidance is applied prospectively. We are currently evaluating the impact this guidance will have on our consolidated financial statements.
Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income
In February 2018, the FASB issued guidance allowing a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Act. The guidance is effective in fiscal year 2020, with early adoption permitted, including adoption in any interim period. If elected, the reclassification can be applied in either the period of adoption or retrospectively to the period of the Tax Act's enactment (i.e., our first quarter of fiscal year 2018). We are currently evaluating the adoption alternatives and the impact this guidance will have on our consolidated financial statements.

3. DISCONTINUED OPERATIONS
For the three and nine months ended 30 June 2018, income from discontinued operations, net of tax, on the consolidated income statements was $43.2 and $42.2, respectively. During the third quarter of fiscal year 2018, we recorded an income tax benefit of $29.6 primarily resulting from the resolution of uncertain tax positions taken in conjunction with the disposition of our former European Homecare business in fiscal year 2012. In addition, we recorded a before-tax benefit of $13.6 primarily resulting from the resolution of certain post-closing adjustments associated with the sale of our former Performance Materials Division (PMD). Refer to Note 19, Income Taxes, for additional information. The nine months ended 30 June 2018 also includes an after-tax loss of $1.0 related to Energy-from-Waste (EfW) project exit activities and administrative costs incurred during the first quarter of fiscal year 2018.
For the three months ended 30 June 2017, the loss from discontinued operations, net of tax, on the consolidated income statements was $2.3. The loss primarily relates to EfW project exit activities and administrative costs.
For the nine months ended 30 June 2017, income from discontinued operations, net of tax, on the consolidated income statements was $1,871.5. The year-to-date income includes a gain of $2,870 ($1,833 after-tax, or $8.34 per share) recognized on the sale of PMD to Evonik Industries AG (Evonik). The sale closed on 3 January 2017 for $3.8 billion in cash. In addition, we recorded a loss on the disposal of EfW of $59.3 ($47.1 after-tax) during the first quarter of 2017, primarily for land lease obligations and to update our estimate of the net realizable value of the plant assets. The loss on disposal was recorded as a component of discontinued operations while the liability associated with land lease obligations was and continues to be recorded in continuing operations. The liability recorded in continuing operations was approximately $64 as of 30 June 2018.

The following table details income (loss) from discontinued operations, net of tax, on the consolidated income statements for the nine months ended 30 June 2017:

	Nine Months Ended 30 June 2017		
	Performance Materials	Energy-from-Waste	Total Discontinued Operations
Sales	$254.8	$—	$254.8
Cost of sales	182.3	11.9	194.2
Selling and administrative	22.5	.5	23.0
Research and development	5.1	—	5.1
Other income (expense), net	.3	(.9)	(.6)
Operating Income (Loss)	45.2	(13.3)	31.9
Equity affiliates' income	.3	—	.3
Income (Loss) Before Taxes	45.5	(13.3)	32.2
Income tax benefit[(A)]	(50.8)	(3.1)	(53.9)
Income (Loss) From Operations of Discontinued Operations, net of tax	96.3	(10.2)	86.1
Gain (Loss) on Disposal, net of tax	1,832.5	(47.1)	1,785.4
Income (Loss) From Discontinued Operations, net of tax	$1,928.8	($57.3)	$1,871.5

(A) As a result of the expected gain on the sale of PMD, we released valuation allowances related to capital loss and net operating loss carryforwards during the first quarter of 2017 that favorably impacted our income tax provision within discontinued operations by approximately $66.

There were no assets or liabilities presented in discontinued operations on the consolidated balance sheets as of 30 June 2018. As of 30 September 2017, current assets of discontinued operations of $10.2 related to EfW and current liabilities of discontinued operations of $15.7 primarily related to reserves associated with the disposition of PMD.

4. MATERIALS TECHNOLOGIES SEPARATION

In fiscal year 2017, we completed the separation of the divisions comprising the former Materials Technologies segment. As further discussed below, we completed the separation of the Electronic Materials Division (EMD) through the spin-off of Versum Materials, Inc. (Versum). For information on the disposition of PMD, refer to Note 3, Discontinued Operations.

Spin-off of EMD

On 1 October 2016 (the distribution date), Air Products completed the spin-off of Versum into a separate and independent public company. The spin-off was completed by way of a distribution to Air Products' stockholders of all of the then issued and outstanding shares of common stock of Versum on the basis of one share of Versum common stock for every two shares of Air Products' common stock held as of the close of business on 21 September 2016 (the record date for the distribution). Fractional shares of Versum common stock were not distributed to Air Products' common stockholders. Air Products' stockholders received cash in lieu of fractional shares. The spin-off of Versum was treated as a noncash transaction in the consolidated statements of cash flows in fiscal year 2017. There has been no activity in discontinued operations on the consolidated income statements and no assets or liabilities presented in discontinued operations on the consolidated balance sheets related to EMD for the periods presented.

Business Separation Costs

In connection with the dispositions of EMD and PMD, we incurred net separation costs of $30.2 for the nine months ended 30 June 2017. The net costs include legal and advisory fees of $32.5, which are reflected on the consolidated income statements as "Business separation costs," and a pension settlement benefit of $2.3 that is now presented within "Other non-operating income (expense), net" as a result of the adoption of pension guidance at the beginning of fiscal

year 2018. Refer to Note 2, New Accounting Guidance, for additional information.
Our income tax provision for the three and nine months ended 30 June 2017 includes net tax benefits of $8.2 and $5.5, respectively, primarily related to changes in tax positions on business separation activities.

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5. COST REDUCTION AND ASSET ACTIONS

For the three months ended 30 June 2017, we recognized an expense of $42.7 for cost reduction and asset actions. Asset actions totaled $33.2 and severance and other benefits totaled $9.5. For the nine months ended 30 June 2017, we recognized a net expense of $103.0, which included $78.9 for asset actions and $27.5 for severance and other benefits. These expenses were partially offset by the favorable settlement of the remaining accrual from prior year actions discussed below.

In fiscal year 2017, we recognized a net expense of $151.4. The net expense included a charge of $154.8 for actions taken during fiscal year 2017, including asset actions of $88.5 and severance and other benefits of $66.3, partially offset by the favorable settlement of the remaining $3.4 accrued balance associated with business restructuring actions taken in 2015. The 2017 charge related to the segments as follows: $39.3 in Industrial Gases – Americas, $77.9 in Industrial Gases – EMEA, $.9 in Industrial Gases – Asia, $2.5 in Industrial Gases – Global, and $34.2 in Corporate and other. The charges we record for cost reduction and asset actions have been excluded from segment operating income.

The following table summarizes the carrying amount of the accrual for cost reduction and asset actions at 30 June 2018:

	Severance and Other Benefits	Asset Actions/Other	Total
30 September 2016	$12.3	$—	$12.3
2017 Charge	66.3	88.5	154.8
Noncash expenses	—	(84.2)	(84.2)
Cash expenditures	(35.7)	(1.2)	(36.9)
Amount reflected in pension liability	(2.0)	—	(2.0)
Amount reflected in other noncurrent liabilities	—	(2.2)	(2.2)
Currency translation adjustment	(.3)	—	(.3)
30 September 2017	$40.6	$.9	$41.5
Cash expenditures	(24.8)	(.2)	(25.0)
Amount reflected in pension liability	(.4)	—	(.4)
30 June 2018	$15.4	$.7	$16.1

6. ACQUISITIONS

Asset Acquisition

On 9 September 2017, Air Products signed an agreement to form a joint venture, Air Products Lu’an (Changzhi) Co., Ltd. (“the JV”) with Lu’An Clean Energy Company ("Lu’An"). The JV will receive coal, steam and power from Lu’An and will supply syngas to Lu’An under a long-term onsite contract. On 26 April 2018 ("the acquisition date"), we completed the formation of the JV, of which Air Products owns 60% and Lu’An owns 40%. Air Products contributed four large air separation units to the JV with a carrying value of approximately $300, and the JV acquired gasification and syngas clean-up assets from Lu’An for 7.9 billion RMB (approximately $1.2 billion). As a result, the carrying value of the plant and equipment of the JV was approximately $1.5 billion at the acquisition date. The four gasifiers are being brought on stream in stages, and the JV is expected to be operating in full production by the end of fiscal year 2018. Additional capital expenditures will be incurred on this project as the assets under construction are completed. The JV is consolidated within the results of the Industrial Gases – Asia segment.

We accounted for the acquisition of the gasification and syngas clean-up assets as an asset acquisition. In connection with closing the acquisition, we paid net cash of approximately 1.5 billion RMB ($235) and issued equity of 1.4 billion RMB ($227) to Lu'An for their noncontrolling interest in the JV.

In addition, Lu'An made a loan of 2.6 billion RMB ($399) to the JV with regularly scheduled principal and interest payments at a fixed interest rate of 5.5%, and we established a liability of 2.3 billion RMB ($345) for cash payments expected to be made to or on behalf of Lu'An in the fourth quarter of fiscal year 2018. The long-term debt from Lu'An is presented on the consolidated balance sheets as "Long-term debt – related party," and our expected cash payment is presented within "Payables and accrued liabilities."

The issuance of equity to Lu'An for their noncontrolling interest, the long-term debt, and the liability for the remaining cash payment were noncash transactions; therefore, they have been excluded from the consolidated statement of cash flows for the nine months ended 30 June 2018. During the three months ended 30 June 2018, sales related to the JV were not material.

Business Combinations

During the first nine months of fiscal year 2018, we completed eight acquisitions that were accounted for as business combinations. These acquisitions had an aggregate purchase price, net of cash acquired, of $355.4. The largest of the acquisitions was completed during the first quarter of fiscal year 2018 and consisted primarily of three air separation units serving onsite and merchant customers in China. This acquisition is expected to strengthen our position in the region. The results of this business are consolidated within our Industrial Gases – Asia segment.

Our fiscal year 2018 business combinations resulted in the recognition of $178.4 of plant and equipment, $81.4 of goodwill, $18.0 of which is deductible for tax purposes, and $105.8 of intangible assets, primarily customer relationships, having a weighted-average useful life of twelve years. The goodwill recognized on the transactions is attributable to expected growth and cost synergies and was primarily recorded in the Industrial Gases – Asia and the Industrial Gases – EMEA segments.

Our 2018 business combinations did not materially impact our consolidated income statements for the periods presented.

7. INVENTORIES

The components of inventories are as follows:

	30 June 2018	30 September 2017
Finished goods	$126.7	$120.0
Work in process	18.5	15.7
Raw materials, supplies and other	201.0	223.0
Total FIFO cost	$346.2	$358.7
Less: Excess of FIFO cost over LIFO cost	(24.1)	(23.3)
Inventories	$322.1	$335.4

First-in, first-out (FIFO) cost approximates replacement cost.

8. EQUITY AFFILIATES

For the nine months ended 30 June 2018, equity affiliates' income includes an expense of $32.5 for the impact of the U.S. Tax Cuts and Jobs Act recorded during the first quarter of fiscal year 2018. Refer to Note 19, Income Taxes, to the consolidated financial statements for additional information.

During the third quarter of fiscal year 2017, we recorded an other-than-temporary impairment charge of $79.5 on our investment in Abdullah Hashim Industrial Gases & Equipment Co., Ltd. (AHG), a 25%-owned equity affiliate in our Industrial Gases – EMEA segment. The impairment charge is reflected on our consolidated income statements within “Equity affiliates' income (loss)” for the three and nine months ended 30 June 2017. This charge was not deductible for tax purposes and has been excluded from segment results.

The decline in value resulted from expectations for lower future cash flows to be generated by AHG, primarily due to challenging economic conditions in Saudi Arabia, including the impacts of lower prices in the oil and gas industry, increased competition, and capital project growth opportunities not materializing as anticipated.

The AHG investment was valued based on the results of the income and market valuation approaches. The income approach utilized a discount rate based on a market-participant, risk-adjusted weighted average cost of capital, which considers industry required rates of return on debt and equity capital for a target industry capital structure adjusted for risks associated with size and geography. Other significant estimates and assumptions that drove our updated valuation of AHG included revenue growth rates and profit margins that were lower than those upon acquisition and our assessment of AHG's business improvement plan effectiveness. Under the market approach, we estimated fair value based on market multiples of revenue and earnings derived from publicly-traded industrial gases companies engaged in similar lines of business, adjusted to reflect differences in size and growth prospects.

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9. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the nine months ended 30 June 2018 are as follows:

	Industrial Gases–Americas	Industrial Gases–EMEA	Industrial Gases–Asia	Industrial Gases–Global	Corporate and other	Total
Goodwill, net at 30 September 2017	$163.7	$402.4	$135.2	$20.2	$—	$721.5
Acquisitions	—	30.8	39.8	—	10.8	81.4
Currency translation	(1.4)	(7.7)	.3	—	—	(8.8)
Goodwill, net at 30 June 2018	$162.3	$425.5	$175.3	$20.2	$10.8	$794.1

	30 June 2018	30 September 2017
Goodwill, gross	$1,201.8	$1,138.7
Accumulated impairment losses[A]	(407.7)	(417.2)
Goodwill, net	$794.1	$721.5

(A) Accumulated impairment losses are attributable to our Latin America reporting unit (LASA) within the Industrial Gases – Americas segment and include impairment charges recorded in previous years as well as the impacts of currency translation on the losses.

We review goodwill for impairment annually in the fourth quarter of the fiscal year and whenever events or changes in circumstances indicate that the carrying value of goodwill might not be recoverable. The impairment test for goodwill involves calculating the fair value of each reporting unit and comparing that value to the carrying value. If the fair value of the reporting unit is less than its carrying value, the difference is recorded as a goodwill impairment charge, not to exceed the total amount of goodwill allocated to that reporting unit.

During the third quarter of fiscal year 2017, we recorded a noncash impairment charge of $145.3 to write down the goodwill associated with LASA within the Industrial Gases – Americas segment. The impairment charge is reflected on our consolidated income statements within “Goodwill and intangible asset impairment charge” for the three and nine months ended 30 June 2017. This charge was not deductible for tax purposes and is excluded from segment operating income.

LASA includes assets and goodwill associated with operations in Chile and other Latin American countries. The decline in value resulted from lowered long-term growth projections reflecting weak economic conditions in Latin America and expectations for continued volume weakness in the Latin American countries and markets in which we operate. We estimated the fair value of LASA based on two valuation approaches, the income approach and the market approach. We reviewed relevant facts and circumstances in determining the weighting of the approaches. Under the income approach, we estimated the fair value of LASA based on the present value of estimated future cash flows. Cash flow projections were based on management’s estimates of revenue growth rates and EBITDA margins, taking into consideration business and market conditions for the Latin American countries and markets in which we operate. We calculated the discount rate based on a market-participant, risk-adjusted weighted average cost of capital, which considers industry specific rates of return on debt and equity capital for a target industry capital structure, adjusted for risks associated with business size and geography. Under the market approach, we estimated fair value based on market multiples of revenue and earnings derived from publicly-traded industrial gases companies and regional manufacturing companies, adjusted to reflect differences in size and growth prospects. Management judgment is required in the determination of each assumption utilized in the valuation model, and actual results could differ from our estimates.

Prior to completing the LASA goodwill impairment test, we tested the recoverability of LASA’s long-lived assets and other indefinite-lived intangible assets. Refer to Note 10, Intangible Assets, for additional information.

10. INTANGIBLE ASSETS

The table below provides details of acquired intangible assets:

	30 June 2018			30 September 2017		
	Gross	Accumulated Amortization/ Impairment	Net	Gross	Accumulated Amortization/ Impairment	Net
Customer relationships	$497.6	($158.2)	$339.4	$424.1	($142.3)	$281.8
Patents and technology	34.1	(11.3)	22.8	13.4	(10.6)	2.8
Other	71.5	(33.8)	37.7	73.4	(36.6)	36.8
Total finite-lived intangible assets	603.2	(203.3)	399.9	510.9	(189.5)	321.4
Trade names and trademarks, indefinite-lived	62.7	(13.6)	49.1	67.8	(20.9)	46.9
Total Intangible Assets	$665.9	($216.9)	$449.0	$578.7	($210.4)	$368.3

Indefinite-lived intangible assets are subject to impairment testing at least annually or more frequently if events or changes in circumstances indicate that potential impairment exists. The impairment test for indefinite-lived intangible assets involves calculating the fair value of the indefinite-lived intangible assets and comparing the fair value to their carrying value. If the fair value is less than the carrying value, the difference is recorded as an impairment loss.

During the third quarter of fiscal year 2017, we recorded a noncash impairment charge of $16.8 to write down the trade names and trademarks associated with LASA within the Industrial Gases – Americas segment. The impairment charge is reflected on our consolidated income statements within "Goodwill and intangible asset impairment charge" for the three and nine months ended 30 June 2017. This charge has been excluded from segment operating income.

As discussed in Note 9, Goodwill, LASA includes assets and goodwill associated with operations in Chile and other Latin American countries. The decline in value resulted from lowered long-term growth projections reflecting weak economic conditions in Latin America and expectations for continued volume weakness in the Latin American countries and markets in which we operate. We estimated the fair value of the indefinite-lived intangibles associated with LASA utilizing the royalty savings method, a form of the income approach.

We tested the recoverability of LASA long-lived assets, including finite-lived intangible assets subject to amortization, and concluded that they were recoverable from expected future undiscounted cash flows.

11. FINANCIAL INSTRUMENTS

Currency Price Risk Management

Our earnings, cash flows, and financial position are exposed to foreign currency risk from foreign currency-denominated transactions and net investments in foreign operations. It is our policy to seek to minimize our cash flow volatility from changes in currency exchange rates. This is accomplished by identifying and evaluating the risk that our cash flows will change in value due to changes in exchange rates and by executing the appropriate strategies necessary to manage such exposures. Our objective is to maintain economically balanced currency risk management strategies that provide adequate downside protection.

Forward Exchange Contracts

We enter into forward exchange contracts to reduce the cash flow exposure to foreign currency fluctuations associated with highly anticipated cash flows and certain firm commitments, such as the purchase of plant and equipment. We also enter into forward exchange contracts to hedge the cash flow exposure on intercompany loans. This portfolio of forward exchange contracts consists primarily of Euros and U.S. Dollars. The maximum remaining term of any forward exchange contract currently outstanding and designated as a cash flow hedge at 30 June 2018 is 1.8 years.

Forward exchange contracts are also used to hedge the value of investments in certain foreign subsidiaries and affiliates by creating a liability in a currency in which we have a net equity position. The primary currency pair in this portfolio of forward exchange contracts is Euros and U.S. Dollars.

In addition to the forward exchange contracts that are designated as hedges, we utilize forward exchange contracts that are not designated as hedges. The primary objective of these forward exchange contracts is to protect the value of foreign currency-denominated monetary assets and liabilities, primarily working capital, from the effects of volatility in foreign exchange rates that might occur prior to their receipt or settlement. This portfolio of forward exchange contracts comprises many different foreign currency pairs, with a profile that changes from time to time depending on business activity and sourcing decisions.

The table below summarizes our outstanding currency price risk management instruments:

	30 June 2018		30 September 2017	
	US$ Notional	Years Average Maturity	US$ Notional	Years Average Maturity
Forward Exchange Contracts:				
Cash flow hedges	$2,905.0	0.4	$3,150.2	0.4
Net investment hedges	359.8	2.2	675.5	3.0
Not designated	1,121.0	1.4	273.8	0.1
Total Forward Exchange Contracts	$4,385.8	0.8	$4,099.5	0.8

The notional value of forward exchange contracts not designated increased from the prior year. As a result of changes in our currency exposures, we de-designated a portion of forward exchange contracts previously designated as net investment hedges. To eliminate any future earnings impact of the de-designated portion, we entered into equal and offsetting forward exchange contracts.

In addition to the above, we use foreign currency-denominated debt to hedge the foreign currency exposures of our net investment in certain foreign subsidiaries. The designated foreign currency-denominated debt and related accrued interest included €910.1 million ($1,063.3) at 30 June 2018 and €912.2 million ($1,077.7) at 30 September 2017. The designated foreign currency-denominated debt is located on the consolidated balance sheets within "Long-term debt."

Debt Portfolio Management

It is our policy to identify on a continuing basis the need for debt capital and evaluate the financial risks inherent in funding the Company with debt capital. Reflecting the result of this ongoing review, the debt portfolio and hedging program are managed with the objectives and intent to (1) reduce funding risk with respect to borrowings made by us to preserve our access to debt capital and provide debt capital as required for funding and liquidity purposes, and (2) manage the aggregate interest rate risk and the debt portfolio in accordance with certain debt management parameters.

Interest Rate Management Contracts

We enter into interest rate swaps to change the fixed/variable interest rate mix of our debt portfolio in order to maintain the percentage of fixed- and variable-rate debt within the parameters set by management. In accordance with these parameters, the agreements are used to manage interest rate risks and costs inherent in our debt portfolio. Our interest rate management portfolio generally consists of fixed-to-floating interest rate swaps (which are designated as fair value hedges), pre-issuance interest rate swaps and treasury locks (which hedge the interest rate risk associated with anticipated fixed-rate debt issuances and are designated as cash flow hedges), and floating-to-fixed interest rate swaps (which are designated as cash flow hedges). At 30 June 2018, the outstanding interest rate swaps were denominated in U.S. Dollars. The notional amount of the interest rate swap agreements is equal to or less than the designated debt being hedged. When interest rate swaps are used to hedge variable-rate debt, the indices of the swaps and the debt to which they are designated are the same. It is our policy not to enter into any interest rate management contracts which lever a move in interest rates on a greater than one-to-one basis.

Cross Currency Interest Rate Swap Contracts

We enter into cross currency interest rate swap contracts when our risk management function deems necessary. These contracts may entail both the exchange of fixed- and floating-rate interest payments periodically over the life of the agreement and the exchange of one currency for another currency at inception and at a specified future date. The contracts are used to hedge either certain net investments in foreign operations or non-functional currency cash flows related to intercompany loans. The current cross currency interest rate swap portfolio consists of fixed-to-fixed swaps primarily between U.S. Dollars and offshore Chinese Renminbi, U.S. Dollars and Chilean Pesos, and U.S. Dollars and British Pound Sterling.

The following table summarizes our outstanding interest rate management contracts and cross currency interest rate swaps:

	30 June 2018				30 September 2017			
	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity	US$ Notional	Average Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	$600.0	LIBOR	2.60 %	1.9	$600.0	LIBOR	2.28 %	1.3
Cross currency interest rate swaps (net investment hedge)	$692.6	3.72 %	2.76 %	2.1	$539.7	3.27 %	2.59 %	1.9
Cross currency interest rate swaps (cash flow hedge)	$916.6	5.33 %	2.73 %	2.3	$1,095.7	4.96 %	2.78 %	2.4
Cross currency interest rate swaps (not designated)	$35.6	3.16 %	2.86 %	1.2	$41.6	3.28 %	2.32 %	1.7

The table below summarizes the fair value and balance sheet location of our outstanding derivatives:

	Balance Sheet Location	30 June 2018	30 September 2017	Balance Sheet Location	30 June 2018	30 September 2017
Derivatives Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables	$25.1	$81.7	Accrued liabilities	$47.4	$82.0
Interest rate management contracts	Other receivables	16.0	11.1	Accrued liabilities	5.5	10.7
Forward exchange contracts	Other noncurrent assets	17.4	27.1	Other noncurrent liabilities	5.6	13.8
Interest rate management contracts	Other noncurrent assets	73.8	102.6	Other noncurrent liabilities	20.6	22.2
Total Derivatives Designated as Hedging Instruments		$132.3	$222.5		$79.1	$128.7
Derivatives Not Designated as Hedging Instruments:						
Forward exchange contracts	Other receivables	$5.6	$1.1	Accrued liabilities	$5.3	$2.2
Interest rate management contracts	Other receivables	—	—	Accrued liabilities	.1	1.0
Forward exchange contracts	Other noncurrent assets	14.2	—	Other noncurrent liabilities	21.8	—
Interest rate management contracts	Other noncurrent assets	5.0	4.2	Other noncurrent liabilities	—	—
Total Derivatives Not Designated as Hedging Instruments		$24.8	$5.3		$27.2	$3.2
Total Derivatives		$157.1	$227.8		$106.3	$131.9

Refer to Note 12, Fair Value Measurements, which defines fair value, describes the method for measuring fair value, and provides additional disclosures regarding fair value measurements.

The table below summarizes the gain or loss related to our cash flow hedges, fair value hedges, net investment hedges, and derivatives not designated as hedging instruments:

	Three Months Ended 30 June							
	Forward Exchange Contracts		Foreign Currency Debt		Other (A)		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Cash Flow Hedges, net of tax:								
Net gain (loss) recognized in OCI (effective portion)	($34.4)	$41.2	$—	$—	$61.5	($18.2)	$27.1	$23.0
Net (gain) loss reclassified from OCI to sales/cost of sales (effective portion)	1.9	4.3	—	—	—	—	1.9	4.3
Net (gain) loss reclassified from OCI to other income (expense), net (effective portion)	33.7	(37.9)	—	—	(55.6)	10.7	(21.9)	(27.2)
Net (gain) loss reclassified from OCI to interest expense (effective portion)	.8	.4	—	—	2.0	.7	2.8	1.1
Net (gain) loss reclassified from OCI to other income (expense), net (ineffective portion)	—	(1.8)	—	—	(.5)	—	(.5)	(1.8)
Fair Value Hedges:								
Net gain (loss) recognized in interest expense(B)	$—	$—	$—	$—	($2.1)	($.6)	($2.1)	($.6)
Net Investment Hedges, net of tax:								
Net gain (loss) recognized in OCI	$16.2	($23.2)	$44.2	($44.4)	$36.9	($9.8)	$97.3	($77.4)
Derivatives Not Designated as Hedging Instruments:								
Net gain (loss) recognized in other income (expense), net(C)	($.3)	$3.7	$—	$—	$2.2	($.7)	$1.9	$3.0

	Nine Months Ended 30 June							
	Forward Exchange Contracts		Foreign Currency Debt		Other (A)		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Cash Flow Hedges, net of tax:								
Net gain (loss) recognized in OCI (effective portion)	$5.0	($7.1)	$—	$—	$30.4	$4.9	$35.4	($2.2)
Net (gain) loss reclassified from OCI to sales/cost of sales (effective portion)	6.9	10.1	—	—	—	—	6.9	10.1
Net (gain) loss reclassified from OCI to other income (expense), net (effective portion)	(13.2)	.8	—	—	(23.4)	(1.7)	(36.6)	(.9)
Net (gain) loss reclassified from OCI to interest expense (effective portion)	3.0	(2.0)	—	—	3.3	2.1	6.3	.1
Net (gain) loss reclassified from OCI to other income (expense), net (ineffective portion)	(.5)	(1.5)	—	—	(.5)	—	(1.0)	(1.5)
Fair Value Hedges:								
Net gain (loss) recognized in interest expense(B)	$—	$—	$—	$—	($8.9)	($12.5)	($8.9)	($12.5)
Net Investment Hedges, net of tax:								
Net gain (loss) recognized in OCI	($6.5)	$3.9	$4.7	($10.4)	$2.4	($3.2)	$.6	($9.7)
Derivatives Not Designated as Hedging Instruments:								
Net gain (loss) recognized in other income (expense), net(C)	($.2)	$3.3	$—	$—	($1.3)	($.5)	($1.5)	$2.8

(A) Other includes the impact on other comprehensive income (OCI) and earnings primarily related to interest rate and cross currency interest rate swaps.

(B)

The impact of fair value hedges noted above was largely offset by recognized gains and losses resulting from the impact of changes in related interest rates on outstanding debt.

(C) The impact of the non-designated hedges noted above was largely offset by recognized gains and losses resulting from the impact of changes in exchange rates on assets and liabilities denominated in non-functional currencies.

The amount of cash flow hedges' unrealized gains and losses at 30 June 2018 that are expected to be reclassified to earnings in the next twelve months is not material.

The cash flows related to all derivative contracts are reported in the operating activities section of the consolidated statements of cash flows.

Credit Risk-Related Contingent Features

Certain derivative instruments are executed under agreements that require us to maintain a minimum credit rating with both Standard & Poor's and Moody's. If our credit rating falls below this threshold, the counterparty to the derivative instruments has the right to request full collateralization on the derivatives' net liability position. The net liability position of derivatives with credit risk-related contingent features was $51.1 as of 30 June 2018 and $34.6 as of 30 September 2017. Because our current credit rating is above the various pre-established thresholds, no collateral has been posted on these liability positions.

Counterparty Credit Risk Management

We execute financial derivative transactions with counterparties that are highly rated financial institutions, all of which are investment grade at this time. Some of our underlying derivative agreements give us the right to require the institution to post collateral if its credit rating falls below the pre-established thresholds with Standard & Poor's or Moody's. The collateral that the counterparties would be required to post was $109.9 as of 30 June 2018 and $138.5 as of 30 September 2017. No financial institution is required to post collateral at this time as all have credit ratings at or above threshold.

12. FAIR VALUE MEASUREMENTS

Fair value is defined as an exit price, i.e., the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability.

Level 3 — Inputs that are unobservable for the asset or liability based on our own assumptions (about the assumptions market participants would use in pricing the asset or liability).

The methods and assumptions used to measure the fair value of financial instruments are as follows:

Short-term Investments

Short-term investments primarily include time deposits and treasury securities with original maturities greater than three months and less than one year. The estimated fair value of the short-term investments, which approximates carrying value as of 30 June 2018 and 30 September 2017, was determined using level 2 inputs within the fair value hierarchy. Level 2 measurements were based on current interest rates for similar investments with comparable credit risk and time to maturity.

Derivatives

The fair value of our interest rate management contracts and forward exchange contracts are quantified using the income approach and are based on estimates using standard pricing models. These models take into account the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. The computation of the fair values of these instruments is generally performed by the Company. These standard pricing models utilize inputs which are derived from or corroborated by observable market data such as interest rate yield curves as well as currency spot and forward rates. Therefore, the fair value of our derivatives is classified as a level 2 measurement. On an ongoing basis, we randomly test a subset of our valuations against valuations received from the transaction's counterparty to validate the accuracy of our standard pricing models. Counterparties to these derivative contracts are highly rated financial institutions.

Refer to Note 11, Financial Instruments, for a description of derivative instruments, including details on the balance sheet line classifications.

Long-term Debt

The fair value of our debt is based on estimates using standard pricing models that take into account the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. These standard valuation models utilize observable market data such as interest rate yield curves and currency spot rates. Therefore, the fair value of our debt is classified as a level 2 measurement. We generally perform the computation of the fair value of these instruments.

The carrying values and fair values of financial instruments were as follows:

	30 June 2018		30 September 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Forward exchange contracts	$62.3	$62.3	$109.9	$109.9
Interest rate management contracts	94.8	94.8	117.9	117.9
Liabilities				
Derivatives				
Forward exchange contracts	$80.1	$80.1	$98.0	$98.0
Interest rate management contracts	26.2	26.2	33.9	33.9
Long-term debt, including current portion and related party	3,780.8	3,822.3	3,818.8	3,928.2

The carrying amounts reported on the consolidated balance sheets for cash and cash items, short-term investments, trade receivables, payables and accrued liabilities, accrued income taxes, and short-term borrowings approximate fair value due to the short-term nature of these instruments. Accordingly, these items have been excluded from the above table.

The following table summarizes assets and liabilities measured at fair value on a recurring basis in the consolidated balance sheets:

	30 June 2018				30 September 2017			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Forward exchange contracts	$62.3	$—	$62.3	$—	$109.9	$—	$109.9	$—
Interest rate management contracts	94.8	—	94.8	—	117.9	—	117.9	—
Total Assets at Fair Value	$157.1	$—	$157.1	$—	$227.8	$—	$227.8	$—
Liabilities at Fair Value								
Derivatives								
Forward exchange contracts	$80.1	$—	$80.1	$—	$98.0	$—	$98.0	$—
Interest rate management contracts	26.2	—	26.2	—	33.9	—	33.9	—
Total Liabilities at Fair Value	$106.3	$—	$106.3	$—	$131.9	$—	$131.9	$—

13. RETIREMENT BENEFITS

The components of net periodic benefit cost for the defined benefit pension plans for the three and nine months ended 30 June 2018 and 2017 were as follows:

	Pension Benefits			
	2018		2017	
Three Months Ended 30 June	U.S.	International	U.S.	International
Service cost	$6.4			