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

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2020

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 333-211719

ASHLAND GLOBAL HOLDINGS INC.

(a Delaware corporation)

I.R.S. No. 81-2587835

8145 Blazer Drive

Wilmington, Delaware 19808

Telephone Number (302) 995-3000

Securities Registered Pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$.01 per share	ASH	New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

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 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	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-Accelerated Filer	<input type="checkbox"/>	Smaller Reporting Company	<input type="checkbox"/>
		Emerging Growth Company	<input type="checkbox"/>

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

At March 31, 2020, there were 60,456,039 shares of Registrant's Common Stock outstanding.

PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

**ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
STATEMENTS OF CONSOLIDATED COMPREHENSIVE INCOME (LOSS)**

(In millions except per share data - unaudited)	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
Sales	\$ 610	\$ 667	\$ 1,143	\$ 1,243
Cost of sales	413	469	793	893
Gross profit	197	198	350	350
Selling, general and administrative expense	103	115	202	236
Research and development expense	18	17	34	34
Intangibles amortization expense	21	21	42	43
Equity and other income (loss)	7	(1)	7	—
Goodwill impairment - Note G	530	—	530	—
Operating income (loss)	(468)	44	(451)	37
Net interest and other expense (income)	117	(3)	127	52
Other net periodic benefit income (expense)	—	(1)	—	17
Net income (loss) on divestitures	—	—	3	(3)
Income (loss) from continuing operations before income taxes	(585)	46	(575)	(1)
Income tax expense (benefit)	(10)	1	(34)	25
Income (loss) from continuing operations	(575)	45	(541)	(26)
Income (loss) from discontinued operations (net of income taxes)	(7)	31	(9)	54
Net income (loss)	\$ (582)	\$ 76	\$ (550)	\$ 28

PER SHARE DATA

Basic earnings per share - Note M

Income (loss) from continuing operations	\$ (9.48)	\$ 0.72	\$ (8.93)	\$ (0.41)
Income (loss) from discontinued operations	(0.13)	0.49	(0.15)	0.86
Net income (loss)	\$ (9.61)	\$ 1.21	\$ (9.08)	\$ 0.45

Diluted earnings per share - Note M

Income (loss) from continuing operations	\$ (9.48)	\$ 0.71	\$ (8.93)	\$ (0.41)
Income (loss) from discontinued operations	(0.13)	0.48	(0.15)	0.86
Net income (loss)	\$ (9.61)	\$ 1.19	\$ (9.08)	\$ 0.45

COMPREHENSIVE INCOME (LOSS)

Net income (loss)	\$ (582)	\$ 76	\$ (550)	\$ 28
Other comprehensive income (loss), net of tax				
Unrealized translation gain (loss)	(52)	(9)	(14)	(40)
Pension and postretirement obligation adjustment	—	—	—	(6)
Other comprehensive income (loss)	(52)	(9)	(14)	(46)
Comprehensive income (loss)	\$ (634)	\$ 67	\$ (564)	\$ (18)

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS

(In millions - unaudited)	March 31 2020	September 30 2019
ASSETS		
Current assets		
Cash and cash equivalents	\$ 353	\$ 232
Accounts receivable (a)	498	481
Inventories - Note F	611	597
Other assets	119	64
Current assets held for sale - Note B	64	59
Total current assets	1,645	1,433
Noncurrent assets		
Property, plant and equipment		
Cost	3,172	3,165
Accumulated depreciation	1,608	1,588
Net property, plant and equipment	1,564	1,577
Goodwill - Note G	1,723	2,253
Intangibles - Note G	1,044	1,088
Operating lease assets, net - Note I	144	—
Restricted investments - Note E	277	310
Asbestos insurance receivable - Note L	145	157
Deferred income taxes	24	23
Other assets	402	410
Total noncurrent assets	5,323	5,818
Total assets	\$ 6,968	\$ 7,251
LIABILITIES AND EQUITY		
Current liabilities		
Short-term debt - Note H	\$ 471	\$ 166
Trade and other payables	255	313
Accrued expenses and other liabilities	218	271
Current operating lease obligations - Note I	23	—
Current liabilities held for sale - Note B	5	7
Total current liabilities	972	757
Noncurrent liabilities		
Long-term debt - Note H	1,535	1,501
Asbestos litigation reserve - Note L	530	555
Deferred income taxes	250	264
Employee benefit obligations - Note K	151	150
Operating lease obligations - Note I	131	—
Other liabilities	416	453
Total noncurrent liabilities	3,013	2,923
Commitments and contingencies - Note L		
Stockholders' equity	2,983	3,571
Total liabilities and stockholders' equity	\$ 6,968	\$ 7,251

(a) Accounts receivable includes an allowance for doubtful accounts of \$3 million at both March 31, 2020 and September 30, 2019.

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
STATEMENT OF CONSOLIDATED EQUITY

(In millions - unaudited)	Common stock	Paid-in capital	Retained earnings	Accumulated other comprehensive income (loss) (a)	Total
BALANCE AT SEPTEMBER 30, 2019	\$ 1	\$ 756	\$ 3,224	\$ (410)	\$ 3,571
Total comprehensive income (loss)					
Net Income (loss)			(550)		(550)
Other comprehensive income				(14)	(14)
Regular dividends, \$0.550 per common share			(33)		(33)
Common shares issued under stock incentive and other plans (b)		9			9
BALANCE AT MARCH 31, 2020	<u>\$ 1</u>	<u>\$ 765</u>	<u>\$ 2,641</u>	<u>\$ (424)</u>	<u>\$ 2,983</u>

- (a) At March 31, 2020 and September 30, 2019, the after-tax accumulated other comprehensive loss of \$424 million and \$410 million, respectively, was each comprised of net unrealized translation losses of \$422 million and \$408 million, respectively, and unrecognized prior service costs of \$2 million each.
- (b) Common shares issued were 279,025 for the six months ended March 31, 2020.

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
STATEMENTS OF CONDENSED CONSOLIDATED CASH FLOWS

(In millions - unaudited)	Six months ended	
	March 31	
	2020	2019
CASH FLOWS PROVIDED (USED) BY OPERATING ACTIVITIES FROM CONTINUING OPERATIONS		
Net income (loss)	\$ (550)	\$ 28
Income (loss) from discontinued operations (net of income taxes)	9	(54)
Adjustments to reconcile income from continuing operations to cash flows from operating activities:		
Depreciation and amortization	122	163
Original issue discount and debt issuance costs amortization	12	4
Deferred income taxes	(28)	2
Stock based compensation expense	8	13
(Income) loss from restricted investments	16	(2)
Excess tax benefit on stock based compensation	1	2
Loss on early retirement of debt	59	—
Net (income) loss on divestitures	—	3
Impairments	530	5
Pension contributions	(3)	(3)
Gain on pension and other postretirement plan remeasurements	—	(18)
Change in operating assets and liabilities (a)	(163)	(137)
Total cash flows provided by operating activities from continuing operations	13	6
CASH FLOWS PROVIDED (USED) BY INVESTING ACTIVITIES FROM CONTINUING OPERATIONS		
Additions to property, plant and equipment	(66)	(70)
Proceeds from disposal of property, plant and equipment	—	4
Purchase of operations	—	(1)
Net purchase of funds restricted for specific transactions	(2)	(2)
Reimbursement from restricted investments	19	20
Proceeds from sales of securities	10	156
Purchase of securities	(10)	(156)
Proceeds from the settlement of derivative instruments	—	2
Payments for the settlement of derivative instruments	—	(2)
Total cash flows used by investing activities from continuing operations	(49)	(49)
CASH FLOWS PROVIDED (USED) BY FINANCING ACTIVITIES FROM CONTINUING OPERATIONS		
Proceeds from issuance of long-term debt	804	—
Repayment of long-term debt	(767)	(8)
Premium on long-term debt repayment	(59)	—
Proceeds from (repayment of) short-term debt	306	11
Debt issuance costs	(11)	—
Cash dividends paid	(33)	(31)
Stock based compensation employee withholding taxes paid in cash	(6)	(8)
Total cash flows provided (used) by financing activities from continuing operations	234	(36)
CASH PROVIDED (USED) BY CONTINUING OPERATIONS		
Cash provided (used) by discontinued operations		
Operating cash flows	(79)	(41)
Investing cash flows	1	(8)
Total cash used by discontinued operations	(78)	(49)
Effect of currency exchange rate changes on cash and cash equivalents	1	(2)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	121	(130)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	232	294
CASH AND CASH EQUIVALENTS - END OF PERIOD	\$ 353	\$ 164

(a) Excludes changes resulting from operations acquired, sold or held for sale.

SEE NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

NOTE A – SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

The accompanying unaudited Condensed Consolidated Financial Statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial reporting and Securities and Exchange Commission (SEC) regulations. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. Additionally, certain prior period information has been reclassified within the Condensed Consolidated Financial Statements and accompanying notes to conform to current period presentation. These items include the reclassification of Intangibles Amortization Expense as a separate component within operating expenses and changes in Ashland's reportable segment and reporting unit structure. These statements omit certain information and footnote disclosures required for complete annual financial statements and, therefore, should be read in conjunction with Ashland Global Holdings Inc. and consolidated subsidiaries (Ashland) Annual Report on Form 10-K for the fiscal year ended September 30, 2019. Results of operations for the period ended March 31, 2020 are not necessarily indicative of the expected results for the remaining quarters in the fiscal year. All amounts are presented in millions except per-share amounts.

The Intangibles Amortization Expense presented within the Statement of Consolidated Comprehensive Income (Loss) includes amortization expense related to trademarks and trade names, intellectual property, customer and supplier relationships and land use rights. Intangible assets classified as finite are amortized on a straight-line basis over their estimated useful lives.

On August 30, 2019, Ashland completed the sale of its Composites business (excluding Ashland's maleic anhydride business (Maleic business)) and its butanediol facility in Marl, Germany (Marl facility). This disposal group represented a strategic shift in Ashland's business and qualified as a discontinued operation. Accordingly, Composites (including the Maleic business) and the Marl facility assets, liabilities, operating results and cash flows for all periods presented have been classified as discontinued operations within the Condensed Consolidated Financial Statements. See Notes B and C for additional information on this divestiture.

During the second quarter of fiscal 2020, Ashland changed the manner in which it manages the business, moving from a functionally led to a business led organization. This change recognizes that Ashland has a diverse portfolio of businesses with different value propositions for the markets Ashland serves. The organizational change allows Ashland to align its business models, resources and cost structure to the specific needs of each business and enable greater ownership and accountability for both short- and long- term performance. Ashland has realigned its segment reporting structure commensurate with this organizational change.

As a result, Ashland's five reportable segments include the consumer specialty businesses: Life Sciences and Personal Care & Household; the industrial specialty businesses: Specialty Additives and Performance Adhesives; and Intermediates and Solvents. Corporate includes corporate governance activities and certain legacy matters. For additional information, see Note Q.

Use of estimates, risks and uncertainties

The preparation of Ashland's Condensed Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), income taxes and liabilities and receivables associated with asbestos litigation and environmental remediation. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions.

Ashland's results are affected by domestic and international economic, political, legislative, regulatory and legal actions. Economic conditions, such as recessionary trends, inflation, interest and monetary exchange rates, government fiscal policies and changes in the prices of certain key raw materials, can have a significant effect on operations. While Ashland maintains reserves for anticipated liabilities and carries various levels of insurance, Ashland could be affected by civil, criminal, regulatory or administrative actions, claims or proceedings relating to asbestos, environmental remediation or other matters.

New accounting pronouncements

A description of new U.S. GAAP accounting standards issued or adopted during the current year is required in interim financial reporting. A detailed listing of new accounting standards relevant to Ashland is included in the Annual Report on Form 10-K for the fiscal year ended September 30, 2019. The following standards relevant to Ashland were either issued or adopted in the current fiscal year or will become effective in a subsequent period.

Leases

Effective October 1, 2019, Ashland adopted new accounting guidance related to lease transactions. The adoption of the new lease guidance resulted in the recognition of right-of-use assets and operating lease liabilities of \$174 million as of October 1, 2019. The adoption did not have a material impact on Ashland's results of operations, cash flows or debt covenants. Results for reporting periods beginning after October 1, 2019 are presented under the new accounting guidance for leases, while prior period amounts have not been adjusted and continue to be reported in accordance with our historical accounting treatment. Ashland elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed it to carry forward the historical lease classification.

Ashland determines if an arrangement contains a lease at inception. Ashland recognizes right-of-use assets and liabilities associated with leases based on the present value of the future minimum lease payments over the lease term at the later of the commencement date of the lease or the October 1, 2019 implementation date. Ashland uses its incremental borrowing rate at the recognition date in determining the present value of future payments for leases that do not have a readily determinable implicit rate. Lease terms reflect options to extend or terminate the lease when it is reasonably certain that the option will be exercised. For leases that include residual value guarantees or payments for terminating the lease, Ashland includes these costs in the lease liability when it is probable that they will be incurred. Right-of-use assets and obligations for short-term leases (leases with an initial term of 12 months or less) are not recognized in the Condensed Consolidated Balance Sheet. Lease expense for short-term leases is recognized on a straight-line basis over the lease term. When contracts contain lease and non-lease components, the Company generally accounted for both components as a single lease component.

For additional information, see Note I.

Other accounting pronouncements

In February 2018, the FASB issued guidance which permits entities to reclassify tax effects stranded in accumulated other comprehensive income (AOCI) as a result of U.S. tax reform legislation to retained earnings. Additionally, this guidance requires entities to disclose whether they made an election to reclassify the tax effects and to disclose their accounting policy for releasing income tax effects from AOCI. This guidance became effective for Ashland on October 1, 2019. Ashland did not elect to reclassify the disproportionate amount in AOCI to retained earnings. Ashland estimated the impact of this guidance to be approximately \$3 million. Ashland's accounting policy for releasing income tax effects from AOCI is under the individual units of account method for items sold, terminated or extinguished from AOCI.

In August 2017, the FASB issued accounting guidance amending the existing hedge accounting model to simplify various hedge documentation requirements while also expanding hedging abilities for certain nonfinancial and financial risk components. This guidance became effective for Ashland on October 1, 2019 and had no material impact on the Consolidated Financial Statements.

In June 2016, the FASB issued amended accounting guidance related to the measurement of credit losses on financial instruments. The amended accounting guidance changes the impairment model for most financial assets to require measurement and recognition of expected credit losses for financial assets held. This guidance will become effective for Ashland on October 1, 2020. Ashland is in the process of evaluating the effect this amended accounting guidance will have on its consolidated financial position and results of operations; however, Ashland does not expect the amended accounting guidance to have a material impact to Ashland's Consolidated Financial Statements.

NOTE B – DIVESTITURES

Composites and Marl facility

On August 30, 2019, Ashland completed the sale of its Composites business (excluding the Maleic business) and butanediol manufacturing facility in Marl, Germany to INEOS Enterprises for \$1.015 billion. The operating results and cash flows related to Composites and the Marl facility, including the Maleic business, have been reflected as discontinued operations in the Statements of Consolidated Comprehensive Income (Loss) and Statements of Condensed Consolidated Cash Flows. See Note C of the Notes to Condensed Consolidated Financial Statements for the results of operations for Composites and the Marl facility, including the Maleic business, for all periods presented.

Certain indirect corporate costs included within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income (Loss) that were previously allocated to the Composites segment and Marl facility do not qualify for classification within discontinued operations and are now reported as selling, general and administrative expense within continuing operations on a consolidated basis and within the Unallocated and other segment. These costs were zero and \$12 million during the three months ended March 31, 2020 and 2019, respectively, and zero and \$23 million during the six months ended March 31, 2020 and 2019, respectively.

Subsequent to the completion of the sale, Ashland is providing certain transition services to INEOS for a fee. While the transition services are expected to vary in duration depending upon the type of service provided, Ashland expects to reduce costs as the transition services are completed. Ashland recognized transition service fee income of \$3 million and \$6 million for the three and six months periods ended March 31, 2020, respectively.

Held for sale classification

The assets and liabilities of the Maleic business, along with certain other corporate property, have been reflected as assets and liabilities held for sale. As a result depreciation and amortization are not being recorded within the Statements of Consolidated Comprehensive Income (Loss) and the Condensed Consolidated Balance Sheets. These assets and liabilities are comprised of the following components:

(In millions)	March 31 2020	September 30 2019
Accounts receivable, net	\$ 9	\$ 5
Inventories	2	3
Net property, plant and equipment	34	34
Goodwill	14	14
Other assets	5	3
Current assets held for sale	<u>\$ 64</u>	<u>\$ 59</u>
Trade and other payables	\$ 4	\$ 6
Accrued expenses and other liabilities	1	1
Current liabilities held for sale	<u>\$ 5</u>	<u>\$ 7</u>

NOTE C – DISCONTINUED OPERATIONS

Ashland has divested certain businesses that have qualified as discontinued operations. The operating results from these divested businesses and subsequent adjustments related to ongoing assessments of certain

retained liabilities and tax items have been recorded within the discontinued operations caption in the Statements of Consolidated Comprehensive Income (Loss) for all periods presented.

Components of amounts reflected in the Statements of Consolidated Comprehensive Income (Loss) related to discontinued operations are presented in the following table for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Income (loss) from discontinued operations (net of tax)				
Composites/Marl facility	\$ 4	\$ 28	\$ 4	\$ 53
Valvoline	—	1	(1)	1
Asbestos	(7)	—	(7)	—
Water Technologies	—	2	(1)	1
Distribution	(2)	—	(2)	(1)
Gain (loss) on disposal of discontinued operations (net of taxes)				
Composites/Marl facility	(2)	—	(2)	—
	<u>\$ (7)</u>	<u>\$ 31</u>	<u>\$ (9)</u>	<u>\$ 54</u>

The following table presents a reconciliation of the captions within Ashland's Statements of Consolidated Comprehensive Income (Loss) for the income (loss) from discontinued operations attributable to Composites and the Marl facility for the three and six months ended March 31, 2020 and 2019. Interest expense was allocated to discontinued operations based on Ashland's mandatory debt prepayments upon the disposition of Composites and the Marl facility for applicable periods only. Although the Maleic business was not sold to INEOS, this business was operated under the Composites business and Marl facility disposal group and will continue to be reported in discontinued operations as it meets the held for sale criteria.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Income (loss) from discontinued operations attributable to Composites/Marl facility				
Sales	\$ 17	\$ 284	\$ 28	\$ 559
Cost of sales	(10)	(217)	(19)	(434)
Selling, general and administrative expense	(2)	(19)	(4)	(41)
Research and development expense	—	(3)	—	(6)
Equity and other income	—	—	2	3
Pretax operating income of discontinued operations	5	45	7	81
Net interest and other financing expense	—	(6)	—	(12)
Pretax income of discontinued operations	5	39	7	69
Income tax expense	(1)	(11)	(3)	(16)
Income from discontinued operations	<u>\$ 4</u>	<u>\$ 28</u>	<u>\$ 4</u>	<u>\$ 53</u>

NOTE D – RESTRUCTURING ACTIVITIES

Company-wide restructuring activities

Ashland periodically implements company-wide restructuring programs related to acquisitions, divestitures and other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure.

Fiscal 2018 program costs

Severance costs

During fiscal 2018, Ashland initiated a company-wide cost reduction program as a result of ongoing strategic asset plans and activities. As part of this restructuring program, Ashland announced a voluntary severance offer (VSO) to certain qualifying employees that was formally approved during 2018. Additionally, during fiscal 2018, an involuntary program for employees was also initiated as part of the restructuring program. These programs resulted in additional severance expense of zero for the three months ended March 31, 2020 and 2019, and zero and \$4 million for the six months ended March 31, 2020 and 2019, respectively, which was primarily recorded within the selling, general and administrative expense caption of the Statement of Consolidated Comprehensive Income (Loss). As of March 31, 2020, the severance reserve for the company-wide restructuring program was \$1 million.

Facility costs

Ashland incurred lease abandonment charges of zero and \$1 million during the three months ended March 31, 2020 and 2019, respectively, and zero and \$8 million for the six months ended March 31, 2020 and 2019, respectively. These charges were due to the exit from certain office facilities in conjunction with the company-wide cost reduction program. The costs related to this reserve were recorded within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income (Loss) and are paid over the remaining lease terms. As of March 31, 2020, the reserve for facility costs was \$6 million.

The following table details at March 31, 2020 and 2019, the amount of restructuring reserves related to the programs discussed above, and the related activity in these reserves during the six months ended March 31, 2020. The severance and facility cost reserves were primarily recorded within accrued expenses and other liabilities in the Condensed Consolidated Balance Sheet as of March 31, 2020 and March 31, 2019.

(In millions)	Severance costs	Facility costs	Total
Balance at of September 30, 2019	7	7	14
Restructuring reserve	—	—	—
Utilization (cash paid)	(6)	(1)	(7)
Balance at March 31, 2020	<u>\$ 1</u>	<u>\$ 6</u>	<u>7</u>

(In millions)	Severance costs	Facility costs	Total
Balance at of September 30, 2018	36	7	43
Restructuring reserve	4	8	12
Utilization (cash paid)	(18)	(5)	(23)
Balance at March 31, 2019	<u>\$ 22</u>	<u>\$ 10</u>	<u>32</u>

Other restructuring activities

Fiscal 2019 Plant restructuring

During the three and six months ended March 31, 2019, Specialty Additives committed to a cost reduction plan within an existing manufacturing facility. As a result, Ashland incurred restructuring charges of \$20 million and \$47 million for the three and six months ended March 31, 2019, respectively. These charges were recorded primarily within the cost of sales caption of the Statements of Consolidated Comprehensive Income (Loss) consisting of \$38 million of accelerated depreciation and amortization, \$5 million of severance and \$4 million of plant closure costs during the six months ended March 31, 2019. As of March 31, 2020, there was no restructuring reserve related to this plant restructuring.

Fiscal 2020 restructuring severance costs

During the three and six months ended March 31, 2020, Ashland incurred severance expense of \$14 million and \$17 million, respectively, attributable to executive management changes and business management changes within the organization. As of March 31, 2020, the severance reserve associated with this transition was \$16 million.

The following table details at March 31, 2020, the amount of restructuring severance reserves related to this program. The severance reserves were primarily recorded within accrued expenses and other liabilities in the Condensed Consolidated Balance Sheet as of March 31, 2020.

(In millions)	Severance costs
Balance at of September 30, 2019	—
Restructuring reserve	17
Utilization (cash paid)	(1)
Balance at March 31, 2020	\$ 16

NOTE E – FAIR VALUE MEASUREMENTS

As required by U.S. GAAP, Ashland uses applicable guidance for defining fair value, the initial recording and periodic remeasurement of certain assets and liabilities measured at fair value and related disclosures for instruments measured at fair value. Fair value accounting guidance establishes a fair value hierarchy, which prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). An instrument's categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the instrument's fair value measurement. The three levels within the fair value hierarchy are described as follows.

Level 1 – Observable inputs such as unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 – Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3 – Unobservable inputs for the asset or liability for which there is little, if any, market activity at the measurement date. Unobservable inputs reflect Ashland's own assumptions about what market participants would use to price the asset or liability. The inputs are developed based on the best information available in the circumstances, which might include Ashland's own financial data such as internally developed pricing models, discounted cash flow methodologies, as well as instruments for which the fair value determination requires significant management judgment.

For assets that are measured using quoted prices in active markets (Level 1), the total fair value is the published market price per unit multiplied by the number of units held without consideration of transaction costs. Assets and liabilities that are measured using significant other observable inputs (Level 2) are primarily valued by reference to quoted prices of similar assets or liabilities in active markets, adjusted for any terms specific to that asset or liability. For all other assets and liabilities for which unobservable inputs are used (Level 3), fair value is derived using fair value models, such as a discounted cash flow model or other standard pricing models that Ashland deems reasonable.

The following table summarizes financial instruments subject to recurring fair value measurements as of March 31, 2020.

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	\$ 353	\$ 353	\$ 353	\$ —	\$ —
Restricted investments (a)	301	301	301	—	—
Investment of captive insurance company (b)	7	7	7	—	—
Foreign currency derivatives	6	6	—	6	—
Total assets at fair value	<u>\$ 667</u>	<u>\$ 667</u>	<u>\$ 661</u>	<u>\$ 6</u>	<u>\$ —</u>
Liabilities					
Foreign currency derivatives	\$ 5	\$ 5	\$ —	\$ 5	\$ —

(a) Included in restricted investments is \$24 million classified in the other current assets caption on the Condensed Consolidated Balance Sheets.

(b) Included in other noncurrent assets in the Condensed Consolidated Balance Sheets.

The following table summarizes financial asset instruments subject to recurring fair value measurements as of September 30, 2019.

(In millions)	Carrying value	Total fair value	Quoted prices in active markets for identical assets Level 1	Significant other observable inputs Level 2	Significant unobservable inputs Level 3
Assets					
Cash and cash equivalents	\$ 232	\$ 232	\$ 232	\$ —	\$ —
Restricted investments (a)	334	334	334	—	—
Investment of captive insurance company (b)	5	5	5	—	—
Foreign currency derivatives	2	2	—	2	—
Total assets at fair value	<u>\$ 573</u>	<u>\$ 573</u>	<u>\$ 571</u>	<u>\$ 2</u>	<u>\$ —</u>
Liabilities					
Foreign currency derivatives	\$ 2	\$ 2	\$ —	\$ 2	\$ —

(a) Included in restricted investments is \$24 million classified in the other current assets caption on the Condensed Consolidated Balance Sheets.

(b) Included in other noncurrent assets in the Condensed Consolidated Balance Sheets.

Restricted investments

Investment income and realized gains and losses on these company-restricted investments are reported within the net interest and other expense caption on the Statements of Consolidated Comprehensive Income (Loss). The following table provides a summary of the activity within the investment portfolio as of March 31, 2020 and September 30, 2019:

(In millions)	March 31 2020	September 30 2019
Original cost	\$ 335	\$ 335
Accumulated adjustments, net (a)	(30)	(47)
Adjusted cost, beginning of year	305	288
Investment income (b)	7	10
Net unrealized gain (c)	6	29
Realized gains (c)	—	32
Settlement funds	2	7
Disbursements	(19)	(32)
Fair value	<u>\$ 301</u>	<u>\$ 334</u>

(a) The accumulated adjustments include investment income, realized gains, disbursements and settlements recorded in previous periods.

(b) Investment income for the demand deposit includes interest income as well as dividend income transferred from the equity and corporate bond mutual funds.

(c) Presented under the original cost method.

The following table presents gross unrealized gains and losses for the restricted investment securities as of March 31, 2020 and September 30, 2019:

(In millions)	Adjusted Cost	Gross Unrealized Gain	Gross Unrealized Loss	Fair Value
As of March 31, 2020				
Demand deposit	\$ 7	\$ —	\$ —	\$ 7
Equity mutual fund	116	11	(12)	115
Fixed income mutual fund	173	6	—	179
	<u>\$ 296</u>	<u>\$ 17</u>	<u>\$ (12)</u>	<u>\$ 301</u>
As of September 30, 2019				
Demand deposit	\$ 9	\$ —	\$ —	\$ 9
Equity mutual fund	120	24	(2)	142
Fixed income mutual fund	176	7	—	183
	<u>\$ 305</u>	<u>\$ 31</u>	<u>\$ (2)</u>	<u>\$ 334</u>

The following table presents the investment income, net gains and losses realized and disbursements related to the investments within the portfolio for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
Investment income	\$ 3	\$ 2	\$ 7	\$ 5
Net gains (losses) unrealized (a)	(32)	27	(23)	(3)
Disbursements	(9)	(12)	(19)	(20)

(a) Ashland determined that all unrealized gains and losses were related to equity securities with readily determinable fair values. Due to the new accounting guidance adopted in the first quarter of fiscal 2019, the net unrealized gains (losses) during the three months ended December 31, 2018 and forward were recorded within the net interest and other expense caption in the Statements of Consolidated Comprehensive Income (Loss).

Foreign currency derivatives

Ashland conducts business in a variety of foreign currencies. Accordingly, Ashland regularly uses foreign currency derivative instruments to manage exposure on certain transactions denominated in foreign currencies to curtail potential earnings volatility effects on certain assets and liabilities, including short-term inter-company loans, denominated in currencies other than Ashland's functional currency of an entity. These derivative contracts generally require exchange of one foreign currency for another at a fixed rate at a future date and generally have maturities of less than twelve months. All contracts are valued at fair value with net changes in fair value recorded within the selling, general and administrative expense caption. The impacts of these contracts were largely offset by gains and losses resulting from the impact of changes in exchange rates on transactions denominated in non-functional currencies. The following table summarizes the net gains and losses recognized during the three and six months ended March 31, 2020 and 2019 within the Statements of Consolidated Comprehensive Income (Loss).

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Foreign currency derivative gains (losses)	\$ 3	\$ 3	\$ 4	\$ 4

The following table summarizes the fair values of the outstanding foreign currency derivatives as of March 31, 2020 and September 30, 2019 included in accounts receivable and accrued expenses and other liabilities of the Condensed Consolidated Balance Sheets.

(In millions)	March 31		September 30	
	2020		2019	
Foreign currency derivative assets	\$ 6	\$ 2		
Notional contract values	169	271		
Foreign currency derivative liabilities	\$ 5	\$ 2		
Notional contract values	300	168		

Other financial instruments

At March 31, 2020 and September 30, 2019, Ashland's long-term debt (including the current portion and excluding debt issuance cost discounts) had a carrying value of \$1,550 million and \$1,513 million, respectively, compared to a fair value of \$1,567 million and \$1,680 million, respectively. The fair values of long-term debt are based on quoted market prices or, if market prices are not available, the present values of the underlying cash flows discounted at Ashland's incremental borrowing rates.

NOTE F – INVENTORIES

Inventories are carried at the lower of cost or net realizable value. Inventories are primarily stated at cost using the weighted-average cost method. In addition, certain inventories are valued at cost using the last-in, first-out (LIFO) method.

The following table summarizes Ashland's inventories as of the reported Condensed Consolidated Balance Sheet dates.

(In millions)	March 31, 2020		September 30, 2019	
Finished products	\$ 420	\$ 400		
Raw materials, supplies and work in process	191	197		
	<u>\$ 611</u>	<u>\$ 597</u>		

NOTE G – GOODWILL AND OTHER INTANGIBLES**Goodwill**

Ashland tests goodwill and other indefinite-lived intangible assets for impairment annually as of July 1 and when events and circumstances indicate an impairment may have occurred. Ashland tests goodwill and other indefinite-lived intangible assets for impairment by comparing the estimated fair value of the reporting units (for goodwill) and other indefinite-lived intangible assets to the related carrying value. If the carrying amount of a reporting unit or other indefinite-lived intangible asset exceeds its estimated fair value, Ashland records an impairment loss based on the difference between fair value and carrying amount, in the case of reporting units, not to exceed to the associated carrying amount of goodwill.

During the second quarter of fiscal 2020, Ashland realigned its operations into five reportable segments which resulted in a reassessment of the Company's reporting units used to evaluate goodwill impairment. The Company's reporting units align with its reportable segments. Ashland determined that its reporting units are Life Sciences, Personal Care & Household, Specialty Additives, Performance Adhesives, and Intermediates and Solvents. Prior to the business realignment, the reporting units consisted of Ashland Specialty Ingredients and Intermediates and Solvents. The Ashland Specialty Ingredients reporting unit contained all of Ashland's reported goodwill at September 30, 2019.

In conjunction with the realignment, Ashland tested goodwill for impairment for each reporting unit both immediately before and immediately after the business realignment. The fair values of the reporting units were determined using a combination of discounted cash flow models and valuations based on earnings multiples for guideline public companies in each reporting unit's industry peer group. Significant assumptions inherent in the valuation methodologies include estimates of future projected business results (principally revenue and EBITDA), long-term growth rates, and the weighted-average cost of capital.

The goodwill impairment test under the former reporting unit structure concluded that no impairment existed during the second quarter of fiscal 2020. Ashland then allocated goodwill to the new reporting unit structure using a relative fair value approach and re-assessed goodwill for impairment for each of its new reporting units. The impairment test under the new reporting unit structure concluded that the carrying value of the Personal Care & Household and the Specialty Additives reporting units exceeded their fair value, resulting in a non-cash goodwill impairment charge of \$530 million, which was recorded within the Goodwill impairment caption within the Statement of Consolidated Comprehensive Income (Loss) for the three and six months ended March 31, 2020. The Personal Care & Household goodwill impairment charge was due in large part to lower growth and lower margins since the acquisition of the Oral Care and Avoca businesses, which collectively have resulted in reduced cash flow projections. The Specialty Additives goodwill impairment charge was also due in large part to lower growth and lower margins within the global construction and energy markets, which collectively have resulted in reduced cash flow projections.

The following is a progression of goodwill by reportable segment for the six months ended March 31, 2020.

(In millions)	Life Sciences	Personal Care & Household	Specialty Additives	Performance Adhesives	Intermediates and Solvents ^(a)	Total
Balance at September 30, 2019	\$ 836	\$ 355	\$ 609	\$ 453	\$ —	\$ 2,253
Impairment	—	(356)	(174)	—	—	(530)
Currency translation	(1)	1	—	—	—	—
Balance at March 31, 2020	\$ 835	\$ —	\$ 435	\$ 453	\$ —	\$ 1,723

(a) As of March 31, 2020 and September 30, 2019, there was accumulated impairment of \$90 million related to the Intermediates and Solvents reportable segment.

Other intangible assets

Intangible assets principally consist of trademarks and trade names, intellectual property and customer and supplier relationships. Intangible assets classified as finite are amortized on a straight-line basis over their estimated useful lives. The cost of trademarks and trade names is amortized principally over 3 to 25 years, intellectual property over 5 to 25 years, and customer and supplier relationships over 3 to 24 years.

Ashland annually reviews, as of July 1, indefinite-lived intangible assets for possible impairment or whenever events or changes in circumstances indicate that carrying amounts may not be recoverable.

Ashland tested its indefinite-lived intangible assets for impairment during the second quarter of fiscal 2020 as a result of the business realignment. Trademarks and trade names are valued using a “relief-from-royalty” valuation method compared to the carrying value. No impairment was indicated for trademarks and trade names.

Intangible assets were comprised of the following as of March 31, 2020 and September 30, 2019.

(In millions)	March 31, 2020		
	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangibles			
Trademarks and trade names	\$ 66	\$ (30)	\$ 36
Intellectual property	710	(413)	297
Customer and supplier relationships	742	(309)	433
Total definite-lived intangibles	1,518	(752)	766
Indefinite-lived intangibles			
Trademarks and trade names	278	—	278
Total intangible assets	\$ 1,796	\$ (752)	\$ 1,044
(In millions)	September 30, 2019		
	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangibles			
Trademarks and trade names	\$ 66	\$ (29)	\$ 37
Intellectual property	712	(391)	321
Customer and supplier relationships	744	(292)	452
Total definite-lived intangibles	1,522	(712)	810
Indefinite-lived intangibles			
Trademarks and trade names	278	—	278
Total intangible assets	\$ 1,800	\$ (712)	\$ 1,088

Amortization expense recognized on intangible assets was \$21 million for both the three months ended March 31, 2020 and 2019 and \$42 million and \$43 million for the six months ended March 31, 2020 and 2019, respectively, and is included in the Intangibles Amortization Expense caption of the Statements of Consolidated Comprehensive Income (Loss). Estimated amortization expense for future periods is \$85 million in 2020 (includes six months actual and six months estimated), \$85 million in 2021, \$84 million in 2022, \$84 million in 2023 and \$70 million in 2024. The amortization expense for future periods is an estimate. Actual amounts may change from such estimated amounts due to fluctuations in foreign currency exchange rates, additional intangible asset acquisitions and divestitures, potential impairment, accelerated amortization, or other events.

NOTE H – DEBT

The following table summarizes Ashland's current and long-term debt as of the dates reported in the Condensed Consolidated Balance Sheets.

(In millions)	March 31, 2020	September 30, 2019
4.750% notes, due 2022	\$ 410	\$ 1,080
2.00% Senior Notes, due 2028 (Euro 500 million principal)	551	—
6.875% notes, due 2043	282	374
Term loan A, due 2025	250	—
Accounts receivable securitizations	209	144
6.50% junior subordinated notes, due 2029	54	54
Revolving credit facility	240	—
Other (a)	10	15
Total debt	2,006	1,667
Short-term debt (includes current portion of long-term debt)	(471)	(166)
Long-term debt (less current portion)	\$ 1,535	\$ 1,501

(a) Includes \$15 million and \$12 million of debt issuance cost discounts as of March 31, 2020 and September 30, 2019, respectively. Additionally, as of both March 31, 2020 and September 30, 2019, Other included a European short-term loan facility with an outstanding balance of \$22 million.

The scheduled aggregate maturities of long-term debt by year (including the current portion and excluding debt issuance costs) are as follows as of March 31, 2020: zero remaining in 2020, zero in 2021, \$421 million in 2022, \$22 million in 2023 and \$44 million in 2024.

Ashland Financing Activities

Credit Agreements and Refinancing

During January 2020, Ashland LLC and Ashland Services B.V., indirect wholly owned subsidiaries of Ashland, entered into a new senior unsecured credit agreement (the 2020 Credit Agreement) with a group of lenders, replacing the 2017 Credit Agreement. The 2020 Credit Agreement provides for (i) a \$600 million unsecured five-year revolving credit facility (the revolving credit facility) and (ii) a \$250 million unsecured five-year term loan facility (the term loan facility). The 2020 Credit Agreement is guaranteed by Ashland Global Holdings Inc. and Ashland Chemco Inc., and the obligations of Ashland Services B.V. under the revolving credit facility are guaranteed by Ashland LLC.

The 2020 Credit Agreement contains financial covenants for leverage and interest coverage ratios akin to those in effect under the 2017 Credit Agreement. The 2020 Credit Agreement contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional indebtedness, further negative pledges, investments, mergers, sale of assets and restricted payments, and other customary limitations.

Ashland incurred \$4 million of new debt issuance costs in connection with the 2020 Credit Agreement, of which \$1 million was expensed immediately during the three and six months ended March 31, 2020 within the net interest and other expense caption of the Statements of Consolidated Comprehensive Income (Loss). The remaining balance is amortized using either the effective interest method or straight-line method. Additionally, as a result of the termination of the 2017 Credit Agreement, Ashland recognized a \$1 million charge for the accelerated amortization of previously capitalized debt issuance costs during the three and six months ended March 31, 2020, which is included in the net interest and other expense caption of the Statements of Consolidated Comprehensive Income (Loss).

Note Issuance and existing notes tender

During January 2020, a subsidiary of Ashland, Ashland Services B.V., completed the issuance of 2.00% senior unsecured notes due 2028 with an aggregate principal amount of €500 million (the 2028 Notes). The notes are senior unsecured obligations of Ashland Services B.V and initially guaranteed on an unsecured basis by each of Ashland Global Holdings Inc. and Ashland LLC. Ashland used the net proceeds of the offering (after deducting initial purchasers' discounts and other fees and expenses), together with the proceeds of the new term loan facility and other funds of Ashland LLC or its subsidiaries, to repurchase the existing notes described below in cash tender offers, and to pay fees and expenses associated therewith.

Ashland incurred \$8 million of new debt issuance costs in connection with the 2028 Notes, which is amortized using the effective interest method over the Notes' term.

Open market repurchases of 4.750% notes due 2022

During the three and six months ended March 31, 2020, Ashland executed open market repurchases of its 4.750% notes due 2022 (the 2022 Notes). As a result of these repurchases, the carrying values of the 2022 notes was reduced by \$670 million. Ashland recognized a \$5 million charge related to accelerated accretion on debt discounts and accelerated amortization of previously capitalized debt issuance costs, which is included in the net interest and other expense caption of the Statements of Consolidated Comprehensive Income (Loss) for the three and six months ended March 31, 2020.

Open market repurchases of 6.875% notes due 2043

During the three and six months ended March 31, 2020, Ashland executed open market repurchases of its 6.875% notes due 2043 (the 2043 Notes). As a result of these repurchases, the carrying values of the 2043 notes was reduced by \$92 million. Ashland recognized a \$1 million charge related to accelerated accretion on debt premiums and accelerated amortization previously capitalized debt issuance costs, which is included in the net interest and other expense caption of the Statements of Consolidated Comprehensive Income (Loss) for the three and six months ended March 31, 2020.

Open market repurchases of 6.500% Junior Subordinated Debentures due 2029

During the three and six months ended March 31, 2020, Ashland executed open market repurchases of Hercules LLC's 6.500% notes due 2029 (the 2029 Junior Debentures). As a result of these repurchases, the carrying values of the 2029 notes was reduced by \$2 million.

Total premiums paid for all open market purchases noted above were \$59 million, which is included in the net interest and other expenses caption of the Statements of Consolidated Comprehensive Income (Loss) for the three and six months ended March 31, 2020.

Available borrowing capacity

The borrowing capacity remaining under the 2020 \$600 million Revolving Credit Facility was \$338 million due to an outstanding balance of \$240 million, as well as a reduction of \$22 million for letters of credit outstanding as of March 31, 2020. Ashland's total borrowing capacity at March 31, 2020 was \$339 million, which included \$1 million of available capacity from the two accounts receivable securitization facilities.

Covenants related to current Ashland debt agreements

Ashland's debt contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional subsidiary indebtedness, restrictions on subsidiary distributions, investments, mergers, sale of assets and restricted payments and other customary limitations. As of March 31, 2020, Ashland is in compliance with all debt agreement covenant restrictions.

The maximum consolidated net leverage ratio permitted under Ashland's most recent credit agreement (the 2020 Credit Agreement) is 4.0. At March 31, 2020, Ashland's calculation of the consolidated net leverage ratio was 3.1.

The minimum required consolidated interest coverage ratio under the 2020 Credit Agreement during its entire duration is 3.0. At March 31, 2020, Ashland's calculation of the interest coverage ratio was 7.7.

NOTE I – LEASING ARRANGEMENTS

Ashland determines if an arrangement is or contains a lease at contract inception and determine its classification as an operating or finance lease at lease commencement. Ashland leases certain office buildings, transportation equipment, warehouses and storage facilities, and equipment. All of Ashland's leases are operating leases. Real estate leases represent approximately 87% of the total lease liability. Operating lease assets and obligations are reflected within operating lease assets, net; current operating lease obligations; and non-current operating lease obligations captions on the Condensed Consolidated Balance Sheets.

Lease expense for these leases is recognized on a straight-line basis over the lease term, with variable lease payments recognized in the period those payments are incurred. The components of lease cost recognized within our Statements of Consolidated Comprehensive Income (Loss) were as follows:

(In millions)	Location	Three months ended March 31, 2020	Six months ended March 31, 2020
Lease cost:			
Operating lease cost	Selling, General & Administrative	\$ 3	\$ 8
Operating lease cost	Cost of Sales	3	6
Variable lease cost	Selling, General & Administrative	2	2
Variable lease cost	Cost of Sales	2	4
Short-term leases	Cost of Sales	2	3
Total lease cost		\$ 12	\$ 23

The following table summarizes Ashland's lease assets and liabilities as presented in the March 31, 2020 Condensed Consolidated Balance Sheet:

(In millions)	March 31, 2020
Assets	
Operating lease assets, net	\$ 144
Total lease assets	144
Liabilities	
Current operating lease obligations	\$ 23
Non-current operating lease obligations	131
Total lease liabilities	\$ 154

Ashland often has options to renew lease terms for buildings and other assets. The exercise of lease renewal options are generally at Ashland's sole discretion. In addition, certain lease arrangements may be terminated prior to their original expiration date at Ashland's discretion. Ashland evaluates renewal and termination options at the lease commencement date to determine if it is reasonably certain to exercise the option on the basis of economic factors. The weighted average remaining lease term for operating leases as of March 31, 2020 was 15 years.

Residual value guarantees are not common within Ashland's lease agreements nor are restrictions or covenants imposed by leases. Ashland has elected the practical expedient to combine lease and non-lease components. The discount rate implicit within the leases is generally not determinable. Therefore, Ashland determines the discount rate based on its incremental borrowing rate. The incremental borrowing rate is determined using a buildup method resulting in an estimated range of secured borrowing rates matching the lease term and the currency of the jurisdiction in which lease payments are made, adjusted for impacts of collateral. Consideration was given to Ashland's own relevant debt issuances as well as debt instruments of comparable companies with similar credit characteristics. The weighted average discount rate used to measure operating lease liabilities as of March 31, 2020 was 3.2%. There are no leases that have not yet commenced but that create significant rights and obligations for Ashland.

Right-of-use assets exchanged for new operating lease obligations were \$1 million and \$2 million for the three and six months ended March 31, 2020.

Cash paid for amounts included in the measurement of operating lease liabilities:

(In millions)	Three months ended March 31, 2020	Six months ended March 31, 2020
Operating cash flows from operating leases	\$ 5	\$ 14

Maturity Analysis of Lease Liabilities

Maturities of lease liabilities are shown below as of March 31, 2020:

(In millions)	As of March 31, 2020
Remainder of 2020	\$ 13
2021	26
2022	34
2023	16
2024	13
Thereafter	\$ 100
Total lease payments	202
Less amount of lease payment representing interest	(48)
Total present value of lease payments	<u>\$ 154</u>

As of September 30, 2019, under the previous guidance, the future minimum rental payments are as follows:

(In millions)	As of September 30, 2019
2020	\$ 29
2021	27
2022	34
2023	15
2024	13
Thereafter	110
Total lease payments	<u>\$ 228</u>

NOTE J – INCOME TAXES

Current fiscal year

Ashland's effective tax rate in any interim period is subject to adjustments related to discrete items and the mix of domestic and foreign operating results. The overall effective tax rate was a benefit of 2% for the three months ended March 31, 2020 and 6% for the six months ended March 31, 2020.

The current quarter rate was impacted by nondeductible goodwill impairment of \$527 million of the \$530 million charge taken during the quarter. The current six months tax rate was impacted by the nondeductible goodwill impairment and favorable tax discrete item from the tax benefit related to the Swiss Tax Reform.

Prior fiscal year

The overall effective tax rate was 2% for the three months ended March 31, 2019 and a negative 2500% for the six months ended March 31, 2019. The quarter tax rate was primarily impacted by certain nondeductible restructuring costs, as well as \$11 million in favorable tax discrete items including nontaxable earnings in deferred compensation related investments and other items. The six month period was primarily impacted by the items referenced in the three-month period, as well as a net \$30 million from unfavorable tax discrete items including the final assessment of the Tax Act and other items.

Unrecognized tax benefits

Changes in unrecognized tax benefits are summarized as follows for the six months ended March 31, 2020.

(In millions)	
Balance at October 1, 2019	\$ 165
Increases related to positions taken on items from prior years	2
Decreases related to positions taken on items from prior years	(1)
Increases related to positions taken in the current year	3
Lapse of statute of limitations	(2)
Balance at March 31, 2020	<u>\$ 167</u>

From a combination of statute expirations and audit settlements in the next twelve months, Ashland expects a decrease in the amount accrued for uncertain tax positions of between \$1 million and \$3 million for continuing operations. It is reasonably possible that there could be other material changes to the amount of uncertain tax positions due to activities of the taxing authorities, settlement of audit issues or the reassessment of existing uncertain tax positions; however, Ashland is not able to estimate the impact of these items at this time.

NOTE K - EMPLOYEE BENEFIT PLANS

Plan contributions

For the six months ended March 31, 2020, Ashland contributed \$3 million to its non-U.S. pension plans and zero to its U.S. pension plans. Ashland expects to make additional contributions of approximately \$2 million to its non-U.S. plans and \$1 million to its U.S. plans during the remainder of 2020.

Plan remeasurement

Ashland settled a non-U.S. pension plan during the first quarter of fiscal 2019, which required the plan to be remeasured. This remeasurement resulted in a curtailment gain of \$18 million.

Components of net periodic benefit costs (income)

The following table details the components of pension and other postretirement benefit costs for continuing operations.

(In millions)	Pension benefits		Other postretirement benefits	
	2020	2019	2020	2019
Three months ended March 31				
Service cost	\$ 1	\$ 1	\$ —	\$ —
Interest cost	2	2	—	1
Expected return on plan assets	(2)	(2)	—	—
Curtailment	—	—	—	—
Total net periodic benefit costs	<u>\$ 1</u>	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ 1</u>
Six months ended March 31				
Service cost	\$ 2	\$ 3	\$ —	\$ —
Interest cost	3	5	1	1
Expected return on plan assets	(4)	(5)	—	—
Curtailment	—	(18)	—	—
Total net periodic benefit costs (income)	<u>\$ 1</u>	<u>\$ (15)</u>	<u>\$ 1</u>	<u>\$ 1</u>

For segment reporting purposes, service cost is proportionately allocated to each segment, excluding the Unallocated and other segment, and is recorded within the selling, general and administrative expense and cost of sales captions on the Statements of Consolidated Comprehensive Loss (Income). All other components are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Loss (Income).

NOTE L – LITIGATION, CLAIMS AND CONTINGENCIES

Asbestos litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley) and the acquisition of Hercules in November 2008. Although Riley, a former subsidiary, was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies. Hercules, an indirect wholly-owned subsidiary of Ashland, has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products sold by one of Hercules' former subsidiaries to a limited industrial market.

To assist in developing and annually updating independent reserve estimates for future asbestos claims and related costs given various assumptions for Ashland and Hercules asbestos claims, Ashland retained Nathan Associates Inc. (Nathan). The methodology used by Nathan to project future asbestos costs is based largely on recent experience, including claim-filing and settlement rates, disease mix, enacted legislation, open claims and litigation defense. The claim experience of Ashland and Hercules are separately compared to the results of previously conducted third party epidemiological studies estimating the number of people likely to develop asbestos-related diseases. Those studies were undertaken in connection with national analyses of the population expected to have been exposed to asbestos. Using that information, Nathan estimates a range of the number of future claims that may be filed, as well as the related costs that may be incurred in resolving those claims. Changes in asbestos-related liabilities and receivables are recorded on an after-tax basis within the discontinued operations caption in the Statements of Consolidated Comprehensive Income (Loss).

Ashland asbestos-related litigation

The claims alleging personal injury caused by exposure to asbestos asserted against Ashland result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley. The amount and timing of settlements and number of open claims can fluctuate from period to period. A summary of Ashland asbestos claims activity, excluding Hercules claims, follows.

(In thousands)	Six months ended		Years ended September 30		
	March 31		2019	2018	2017
Open claims - beginning of year	53	53	53	54	57
New claims filed	1	1	2	2	2
Claims settled	—	—	(1)	(1)	(1)
Claims dismissed	(4)	(1)	(1)	(2)	(4)
Open claims - end of period	<u>50</u>	<u>53</u>	<u>53</u>	<u>53</u>	<u>54</u>

Ashland asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of Nathan.

During the most recent annual update of this estimate completed during the June 2019 quarter, it was determined that the liability for Ashland asbestos-related claims should be increased by \$1 million. Total reserves for asbestos claims were \$337 million at March 31, 2020 compared to \$352 million at September 30, 2019.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	Six months ended		Years ended September 30		
	March 31		2019	2018	2017
	2020	2019	2019	2018	2017
Asbestos reserve - beginning of year	\$ 352	\$ 380	\$ 380	\$ 419	\$ 415
Reserve adjustment	—	—	1	(8)	36
Amounts paid	(15)	(14)	(29)	(31)	(32)
Asbestos reserve - end of period (a)	<u>\$ 337</u>	<u>\$ 366</u>	<u>\$ 352</u>	<u>\$ 380</u>	<u>\$ 419</u>

(a) Included \$28 million classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets as of both March 31, 2020 and September 30, 2019.

Ashland asbestos-related receivables

Ashland has insurance coverage for certain litigation defense and claim settlement costs incurred in connection with its asbestos claims, and coverage-in-place agreements exist with the insurance companies that provide substantially all of the coverage that will be accessed.

For the Ashland asbestos-related obligations, Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. A substantial portion of the estimated receivables from insurance companies are expected to be due from domestic insurers.

At March 31, 2020, Ashland's receivable for recoveries of litigation defense and claim settlement costs from insurers amounted to \$109 million (excluding the Hercules receivable for asbestos claims) compared to \$123 million at September 30, 2019. During the June 2019 quarter, the annual update of the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was completed. This model update resulted in a \$5 million decrease in the receivable for probable insurance recoveries.

A progression of activity in the Ashland insurance receivable is presented in the following table.

(In millions)	Six months ended		Years ended September 30		
	March 31		2019	2018	2017
	2020	2019	2019	2018	2017
Insurance receivable - beginning of year	\$ 123	\$ 140	\$ 140	\$ 155	\$ 151
Receivable adjustment	—	—	(5)	(5)	15
Insurance settlement	(10)	—	—	—	(5)
Amounts collected	(4)	(4)	(12)	(10)	(6)
Insurance receivable - end of period (a)	<u>\$ 109</u>	<u>\$ 136</u>	<u>\$ 123</u>	<u>\$ 140</u>	<u>\$ 155</u>

(a) Included \$13 million and \$15 million classified in accounts receivable on the Condensed Consolidated Balance Sheets as of March 31, 2020 and September 30, 2019, respectively.

Hercules asbestos-related litigation

Hercules has liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market. The amount and timing of settlements and number of open claims can fluctuate from period to period. A summary of Hercules' asbestos claims activity follows.

(In thousands)	Six months ended		Years ended September 30		
	March 31		2019	2018	2017
	2020	2019			
Open claims - beginning of year	13	13	13	12	15
New claims filed	—	—	1	2	1
Claims dismissed	—	(1)	(1)	(1)	(4)
Open claims - end of period	<u>13</u>	<u>12</u>	<u>13</u>	<u>13</u>	<u>12</u>

Hercules asbestos-related liability

From the range of estimates, Ashland records the amount it believes to be the best estimate of future payments for litigation defense and claim settlement costs, which generally approximates the mid-point of the estimated range of exposure from model results. Ashland reviews this estimate, and related assumptions quarterly and annually updates the results of a non-inflated, non-discounted approximate 50-year model developed with the assistance of Nathan. As a result of the most recent annual update of this estimate, completed during the June 2019 quarter, it was determined that the liability for Hercules asbestos-related claims should be decreased by \$10 million. Total reserves for asbestos claims were \$242 million at March 31, 2020 compared to \$252 million at September 30, 2019.

A progression of activity in the asbestos reserve is presented in the following table.

(In millions)	Six months ended		Years ended September 30		
	March 31		2019	2018	2017
	2020	2019			
Asbestos reserve - beginning of year	\$ 252	\$ 282	\$ 282	\$ 323	\$ 321
Reserve adjustments	—	—	(10)	(19)	16
Amounts paid	(10)	(10)	(20)	(22)	(14)
Asbestos reserve - end of period (a)	<u>\$ 242</u>	<u>\$ 272</u>	<u>\$ 252</u>	<u>\$ 282</u>	<u>\$ 323</u>

(a) Included \$21 million classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets as of both March 31, 2020 and September 30, 2019.

Hercules asbestos-related receivables

For the Hercules asbestos-related obligations, certain reimbursement obligations pursuant to coverage-in-place agreements with insurance carriers exist. Ashland has estimated the value of probable insurance recoveries associated with its asbestos reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage, including an assumption that all solvent insurance carriers remain solvent. The estimated receivable consists exclusively of solvent domestic insurers.

As of March 31, 2020, Ashland's receivable for recoveries of litigation defense and claims costs from insurers with respect to Hercules amounted to \$49 million. During the June 2019 quarter, the annual update of the model used for purposes of valuing the asbestos reserve and its impact on valuation of future recoveries from insurers was completed. This model update resulted in a decrease of \$5 million in the receivable for probable insurance recoveries.

A progression of activity in the Hercules insurance receivable is presented in the following table.

(In millions)	Six months ended		Years ended September 30		
	March 31				
	2020	2019	2019	2018	2017
Insurance receivable - beginning of year	\$ 49	\$ 54	\$ 54	\$ 68	\$ 63
Receivable adjustment	—	—	(5)	(14)	5
Insurance receivable - end of period	<u>\$ 49</u>	<u>\$ 54</u>	<u>\$ 49</u>	<u>\$ 54</u>	<u>\$ 68</u>

Asbestos litigation cost projection

Projecting future asbestos costs is subject to numerous variables that are extremely difficult to predict. In addition to the significant uncertainties surrounding the number of claims that might be received, other variables include the type and severity of the disease alleged by each claimant, the long latency period associated with asbestos exposure, mortality rates, dismissal rates, costs of medical treatment, the impact of bankruptcies of other companies that are co-defendants in claims, uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, and the impact of potential changes in legislative or judicial standards. Furthermore, any predictions with respect to these variables are subject to even greater uncertainty as the projection period lengthens. Considering these inherent uncertainties, Ashland believes that the asbestos reserves for Ashland and Hercules represent the best estimate within a range of possible outcomes. As a part of the process to develop these estimates of future asbestos costs, a range of long-term cost models was developed. These models are based on national studies that predict the number of people likely to develop asbestos-related diseases and are heavily influenced by assumptions regarding long-term inflation rates for indemnity payments and legal defense costs, as well as other variables mentioned previously. Ashland has currently estimated in various models ranging from approximately 40 to 50 year periods that it is reasonably possible that total future litigation defense and claim settlement costs on an inflated and undiscounted basis could range as high as approximately \$600 million for the Ashland asbestos-related litigation (current reserve of \$337 million) and approximately \$450 million for the Hercules asbestos-related litigation (current reserve of \$242 million), depending on the combination of assumptions selected in the various models. If actual experience is worse than projected, relative to the number of claims filed, the severity of alleged disease associated with those claims or costs incurred to resolve those claims, or actuarial refinement or improvements to the assumptions used within these models are initiated, Ashland may need to further increase the estimates of the costs associated with asbestos claims and these increases could be material over time.

Environmental remediation and asset retirement obligations

Ashland is subject to various federal, state and local environmental laws and regulations that require environmental assessment or remediation efforts (collectively, environmental remediation) at multiple locations. At March 31, 2020, such locations included 79 waste treatment or disposal sites where Ashland has been identified as a potentially responsible party under Superfund or similar state laws, 113 current and former operating facilities (including certain operating facilities conveyed as part of the MAP Transaction) and about 1,225 service station properties, of which 28 are being actively remediated.

Ashland's reserves for environmental remediation and related environmental litigation amounted to \$178 million at March 31, 2020 compared to \$186 million at September 30, 2019, of which \$135 million at March 31, 2020 and \$143 million at September 30, 2019 were classified in other noncurrent liabilities on the Condensed Consolidated Balance Sheets. The remaining reserves were classified in accrued expenses and other liabilities on the Condensed Consolidated Balance Sheets.

The following table provides a reconciliation of the changes in the environmental remediation reserves during the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended	
	March 31	
	2020	2019
Reserve - beginning of period	\$ 186	\$ 187
Disbursements	(19)	(15)
Revised obligation estimates and accretion	11	7
Reserve - end of period	<u>\$ 178</u>	<u>\$ 179</u>

The total reserves for environmental remediation reflect Ashland's estimates of the most likely costs that will be incurred over an extended period to remediate identified conditions for which the costs are reasonably estimable, without regard to any third-party recoveries. Engineering studies, probability techniques, historical experience and other factors are used to identify and evaluate remediation alternatives and their related costs in determining the estimated reserves for environmental remediation. Ashland continues to discount certain environmental sites and regularly adjusts its reserves as environmental remediation continues. Ashland has estimated the value of its probable insurance recoveries associated with its environmental reserve based on management's interpretations and estimates surrounding the available or applicable insurance coverage. At March 31, 2020 and September 30, 2019, Ashland's recorded receivable for these probable insurance recoveries was \$14 million and \$13 million, of which \$12 million at both March 31, 2020 and September 30, 2019 was classified in other noncurrent assets on the Condensed Consolidated Balance Sheets.

Components of environmental remediation expense included within the selling, general and administrative expense caption of the Statements of Consolidated Comprehensive Income (Loss) are presented in the following table for the three months ended March 31, 2020 and 2019.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Environmental expense	\$ 8	\$ 3	\$ 10	\$ 6
Accretion	1	1	1	1
Legal expense	1	2	3	3
Total expense	10	6	14	10
Insurance receivable	(3)	—	(3)	(1)
Total expense, net of receivable activity (a)	\$ 7	\$ 6	\$ 11	\$ 9

(a) Net expense of \$2 million for the three and six months ended March 31, 2020, and \$1 million and \$2 million the three and six months ended March 31, 2019, respectively, relates to divested businesses which qualified for treatment as discontinued operations for which certain environmental liabilities were retained by Ashland. These amounts are classified within the income from discontinued operations caption of the Statements of Consolidated Comprehensive Income (loss).

Environmental remediation reserves are subject to numerous inherent uncertainties that affect Ashland's ability to estimate its share of the costs. Such uncertainties involve the nature and extent of contamination at each site, the extent of required cleanup efforts under existing environmental regulations, widely varying costs of alternate cleanup methods, changes in environmental regulations, the potential effect of continuing improvements in remediation technology, and the number and financial strength of other potentially responsible parties at multiparty sites. Although it is not possible to predict with certainty the ultimate costs of environmental remediation, Ashland currently estimates that the upper end of the reasonably possible range of future costs for identified sites could be as high as approximately \$425 million. The largest reserve for any site is 15% of the remediation reserve.

Other legal proceedings and claims

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability, and other environmental matters, which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of March 31, 2020 and September 30, 2019. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of March 31, 2020.

NOTE M – EARNINGS PER SHARE

The following is the computation of basic and diluted earnings per share (EPS) from continuing operations attributable to Ashland. Stock appreciation rights (SARs), stock options and warrants available to purchase shares outstanding for each reporting period whose grant price was greater than the average market price of Ashland Common Stock for each applicable period were not included in the computation of income from continuing operations per diluted share because the effect of these instruments would be antidilutive. The total number of these shares outstanding was approximately 2 million and 1 million at March 31, 2020 and 2019, respectively. Earnings per share is reported under the treasury stock method.

(In millions, except per share data)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Numerator				
Numerator for basic and diluted EPS -				
Income (loss) from continuing operations	\$ (575)	\$ 45	\$ (541)	\$ (26)
Denominator				
Denominator for basic EPS - Weighted-average common shares outstanding				
	61	63	61	63
Share based awards convertible to common shares (a)	—	1	—	—
Denominator for diluted EPS - Adjusted weighted-average shares and assumed conversions				
	61	64	61	63
EPS from continuing operations				
Basic	\$ (9.48)	\$ 0.72	\$ (8.93)	\$ (0.41)
Diluted	(9.48)	0.71	(8.93)	(0.41)

(a) As a result of the loss from continuing operations attributable to Ashland during the three and six months ended March 31, 2020, respectively and the six months ended March 31, 2019, the effect of the share-based awards convertible to common shares would be antidilutive and have been excluded from the diluted EPS calculation.

NOTE N – EQUITY ITEMS

Stockholder dividends

Dividends of 27.5 cents per share were paid in the first and second quarters of fiscal 2020, and the third and fourth quarters of fiscal 2019. These dividends represented a 10% increase over the previous quarterly cash dividend of 25 cents per share paid in the first and second quarters of fiscal 2019.

Accumulated other comprehensive income (loss)

Components of other comprehensive income (loss) recorded in the Statements of Consolidated Comprehensive Income (Loss) are presented below, before tax and net of tax effects.

(In millions)	2020			2019		
	Before tax	Tax (expense) benefit	Net of tax	Before tax	Tax (expense) benefit	Net of tax
Three months ended March 31						
Other comprehensive income (loss)						
Unrealized translation gain (loss)	\$ (52)	\$ —	\$ (52)	\$ (9)	\$ —	\$ (9)
Pension and postretirement obligation adjustment:						
Adjustment of unrecognized prior service costs	—	—	—	—	—	—
Total other comprehensive income (loss)	<u>\$ (52)</u>	<u>\$ —</u>	<u>\$ (52)</u>	<u>\$ (9)</u>	<u>\$ —</u>	<u>\$ (9)</u>
Six months ended March 31						
Other comprehensive income (loss)						
Unrealized translation gain (loss)	\$ (14)	\$ —	\$ (14)	\$ (40)	\$ —	\$ (40)
Pension and postretirement obligation adjustment:						
Adjustment of unrecognized prior service costs	—	—	—	(7)	1	(6)
Total other comprehensive income (loss)	<u>(14)</u>	<u>—</u>	<u>(14)</u>	<u>(47)</u>	<u>1</u>	<u>(46)</u>

Summary of stockholders' equity

A reconciliation of changes in stockholders' equity are as follows:

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Common stock and paid in capital				
Balance, beginning of period	\$ 758	\$ 948	\$ 757	\$ 947
Common shares issued under stock incentive and other plans (a)	8	5	9	6
Balance, end of period	766	953	766	953
Retained earnings				
Balance, beginning of period	3,239	2,719	3,224	2,750
Adoption of new accounting pronouncements (b)	—	1	—	34
Net income (loss)	(582)	76	(550)	28
Regular dividends	(16)	(16)	(33)	(32)
Balance, end of period	2,641	2,780	2,641	2,780
Accumulated other comprehensive income (loss)				
Balance, beginning of period	(372)	(362)	(410)	(291)
Adoption of new accounting pronouncements (b)	—	—	—	(34)
Unrealized translation gain (loss)	(52)	(9)	(14)	(40)
Pension and postretirement obligation adjustment	—	—	—	(6)
Net change in investment securities	—	—	—	—
Balance, end of period	(424)	(371)	(424)	(371)
Total stockholders' equity	\$ 2,983	\$ 3,362	\$ 2,983	\$ 3,362
Cash dividends declared per common share	0.275	0.250	\$ 0.550	\$ 0.500

(a) Common shares issued were 208,564 shares and 93,738 shares for the three months ended March 31, 2020 and 2019, respectively, and 279,025 shares and 234,352 shares for the six months ended March 31, 2020 and 2019.

(b) Represents the cumulative-effect adjustment related to the adoption of the new guidance related to the accounting for equity securities and tax effects of intercompany transfers during fiscal 2019.

NOTE O – STOCK INCENTIVE PLANS

The components of Ashland's pre-tax stock-based compensation expense included in continuing operations are as follows:

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020 (a)	2019 (b)	2020 (a)	2019 (b)
SARs	\$ 1	\$ 2	\$ 3	\$ 4
Nonvested stock awards	3	6	5	10
Performance share awards	—	2	1	2
	\$ 4	\$ 10	\$ 9	\$ 16

(a) Included zero million and \$1 million of expense related to cash-settled nonvested restricted stock awards during the three and six months ended March 31, 2020 and zero million related to cash-settled performance units during the three and six months ended March 31, 2020.

(b) Included \$2 million and \$3 million of expense related to cash-settled nonvested restricted stock awards during the three and six months ended March 31, 2019 and \$2 million of expense related to cash-settled performance units during the three months ended March 31, 2019.

NOTE P – REVENUE

Revenue recognition

Ashland's revenue is measured as the amount of consideration it expects to receive in exchange for transferring goods or providing services and is recognized when performance obligations are satisfied under the terms of contracts with customers. Ashland generally utilizes standardized language for the terms of contracts, unless a separate agreement has been entered into with a customer that supersedes the standard language.

A performance obligation is deemed to be satisfied by Ashland when control of the product or service is transferred to the customer. The transaction price of a contract, or the amount Ashland expects to receive upon satisfaction of all performance obligations, is determined by reference to the contract's terms and includes adjustments, if applicable, for any variable consideration, such as volume discounts, rebates, refunds and right to return. Where a contract contains more than one distinct performance obligation, the transaction price is allocated to each performance obligation based on the standalone selling price of each performance obligation, although these situations do not occur frequently and are generally not included within Ashland's contracts. Any unsatisfied performance obligations are not material. Standalone selling prices are based on prices Ashland charges to customers, which in some cases is based on established market prices. Ashland generally collects the cash from its customers within 60 days of the product delivery date. Sales and other similar taxes collected from customers on behalf of third parties are excluded from the contract price.

All of Ashland's revenue is derived from contracts with customers, and nearly all contracts with customers contain one performance obligation for the transfer of goods where such performance obligation is satisfied at a point in time. Control of a product is deemed to be transferred to the customer generally upon shipment or delivery. Costs for shipping and handling activities, whether performed before or after the customer obtains control of the goods, are accounted for as fulfillment costs when not reimbursed.

Costs incurred to obtain contracts with customers have historically not been significant and are expensed immediately as the amortization period is generally one year or less. Ashland records bad debt expense in specific situations when it is determined that the customer is unable to meet its financial obligation.

Trade receivables

Trade receivables are defined as receivables arising from contracts with customers and are recorded within the accounts receivable caption within the Condensed Consolidated Balance Sheets. Ashland's trade receivables were \$458 million and \$435 million as of March 31, 2020 and September 30, 2019, respectively.

Disaggregation of revenue

Ashland disaggregates its revenue by segment and geographical region as Ashland believes these categories best depict how management reviews the financial performance of its operations. See the following tables for details (intersegment sales eliminations have been excluded). See Note Q for additional information.:

Sales by geography					
(In millions)	Three months ended		Six months ended		
	March 31		March 31		
	2020	2019	2020	2019	
Life Sciences					
North America	\$ 59	\$ 67	\$ 108	\$ 126	
Europe	63	61	112	110	
Asia Pacific	43	48	85	95	
Latin America & other	19	20	35	35	
	<u>\$ 184</u>	<u>\$ 196</u>	<u>\$ 340</u>	<u>\$ 366</u>	
(In millions)	Three months ended		Six months ended		
	March 31		March 31		
	2020	2019	2020	2019	
Personal Care & Household					
North America	\$ 50	\$ 48	\$ 91	\$ 91	
Europe	69	86	124	149	
Asia Pacific	22	27	46	55	
Latin America & other	18	22	35	42	
	<u>\$ 159</u>	<u>\$ 183</u>	<u>\$ 296</u>	<u>\$ 337</u>	
(In millions)	Three months ended		Six months ended		
	March 31		March 31		
	2020	2019	2020	2019	
Specialty Additives					
North America	\$ 53	\$ 57	\$ 98	\$ 105	
Europe	59	62	109	112	
Asia Pacific	33	39	68	78	
Latin America & other	10	11	19	21	
	<u>\$ 155</u>	<u>\$ 169</u>	<u>\$ 294</u>	<u>\$ 316</u>	
(In millions)	Three months ended		Six months ended		
	March 31		March 31		
	2020	2019	2020	2019	
Performance Adhesives					
North America	\$ 73	\$ 75	\$ 137	\$ 144	
Europe	9	11	16	19	
Asia Pacific	1	1	3	3	
Latin America & other	2	2	3	5	
	<u>\$ 85</u>	<u>\$ 89</u>	<u>\$ 159</u>	<u>\$ 171</u>	
(In millions)	Three months ended		Six months ended		
	March 31		March 31		
	2020	2019	2020	2019	
Intermediates and Solvents					
North America	\$ 23	\$ 29	\$ 37	\$ 50	
Europe	6	6	11	11	
Asia Pacific	6	7	13	13	
Latin America & other	2	2	3	3	
	<u>\$ 37</u>	<u>\$ 44</u>	<u>\$ 64</u>	<u>\$ 77</u>	

NOTE Q – REPORTABLE SEGMENT INFORMATION

Ashland determines its reportable segments based on how operations are managed internally for the products and services sold to customers, including how the results are reviewed by the chief operating decision maker, which includes determining resource allocation methodologies used for reportable segments. Operating income and EBITDA are the primary measures of performance that are reviewed by the chief operating decision maker in assessing each reportable segment's financial performance. Ashland does not aggregate operating segments to arrive at these reportable segments.

Change in Reportable Segments

During the second quarter of fiscal year 2020, Ashland changed the manner in which it manages the business moving from a functionally led to a business led organization. This change recognizes that Ashland has a diverse portfolio of businesses with different value propositions for the markets Ashland serves. The organizational change allows Ashland to align its business models, resources and cost structure to the specific needs of each business and enables greater ownership and accountability for both short- and long-term performance. Ashland has realigned its segment reporting structure commensurate with this organizational change. As a result, Ashland's five reportable segments include the consumer specialty businesses: Life Sciences and Personal Care & Household; the industrial specialty businesses: Specialty Additives and Performance Adhesives; and Intermediates and Solvents. Corporate includes corporate governance activities and certain legacy matters. The historical segment information has been recast to conform to the current segment structure.

Reportable segment business descriptions

Consumer Specialties

Life Sciences is comprised of pharmaceuticals, nutrition, nutraceuticals, agricultural chemicals, advanced materials and fine chemicals. Pharmaceutical solutions include controlled release polymers, disintegrants, film coatings, solubilizers, and tablet binders. Nutrition solutions include thickeners, stabilizers, emulsifiers and additives for enhancing mouthfeel, controlling moisture migration, reducing oil uptake and controlling color. Nutraceutical solutions include products for weight management, joint comfort, stomach and intestinal health, sports nutrition and general wellness, and provide custom formulation, toll processing and particle engineering solutions. Customers include pharmaceutical, food, beverage, nutraceuticals and supplements manufacturers, hospitals and radiologists and industrial manufacturers.

Personal Care & Household is comprised of biofunctionals, preservatives, skin care, sun care, oral care, hair care and household. These businesses have a broad range of nature-based, biodegradable, and performance ingredients for customer-driven solutions to help protect, renew, moisturize and revitalize skin and hair, and provide solutions for toothpastes, mouth washes and rinses, denture cleaning and care for teeth. Household supplies nature-derived rheology ingredients, biodegradable surface wetting agents, performance encapsulates, and specialty polymers for household, industrial and institutional cleaning products. Customers include formulators at large multinational branded consumer products companies and smaller, independent boutique companies.

Industrial Specialties

Specialty Additives is comprised of rheology- and performance-enhancing additives serving the coatings, construction, energy, automotive and various industrial markets. Solutions include coatings additives for architectural paints, finishes and lacquers, cement- and gypsum- based dry mortars, ready-mixed joint compounds, synthetic plasters for commercial and residential construction, and specialty materials for industrial applications. Products include rheology modifiers (cellulosic and associative thickeners), foam-control agents, surfactants and wetting agents, pH neutralizers, advanced ceramics used in catalytic converters, and environmental filters, ingredients that aid the manufacturing process of ceramic capacitors, plasma display panels and solar cells, ingredients for textile printing, thermoplastic metals and alloys for welding. Products help improve desired functional outcomes through rheology modification and control, water retention, workability, adhesive strength, binding power, film formation, deposition and suspension and emulsification. Customers include global paint manufacturers, electronics and automotive manufacturers, textile mills, the construction industry, and welders.

Performance Adhesives is comprised of adhesives used in packaging, converting and structural applications. Packaging adhesives has an extensive line of pressure sensitive adhesives, functional coatings and primers combined with innovative technology solutions for narrow-, mid- and wide-web applications. Products meet stringent requirements in food and beverage safety, shipping, transportation, health and beauty, industrial, postage and security printing. Structural adhesives include light weighting vehicles and eliminating VOCs in buildings. Customers include converters of packaging materials, manufacturers of building materials and tier one suppliers to transportation industry.

Other

Intermediates and Solvents is comprised of the production of 1,4 butanediol (BDO) and related derivatives, including n-methylpyrrolidone. These products are used as chemical intermediates in the production of engineering polymers and polyurethanes, and as specialty process solvents in a wide array of applications including electronics, pharmaceuticals, water filtration membranes and more. Butanediol is also provided as a feedstock to the supplied to Life Sciences, Personal Care, and Specialty Additives for use as a raw material.

Unallocated and Other generally includes items such as certain significant company-wide restructuring activities, corporate governance costs and legacy costs or activities that relate to divested businesses that are no longer operated by Ashland.

Reportable segment results

Results of Ashland's reportable segments are presented based on its management and internal accounting structure. The structure is specific to Ashland; therefore, the financial results of Ashland's reportable segments are not necessarily comparable with similar information for other comparable companies. Ashland allocates all significant costs to its reportable segments except for certain significant company-wide restructuring activities, certain corporate governance costs and other costs or activities that relate to former businesses that Ashland no longer operates. The service cost component of pension and other postretirement benefits costs is allocated to each reportable segment on a ratable basis; while the remaining components of pension and other postretirement benefits costs are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Income (Loss). Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and the industry or market changes. Significant revisions to Ashland's methodologies are adjusted for all segments on a retrospective basis. This includes charges in the current fiscal year for certain corporate governance costs, which were previously allocated. These costs are now reflected in Unallocated and Other for all periods presented.

The following table presents various financial information for each reportable segment for the three and six months ended March 31, 2020 and 2019.

(In millions - unaudited)	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
SALES				
<i>Life Sciences</i>	\$ 184	\$ 196	\$ 340	\$ 366
<i>Personal Care & Household</i>	159	183	296	337
Consumer Specialties	343	379	636	703
<i>Specialty Additives</i>	155	169	294	316
<i>Performance Adhesives</i>	85	89	159	171
Industrial Specialties	240	258	453	487
<i>Intermediates and Solvents</i>	37	44	64	77
Intersegment sales (a)				
Intermediates and Solvents	(10)	(14)	(10)	(24)
	<u>\$ 610</u>	<u>\$ 667</u>	<u>\$ 1,143</u>	<u>\$ 1,243</u>
OPERATING INCOME (LOSS)				
<i>Life Sciences</i>	\$ 36	\$ 33	\$ 58	\$ 56
<i>Personal Care & Household</i>	(336)	25	(326)	42
Consumer Specialties	(300)	58	(268)	98
<i>Specialty Additives</i>	(161)	(2)	(152)	(24)
<i>Performance Adhesives</i>	16	17	27	26
Industrial Specialties	(145)	15	(125)	2
<i>Intermediates and Solvents</i>	(2)	9	(14)	11
<i>Unallocated and other</i>	(21)	(38)	(44)	(74)
	<u>\$ (468)</u>	<u>\$ 44</u>	<u>\$ (451)</u>	<u>\$ 37</u>
DEPRECIATION EXPENSE				
<i>Life Sciences</i>	\$ 8	\$ 8	\$ 16	\$ 16
<i>Personal Care & Household</i>	10	10	20	21
Consumer Specialties	18	18	36	37
<i>Specialty Additives</i>	16	36	32	69
<i>Performance Adhesives</i>	3	3	6	6
Industrial Specialties	19	39	38	75
<i>Intermediates and Solvents</i>	3	2	6	5
<i>Unallocated and other</i>	—	2	—	3
	<u>\$ 40</u>	<u>\$ 61</u>	<u>\$ 80</u>	<u>\$ 120</u>

AMORTIZATION EXPENSE								
<i>Life Sciences</i>	\$	7	\$	7	\$	14	\$	14
<i>Personal Care & Household</i>		9		9		18		18
Consumer Specialties		16		16		32		32
<i>Specialty Additives</i>		4		3		8		9
<i>Performance Adhesives</i>		1		1		1		1
Industrial Specialties		5		4		9		10
<i>Intermediates and Solvents</i>		—		1		1		1
	\$	21	\$	21	\$	42	\$	43

EBITDA (b) (c)								
<i>Life Sciences</i>	\$	51	\$	48	\$	88	\$	86
<i>Personal Care & Household</i>		(317)		44		(288)		81
Consumer Specialties		(266)		92		(200)		167
<i>Specialty Additives</i>		(141)		37		(112)		54
<i>Performance Adhesives</i>		20		21		34		33
Industrial Specialties		(121)		58		(78)		87
<i>Intermediates and Solvents</i>		1		12		(7)		17
<i>Unallocated and other</i>		(21)		(36)		(44)		(71)
	\$	(407)	\$	126	\$	(329)	\$	200

		March 31, 2020	September 30, 2019	
TOTAL ASSETS				
<i>Life Sciences</i>	\$	1,973	\$	1,946
<i>Personal Care & Household</i>		1,019		1,366
Consumer Specialties		2,992		3,312
<i>Specialty Additives</i>		1,627		1,775
<i>Performance Adhesives</i>		613		618
Industrial Specialties		2,240		2,393
<i>Intermediates and Solvents</i>		176		185
<i>Unallocated and other</i>		1,560		1,361
	\$	6,968	\$	7,251

- (a) Intersegment sales from Intermediates and Solvents are accounted for at prices that approximate fair value. All other intersegment sales are accounted for at cost.
- (b) Excludes income (loss) from discontinued operations, other net periodic benefit income (expense) and net income (loss) on divestitures. See the Statement of Consolidated Comprehensive Income (Loss) for applicable amounts excluded.
- (c) Includes \$20 million of accelerated depreciation for the three months ended March 31, 2019 and \$39 million for the six months ended March 31, 2019.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements including, without limitation, statements made under the caption “Management’s Discussion and Analysis of Financial Condition and Results of Operation” (MD&A), within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Ashland has identified some of these forward-looking statements with words such as “anticipates,” “believes,” “expects,” “estimates,” “is likely,” “predicts,” “projects,” “forecasts,” “objectives,” “may,” “will,” “should,” “plans” and “intends” and the negative of these words or other comparable terminology. Ashland may from time to time make forward-looking statements in its Annual Report to Shareholders, quarterly reports and other filings with the Securities and Exchange Commission (SEC), news releases and other written and oral communications. These forward-looking statements are based on Ashland’s expectations and assumptions, as of the date such statements are made, regarding Ashland’s future operating performance and financial condition and expected effects of the COVID-19 pandemic on Ashland’s business, as well as the economy and other future events or circumstances. Ashland’s expectations and assumptions include, without limitation, those mentioned within the MD&A, internal forecasts and analyses of current and future market conditions and trends, management plans and strategies, operating efficiencies and economic conditions (such as prices, supply and demand, cost of raw materials, and the ability to recover raw-material cost increases through price increases), and risks and uncertainties associated with the following: the impact of acquisitions and/or divestitures Ashland has made or may make (including the possibility that Ashland may not realize the anticipated benefits from such transactions); Ashland’s substantial indebtedness (including the possibility that such indebtedness and related restrictive covenants may adversely affect Ashland’s future cash flows, results of operations, financial condition and its ability to repay debt); severe weather, natural disasters, public health crises (including the COVID-19 pandemic), cyber events and legal proceedings and claims (including product recalls, environmental and asbestos matters); the effects of the COVID-19 pandemic on the geographies in which Ashland operates, the end markets Ashland serves and on Ashland’s supply chain and customers; and without limitation, risks and uncertainties affecting Ashland that are contained in “Use of estimates, risks and uncertainties” in Note A of Notes to Consolidated Financial Statements and in Item 1A in its most recent Form 10-K filed with the SEC, which is available on Ashland’s website at <http://investor.ashland.com> or on the SEC’s website at <http://www.sec.gov>. Various risks and uncertainties may cause actual results to differ materially from those stated, projected or implied by any forward-looking statements. The extent and duration of the COVID-19 pandemic on our business and operations is uncertain. Factors that influence the impact on our business and operations include the duration and extent of the pandemic, the extent of imposed or recommended containment and mitigation measures, and the general economic consequences of the pandemic. Ashland believes its expectations and assumptions are reasonable, but there can be no assurance that the expectations reflected herein will be achieved. Unless legally required, Ashland undertakes no obligation to update any forward-looking statements made in this Form 10-Q whether as a result of new information, future events or otherwise. Information on Ashland’s website is not incorporated into or a part of this Form 10-Q.

ASHLAND GLOBAL HOLDINGS INC. AND CONSOLIDATED SUBSIDIARIES
MANAGEMENT'S DISCUSSION AND ANALYSIS

The following discussion should be read in conjunction with the Condensed Consolidated Financial Statements and the accompanying Notes to Condensed Consolidated Financial Statements herein.

BUSINESS OVERVIEW
Ashland profile

Ashland is a premier global leader in providing specialty materials to customers in a wide range of consumer and industrial markets, including adhesives, architectural coatings, construction, energy, food and beverage, personal care and pharmaceutical. With approximately 4,700 employees worldwide, Ashland serves customers in more than 100 countries.

Ashland's sales generated outside of North America were 60% for the three and six months ended March 31, 2020 and 61% for the three and six months ended March 31, 2019. Sales by region expressed as a percentage of total consolidated sales for the three and six months ended March 31 were as follows:

Sales by Geography	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
North America (a)	40%	39%	40%	39%
Europe	35%	34%	33%	33%
Asia Pacific	17%	18%	19%	19%
Latin America & other	8%	9%	8%	9%
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

(a) Ashland includes only U.S. and Canada in its North America designation.

Reportable segments

During the second quarter of fiscal year 2020, Ashland changed the manner in which it manages the business moving from a functionally led to a business led organization. This change recognizes that Ashland has a diverse portfolio of businesses with different value propositions for the markets Ashland serves. The organizational change allows Ashland to align its business models, resources and cost structure to the specific needs of each business and enable greater ownership and accountability for both short- and long-term performance. As a result, Ashland's five reportable segments include the consumer specialty businesses: Life Sciences and Personal Care & Household; the industrial specialty businesses: Specialty Additives and Performance Adhesives; and Intermediates and Solvents. Corporate includes corporate governance activities and certain legacy matters. The historical segment information has been recast to conform to the current segment structure. The contribution to sales by each reportable segment expressed as a percentage of total consolidated sales for the three and six months ended March 31 were as follows:

Sales by Reportable Segment	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
<i>Life Sciences</i>	30%	30%	30%	30%
<i>Personal Care & Household</i>	26%	28%	26%	27%
<i>Consumer Specialties</i>	56%	58%	56%	57%
<i>Specialty Additives</i>	25%	25%	25%	25%
<i>Performance Adhesives</i>	14%	13%	14%	14%
<i>Industrial Specialties</i>	39%	38%	39%	39%
<i>Intermediates and Solvents</i>	5%	4%	5%	4%
	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

KEY DEVELOPMENTS

Business results

Ashland recorded a net loss of \$582 million in the current quarter (loss of \$575 million in continuing operations and \$7 million loss in discontinued operations) compared to a net income of \$76 million in the prior year quarter (income of \$45 million in continuing operations and \$31 million in discontinued operations). Results for Ashland's continuing operations were primarily driven by a non-cash goodwill impairment charge of \$530 million related to the Personal Care & Household and Specialty Additives segments, debt restructuring costs of \$67 million and lower volumes partially offset by lower selling, general and administrative expense and other expenses, between periods. Discontinued operations were primarily driven by the results of the Composites segment and Marl facility. Ashland's EBITDA decreased by \$550 million, primarily due to the \$530 goodwill impairment charge during the current quarter and lower sales volume partially offset by lower selling, general and administrative expense costs between periods. Ashland's Adjusted EBITDA is flat at \$142 million (see U.S. GAAP reconciliation below under consolidated review). Adjusted EBITDA was negatively impacted by lower sales volumes and offset by lower selling, general and administrative expenses as a result of cost reduction programs.

Uncertainty relating to the COVID-19 pandemic

Ashland did not incur significant financial consequences during the three and six months ended March 31, 2020 from the COVID-19 pandemic, as Ashland was able to manage through the execution of shelter in place, social distancing and deep cleaning process requirements. To date, the effects from the COVID-19 pandemic have not been significant and Ashland's operations and cash flows remain stable. Ashland's overall liquidity remains sufficient for it to meet its operating needs and other investing and financing requirements.

Ashland is closely monitoring the impact of the COVID-19 pandemic on all aspects of its business and geographies, including how it will impact customers, employees, suppliers, vendors, business partners and distribution channels. Ashland is unable to predict the impact that the COVID-19 pandemic will have on its future financial position and operating results due to numerous uncertainties. These uncertainties include the severity of the virus, the duration of the outbreak, governmental, business or other actions, impacts on Ashland's supply chain, the effect on customer demand, or changes to Ashland's operations. The health of Ashland's workforce and its ability to meet staffing needs throughout the critical functions cannot be predicted and is vital to operations. Further, the impacts of a potential worsening of global economic conditions and the continued disruptions to, and volatility in, the credit and financial markets, consumer spending as well as other unanticipated consequences remain unknown. In addition, Ashland cannot predict the impact that the COVID-19 pandemic will have on its customers, vendors, suppliers and other business partners; however, any material effect on these parties could adversely impact Ashland.

The situation surrounding the COVID-19 pandemic remains fluid, and Ashland is actively managing its response in collaboration with customers, government officials, team members and business partners. For further information regarding the impact of the COVID-19 pandemic on the Company, please see Item 1A, risk factors in this report, which is incorporated herein by reference.

RESULTS OF OPERATIONS – CONSOLIDATED REVIEW

Consolidated review

Net income

Ashland's net income is primarily affected by results within operating income, net interest and other expense, income taxes, discontinued operations and other significant events or transactions that are unusual or nonrecurring.

Current Quarter - Key financial results for the three months ended March 31, 2020 and 2019 included the following:

- Ashland's net income amounted to a loss of \$582 million compared to income of \$76 million for the three months ended March 31, 2020 and 2019, respectively, or loss of \$9.61 compared to income of \$1.19 diluted earnings per share, respectively.

- Discontinued operations, which are reported net of taxes, resulted in a loss of \$7 million compared to income of \$31 million during the three months ended March 31, 2020 and 2019, respectively.
- Results from continuing operations, which excludes results from discontinued operations, amounted to a loss of \$575 million compared to income of \$45 million for the three months ended March 31, 2020 and 2019, respectively.
- Results from continuing operations include a goodwill impairment charge of \$530 million during the current quarter related to the Personal Care & Household and the Specialty Additives segments. See Critical Accounting Policies section for additional information.
- The effective income tax rates were a benefit of 2% and expense of 2% for the three months ended March 31, 2020 and 2019, respectively, and were significantly impacted by certain tax discrete items in both the current and prior year quarters.
- Ashland incurred pretax net interest and other expense of \$117 million compared to income of \$3 million for the three months ended March 31, 2020 and 2019, respectively. This includes charges for \$59 million and \$8 million for debt refinancing costs and accelerated debt issuance costs, respectively, for the current quarter, as well as losses of \$29 million compared to gains of \$29 million on restricted investments.
- Operating income amounted to a loss of \$468 million compared to income of \$44 million for the three months ended March 31, 2020 and 2019, respectively.

Year-to-date - Key financial results for the six months ended March 31, 2020 and 2019 included the following:

- Ashland's net income amounted to a loss of \$550 million compared to an income of \$28 million for the six months ended March 31, 2020 and 2019, respectively, or loss of \$9.08 and income of \$0.45 diluted earnings per share, respectively.
- Discontinued operations, which are reported net of taxes, resulted in a loss of \$9 million compared to income of \$54 million during the six months ended March 31, 2020 and 2019, respectively.
- Results from continuing operations, which excludes results from discontinued operations, amounted to losses of \$541 million and \$26 million for the six months ended March 31, 2020 and 2019, respectively.
- Results from continuing operations include a goodwill impairment charge of \$530 million during the current year related to the Personal Care & Household and the Specialty Additives segments. See Critical Accounting Policies section for additional information.
- The effective income tax rates were a benefit of 6% and expense of 2500% for the six months ended March 31, 2020 and 2019, respectively, and were significantly impacted by certain tax discrete items in both the current and prior year periods.
- Ashland incurred pretax net interest and other expense of \$127 million and \$52 million for the six months ended March 31, 2020 and 2019, respectively. This includes charges for \$59 million and \$8 million for debt refinancing costs and accelerated debt issuance costs, respectively, for the current year, as well as losses of \$16 million compared to gains of \$2 million on restricted investments.
- Other net periodic benefit income totaled \$17 million for the six months ended March 31, 2019, which was related to the curtailment gain from the settlement of a non-U.S. pension plan.
- Net income/loss on divestitures totaled income of \$3 million and a loss of \$3 million for the six months ended March 31, 2020 and 2019, respectively.
- Operating income/loss amounted to a loss of \$451 million compared to an income of \$37 million for the six months ended March 31, 2020 and 2019, respectively.

For further information on the items reported above, see the discussion in the comparative Statements of Consolidated Comprehensive Income (Loss) caption review analysis.

Operating income

Current Quarter – Operating income/loss amounted to a loss of \$468 million compared to income of \$44 million for the three months ended March 31, 2020 and 2019, respectively. The current and prior year quarters' operating income included certain key items that were excluded to arrive at Adjusted EBITDA and are quantified in the table below in the "EBITDA and Adjusted EBITDA" section. These operating key items for the applicable periods are summarized as follows:

- Goodwill impairment – During the current quarter, Ashland realigned its operations into five reportable segments which resulted in a reassessment of the Company's reporting units used to evaluate goodwill impairment. The impairment test under the new reporting unit structure concluded that the carrying value of the Personal Care & Household and the Specialty Additives reporting units exceeded their fair value, resulting in a non-cash goodwill impairment charge. See note G and Critical Accounting Policies for additional information.
- Restructuring, separation and other costs – Ashland periodically implements company-wide cost reduction programs related to acquisitions, divestitures and other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure. Ashland often incurs severance, facility and integration costs associated with these programs. See Note D in the Notes to Condensed Consolidated Financial Statements for further information on the restructuring activities.
- Accelerated depreciation – As a result of various restructuring activities at certain office facilities and manufacturing facilities during the prior year quarter, Ashland recorded accelerated depreciation due to changes in the expected useful life of certain property, plant and equipment.
- Proxy costs – Ashland incurred significant consulting and other costs associated with the 2019 Annual Meeting of Stockholders and agreement with Cruiser Capital in the prior year quarter.
- Lower of cost or net realizable value inventory adjustment – Inventories are carried at the lower of cost or net realizable value. When comparing the stated value of its inventory to its net realizable value, Ashland determined that an adjustment was required for the current quarter.

Operating income/loss for the three months ended March 31, 2020 and 2019 included depreciation and amortization of \$61 million and \$62 million, respectively (which excluded accelerated depreciation and amortization of \$20 million for the three months ended March 31, 2019).

Year-to-date - Operating income/loss was a loss of \$451 million compared to income of \$37 million for the six months ended March 31, 2020 and 2019, respectively. The current and prior year periods' operating income included certain key items that were excluded to arrive at Adjusted EBITDA and are quantified in the table below in the "EBITDA and Adjusted EBITDA" section. These operating key items for the applicable periods are summarized as follows:

- Goodwill impairment – During the current period, Ashland realigned its operations into five reportable segments which resulted in a reassessment of the Company's reporting units used to evaluate goodwill impairment. The impairment test under the new reporting unit structure concluded that the carrying value of the Personal Care & Household and the Specialty Additives reporting units exceeded their fair value, resulting in a non-cash goodwill impairment charge. See note G and Critical Accounting Policies for additional information.
- Restructuring, separation and other costs – Ashland periodically implements company-wide cost reduction programs related to acquisitions, divestitures and other cost reduction programs in order to enhance profitability through streamlined operations and an improved overall cost structure. Ashland often incurs severance, facility and integration costs associated with these programs. See Note D in the Notes to Condensed Consolidated Financial Statements for further information on the restructuring activities.
- Accelerated depreciation – As a result of various restructuring activities at certain office facilities and manufacturing facilities during the prior year period, Ashland recorded accelerated depreciation due to changes in the expected useful life of certain property, plant and equipment.

- Proxy costs – Ashland incurred significant consulting and other costs associated with the 2019 Annual Meeting of Stockholders and agreement with Cruiser Capital in the prior year period.
- Lower of cost or net realizable value inventory adjustment –Inventories are carried at the lower of cost or net realizable value. When comparing the stated value of its inventory to its net realizable value, Ashland determined that an adjustment was required for the current year.

Operating income for the six months ended March 31, 2020 and 2019 included depreciation and amortization of \$122 million and \$124 million, respectively (which excluded accelerated depreciation and amortization of \$39 million the six months ended March 31, 2019).

Non-operating key items affecting EBITDA

- Gain on pension and other postretirement plan remeasurements – Ashland recognized a remeasurement gain due to the settlement of a non-U.S. pension plan during the prior year quarter. See Note K of the Notes to Condensed Consolidated Financial Statements for more information.
- Net loss on divestitures – Ashland recorded a loss during the first quarter of fiscal 2019 related to the impairment of an investment.

Statements of Consolidated Comprehensive Income (Loss) – caption review

A comparative analysis of the Statements of Consolidated Comprehensive Income (Loss) by caption is provided as follows for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Sales	\$ 610	\$ 667	\$ (57)	\$ 1,143	\$ 1,243	\$ (100)

The following table provides a reconciliation of the change in sales for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended March 31, 2020	Six months ended March 31, 2020
Volume	\$ (35)	\$ (64)
Plant realignment	(8)	(14)
Currency exchange	(7)	(11)
Pricing	(7)	(11)
Change in sales	\$ (57)	\$ (100)

Current Quarter - Sales for the current quarter decreased \$57 million compared to the prior year quarter. Unfavorable volume, plant realignment, foreign currency exchange and product pricing decreased sales by \$35 million, \$8 million, \$7 million and \$7 million, respectively.

Year-to-Date - Sales for the current year decreased \$100 million compared to the prior year period. Unfavorable volume, plant realignment, foreign currency and product pricing decreased sales by \$64 million, \$14 million, \$11 million and \$11 million, respectively.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Cost of sales	\$ 413	\$ 469	\$ (56)	\$ 793	\$ 893	\$ (100)
Gross profit as a percent of sales	32.3%	29.7%		30.6%	28.2%	

Fluctuations in cost of sales are driven primarily by raw material prices, volume and changes in product mix, currency exchange, acquisitions and divestitures and other certain charges incurred as a result of changes or events within the businesses or restructuring activities. The following table provides a quantified reconciliation of the changes in cost of sales between the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended March 31, 2020	Six months ended March 31, 2020
Changes in:		
Plant realignment/closure costs	\$ (27)	\$ (61)
Volume	(23)	(41)
Currency exchange	(3)	(6)
Operating costs	(4)	4
Price/mix	1	4
Change in cost of sales	\$ (56)	\$ (100)

Current Quarter - Cost of sales for the current quarter decreased \$56 million compared to the prior year quarter. Unfavorable plant realignment/closure costs, volume, operating costs and foreign currency exchange decreased cost of sales by \$27 million, \$23 million, \$4 million and \$3 million, respectively. Those decreases were partially offset by an increase in price/mix of \$1 million.

Year-to-Date - Cost of sales for the current year decreased \$100 million compared to the prior year. Unfavorable plant realignment/closure costs, volume and foreign currency exchange decreased cost of sales by \$61 million, \$41 million and \$6 million, respectively. Those decreases were partially offset by higher operating costs and unfavorable price/mix which increased cost of sales by \$4 million and \$4 million, respectively.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Selling, general and administrative expense	\$ 103	\$ 115	\$ (12)	\$ 202	\$ 236	\$ (34)
As a percent of sales	16.9%	17.2%		17.7%	19.0%	

Current Quarter - Selling, general and administrative expense for the current quarter decreased \$12 million compared to the prior year quarter with expenses as a percent of sales decreasing 0.3 percentage points. Key drivers of the fluctuation in selling, general and administrative expense compared to the prior year quarter were:

- \$14 million and \$12 million of key items for severance, lease abandonment and other restructuring costs related to company-wide cost-savings initiatives during the current and prior year quarters, respectively.
- Favorable currency exchange of \$3 million during the current quarter as well as achieved cost savings during the current quarter compared to the prior year quarter.

Year-to-Date - Selling, general and administrative expense for the current quarter decreased \$34 million compared to the prior year quarter with expenses as a percent of sales decreasing 1.3 percentage points. Key drivers of the fluctuation in selling, general and administrative expense compared to the prior year quarter were:

- \$21 million and \$30 million of key items for restructuring, separation and other costs during the current and prior year periods, respectively.
- \$5 million of consulting and other costs associated with the 2019 proxy during the prior year period.
- Favorable currency exchange of \$6 million as well as achieved cost savings during the current year period.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Research and development expense	\$ 18	\$ 17	\$ 1	\$ 34	\$ 34	\$ —

Current Quarter - Research and development expense are relatively consistent with the prior year quarter.

Year-to-Date - Research and development expense are consistent year over year.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Intangibles amortization expense	\$ 21	\$ 21	\$ —	\$ 42	\$ 43	\$ (1)

Current Quarter - Amortization expense is consistent with the prior year quarter.

Year-to-Date - Amortization expense is relatively consistent with the prior year period.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Goodwill impairment	\$ 530	\$ —	\$ 530	\$ 530	\$ —	\$ 530

Current Quarter - Ashland recorded an impairment charge of \$530 million in the current quarter. See note G and Critical Accounting Policies for more information.

Year-to-Date - Ashland recorded an impairment charge of \$530 million in the current year. See note G Critical and Accounting Policies for more information.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Equity and other income						
Equity income (a)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Other income	7	(1)	8	7	—	7
	<u>\$ 7</u>	<u>\$ (1)</u>	<u>\$ 8</u>	<u>\$ 7</u>	<u>\$ —</u>	<u>\$ 7</u>

(a) Activity of \$0 denotes value less than \$1 million.

Equity and other income increased during the three and six months due to a liquidation gain of \$3 million and China subsidies of \$2 million.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Net interest and other expense (income)						
Interest expense	\$ 28	\$ 26	\$ 2	\$ 51	\$ 53	\$ (2)
Interest income	—	—	—	(1)	(1)	—
Loss on early retirement of debt	59	—	59	59	—	59
Loss (income) from restricted investments	29	(29)	58	16	(2)	18
Other financing costs	1	—	1	2	2	—
	<u>\$ 117</u>	<u>\$ (3)</u>	<u>\$ 120</u>	<u>\$ 127</u>	<u>\$ 52</u>	<u>\$ 75</u>

Current Quarter - Net interest and other expense increased by \$120 million during the current quarter compared to the prior year quarter. Interest expense decreased \$6 million due to lower cost of debt related to the debt restructuring activity during the current quarter compared to the prior year quarter. The decreases were offset by \$8 million of accelerated debt issuance costs and original issuance discount costs for the current quarter. Ashland incurred \$59 million of debt refinancing costs during the current quarter. See Note H for more information on the refinancing activity. Restricted investments included a loss of \$29 million compared to gains of \$29 million for the three months ended March 31, 2020 and 2019, respectively. See Note E for more information on the restricted investments.

Year-to-Date - Net interest and other expense increased by \$75 million during the current year compared to the prior year period. Interest expense decreased \$10 million due to lower cost of debt related to the debt restructuring activity during the current year compared to the prior year period. The decreases were partially offset by \$8 million of accelerated debt issuance costs and original issuance discount costs for the current period. Ashland incurred \$59 million of debt refinancing costs during the current year. See Note H for more information on the refinancing activity. Restricted investments included losses of \$16 million for the current period compared to gains of \$2 million for the prior periods. See Note E for more information on the restricted investments.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Other net periodic benefit income	\$ —	\$ (1)	\$ 1	\$ —	\$ 17	\$ (17)

Other net periodic benefit income during the prior year related to the curtailment gain from the settlement of a non-U.S. pension plan.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Net income (loss) on divestitures	\$ —	\$ —	\$ —	\$ 3	\$ (3)	\$ 6

The activity in the current year was related to post-closing adjustments for certain divestitures, while activity in the prior year related to the impairment of an investment.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Income tax expense (benefit)	\$ (10)	\$ 1	\$ (11)	\$ (34)	\$ 25	\$ (59)
Effective tax rate	2%	(2)%		6%	(2,500)%	

Current Quarter - Ashland's effective tax rate in any interim period is subject to adjustments related to discrete items and the mix of domestic and foreign operating results. The overall effective tax rate was a benefit of 2% for the three months ended March 31, 2020 and was impacted by a nondeductible goodwill impairment of \$527 million of the \$530 million charge taken during the quarter.

The overall effective tax rate was 2% for the three months ended March 31, 2019 and was impacted by certain nondeductible restructuring costs as well as \$11 million in favorable tax discrete items including nontaxable earnings in deferred compensation related investments and other items.

Year-to-Date - Ashland's effective tax rate in any interim period is subject to adjustments related to discrete items and the mix of domestic and foreign operating results. The overall effective tax rate was 6% for the six months ended March 31, 2020 and was primarily impacted by nondeductible goodwill impairment of \$527 million as well as \$25 million favorable tax discrete items from the tax benefit related to the Swiss Tax Reform enacted in the first quarter.

The overall effective tax rate was 2500% for the six months ended March 31, 2019 and was primarily impacted by the income mix and net unfavorable tax discrete adjustments of \$30 million related to the enactment of the US Tax Cuts and Jobs Act of 2017 (Tax Act).

Adjusted income tax expense (benefit)

Key items are defined as the financial effects from significant transactions that may have caused short-term fluctuations in net income and/or operating income which Ashland believes do not accurately reflect Ashland's underlying business performance and trends. Tax specific key items are defined as the financial effects from tax specific financial transactions, tax law changes or other matters that fall within the definition of key items as previously described. The effective tax rate, excluding key items, which is a non-GAAP measure, has been prepared to illustrate the ongoing tax effects of Ashland's operations. Management believes investors and analysts use this financial measure in assessing Ashland's business performance and that presenting this non-GAAP measure on a consolidated basis assists investors in better understanding Ashland's ongoing business performance and enhancing their ability to compare period-to-period financial results. The effective tax rate during the three months ended March 31, 2020 and 2019 was significantly impacted by the following tax specific key items:

- Deferred tax rate changes – Includes the impact from the remeasurement of Ashland's domestic deferred tax balances resulting from the enactment of the Tax Act as well as the impact from deferred rate changes for other jurisdictions;
- One-time transition tax – Includes the impact from the one-time transition tax resulting from the enactment of the Tax Act;
- Restructuring and separation activity – Includes the impact from company-wide cost reduction programs; and
- Other tax reform – Includes the impact from other items related to the Tax Act and other tax law changes including Swiss Tax Reform. The Swiss Tax Reform benefit is an estimate based on ten year income projections and is subject to approval by the Swiss tax authorities. Ashland will monitor this amount and make adjustments as appropriate in future periods. These adjustments also include the impact from the deductibility of compensation items and miscellaneous state tax items.

The following table is a calculation of the effective tax rate, excluding these key items.

(In millions)	Three months ended March 31		Six months ended March 31	
	2020	2019	2020	2019
Income (loss) from continuing operations before income taxes	\$ (585)	\$ 46	\$ (575)	\$ (1)
Key items (pre-tax) (a)	648	10	646	70
Adjusted income from continuing operations before income taxes	\$ 63	\$ 56	\$ 71	\$ 69
Income tax expense (benefit)	\$ (10)	\$ 1	\$ (34)	\$ 25
Income tax rate adjustments:				
Tax effect of key items	21	(2)	20	5
Tax specific key items: (b)				
Deferred tax rate changes	—	—	—	(2)
One-time transition tax	—	—	—	(22)
Restructuring and separation activity	—	2	—	1
Other tax reform	—	3	25	—
Total income tax rate adjustments	21	3	45	(18)
Adjusted income tax expense	\$ 11	\$ 4	\$ 11	\$ 7
Effective tax rate, excluding key items (Non-GAAP) (c)	18%	6%	16%	10%

(a) See Adjusted EBITDA reconciliation table previously disclosed in this MD&A for a summary of the key items, before tax.

(b) For additional information on the effect that these tax specific key items had on EPS, see the Adjusted Diluted EPS table previously disclosed in this MD&A.

(c) Due to rounding conventions, the effective tax rate presented may not recalculate precisely based on the numbers disclosed within this table.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Income (loss) from discontinued operation (net of taxes)						
Composites/Marl facility	\$ 4	\$ 28	\$ (24)	\$ 4	\$ 53	\$ (49)
Valvoline	—	1	(1)	(1)	1	(2)
Water Technologies	—	2	(2)	(1)	1	(2)
Distribution	(2)	—	(2)	(2)	(1)	(1)
Asbestos	(7)	—	(7)	(7)	—	(7)
Gain (loss) on disposal of discontinued operations (net of taxes)						
Composites/Marl facility	(2)	—	(2)	(2)	—	(2)
	<u>\$ (7)</u>	<u>\$ 31</u>	<u>\$ (38)</u>	<u>\$ (9)</u>	<u>\$ 54</u>	<u>\$ (63)</u>

Current Quarter - As a result of the divestiture of the Composites segment and Marl facility, the related operating results have been reflected as discontinued operations (net of tax) within the Statements of Consolidated Comprehensive Income (Loss). See Note B for more information on this divestiture. In the current quarter, for the Maleic business component of the Composites business not sold to INEOS, the sales and pre-tax operating income included in discontinued operations were \$17 million and \$5 million, respectively. In the prior year quarter, the sales and pre-tax operating income included in discontinued operations were \$284 million and \$45 million, respectively for the Composites/Marl facility.

The activity for Valvoline, Water Technologies, Distribution and the Composites loss on sale during the current and prior quarters was related to post-closing adjustments.

Year-to-Date - As a result of the divestiture of the Composites segment and Marl facility, the related operating results have been reflected as discontinued operations (net of tax) within the Statements of Consolidated Comprehensive Income (Loss). See Note B for more information on this divestiture. In the current year, for the Maleic business component of the Composites business not sold to INEOS, the sales and pre-tax operating income included in discontinued operations were \$28 million and \$7 million, respectively. In the prior year period, the sales and pre-tax operating income included in discontinued operations were \$559 million and \$81 million, respectively for the Composites/Marl facility.

The activity for Valvoline, Water Technologies, Distribution and the Composites loss on sale during the current and prior periods was related to post-closing adjustments.

Other comprehensive income (loss)

A comparative analysis of the components of other comprehensive income (loss) is provided below for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended March 31			Six months ended March 31		
	2020	2019	Change	2020	2019	Change
Other comprehensive income (loss) (net of taxes)						
Unrealized translation gain (loss)	\$ (52)	\$ (9)	\$ (43)	\$ (14)	\$ (40)	\$ 26
Pension and postretirement obligation adjustment	—	—	—	—	(6)	6
	<u>\$ (52)</u>	<u>\$ (9)</u>	<u>\$ (43)</u>	<u>\$ (14)</u>	<u>\$ (46)</u>	<u>\$ 32</u>

Current Quarter - Total other comprehensive income, net of tax, for the current quarter decreased \$43 million compared to the prior year quarter as a result of the following components:

- For the three months ended March 31, 2020, the change in unrealized gain (loss) from foreign currency translation adjustments resulted in a loss of \$52 million compared to \$9 million for the three months ended March 31, 2019. The fluctuations in unrealized translation gains and losses are primarily due to translating foreign subsidiary financial statements from local currencies to U.S. Dollars.

Year-to-Date - Total other comprehensive income, net of tax, for the current period increased \$32 million compared to the prior year period as a result of the following components:

- For the six months ended March 31, 2020, the change in unrealized gain (loss) from foreign currency translation adjustments resulted in losses of \$14 million compared to \$40 million for the six months ended March 31, 2019. The fluctuations in unrealized translation gains and losses are primarily due to translating foreign subsidiary financial statements from local currencies to U.S. Dollars.
- For the six months ended March 31, 2019, the pension and postretirement obligation adjustment included \$6 million of prior service costs recognized within other comprehensive income (loss) due to pension plan remeasurements.

Use of non-GAAP measures

Ashland has included within this document the following non-GAAP measures, on both a consolidated and reportable segment basis, which are not defined within U.S. GAAP and do not purport to be alternatives to net income or cash flows from operating activities as a measure of operating performance or cash flows:

- EBITDA – net income (loss), plus income tax expense (benefit), net interest and other expenses, and depreciation and amortization.
- Adjusted EBITDA – EBITDA adjusted for noncontrolling interests, discontinued operations, net income (loss) on acquisitions and divestitures, other income and (expense) and key items (including the remeasurement gains and losses related to pension and other postretirement plans).
- Adjusted EBITDA margin – Adjusted EBITDA divided by sales.
- Adjusted diluted earnings per share (EPS) – income (loss) from continuing operations, adjusted for key items, net of tax, divided by the average outstanding diluted shares for the applicable period.
- Adjusted diluted earnings per share (EPS) excluding intangibles amortization expense – Adjusted earnings per share adjusted for intangibles amortization expense net of tax, divided by the average outstanding diluted shares for the applicable period.
- Free cash flow – operating cash flows less capital expenditures and certain other adjustments as applicable.

Management believes the use of EBITDA and Adjusted EBITDA measures on a consolidated and reportable segment basis assists investors in understanding the ongoing operating performance by presenting comparable financial results between periods. Ashland believes that by removing the impact of depreciation and amortization and excluding certain non-cash charges, amounts spent on interest and taxes and certain other charges that are highly variable from year to year, EBITDA and Adjusted EBITDA provide Ashland's investors with performance measures that reflect the impact to operations from trends in changes in sales, margin and operating expenses, providing a perspective not immediately apparent from net income and operating income. The adjustments Ashland makes to derive the non-GAAP measures of EBITDA and Adjusted EBITDA exclude items which may cause short-term fluctuations in net income and operating income and which Ashland does not consider to be the fundamental attributes or primary drivers of its business. EBITDA and Adjusted EBITDA provide disclosure on the same basis as that used by Ashland's management to evaluate financial performance on a consolidated and reportable segment basis and provide consistency in our financial reporting, facilitate internal and external comparisons of Ashland's historical operating performance and its business units and provide continuity to investors for comparability purposes.

The Adjusted diluted EPS metric enables Ashland to demonstrate what effect key items have on an earnings per diluted share basis by taking income (loss) from continuing operations, adjusted for key items after tax that have been identified in the Adjusted EBITDA table, and dividing by the average outstanding diluted shares for the applicable period. Ashland's management believes this presentation is helpful to illustrate how the key items have impacted this metric during the applicable period.

The Adjusted diluted EPS, excluding intangibles amortization expense metric enables Ashland to demonstrate the impact of non-cash intangibles amortization expense on EPS, in addition to the key items previously mentioned. Ashland's management believes this presentation is helpful to illustrate how previous acquisitions impact applicable period results.

The free cash flow metric enables Ashland to provide a better indication of the ongoing cash being generated that is ultimately available for both debt and equity holders as well as other investment opportunities. Unlike cash flow provided by operating activities, free cash flow includes the impact of capital expenditures from continuing operations, providing a more complete picture of cash generation. Free cash flow has certain limitations, including that it does not reflect adjustment for certain non-discretionary cash flows such as mandatory debt repayments. The amount of mandatory versus discretionary expenditures can vary significantly between periods.

Although Ashland may provide forward-looking guidance for Adjusted EBITDA, Adjusted diluted EPS and free cash flow, Ashland is not reaffirming or providing forward-looking guidance for U.S. GAAP-reported financial measures or a reconciliation of forward-looking non-GAAP financial measures to the most directly comparable U.S. GAAP measure because it is unable to predict with reasonable certainty the ultimate outcome of certain significant items that affect these metrics such as domestic and international economic, political, legislative, regulatory and legal actions. In addition, certain economic conditions, such as recessionary trends, inflation, interest and monetary exchange rates, government fiscal policies and changes in the prices of certain key raw materials, can have a significant effect on operations and are difficult to predict with certainty.

These non-GAAP measures should be considered supplemental in nature and should not be construed as more significant than comparable measures defined by U.S. GAAP. Limitations associated with the use of these non-GAAP measures include that these measures do not present all of the amounts associated with our results as determined in accordance with U.S. GAAP. The non-GAAP measures provided are used by Ashland management and may not be determined in a manner consistent with the methodologies used by other companies. EBITDA and Adjusted EBITDA provide a supplemental presentation of Ashland's operating performance on a consolidated and reportable segment basis. Adjusted EBITDA generally includes adjustments for items that impact comparability between periods. In addition, certain financial covenants related to Ashland's 2020 Credit Agreement are based on similar non-GAAP measures and are defined further in the sections that refer to this metric.

EBITDA and Adjusted EBITDA

EBITDA totaled a loss of \$414 million compared to an income of \$136 million for the three months ended March 31, 2020 and 2019, respectively, and a loss of \$335 million compared to an income of \$229 million for the six months ended March 31, 2020 and 2019, respectively. EBITDA and Adjusted EBITDA results in the table below have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items previously described. Management believes the use of such non-GAAP measures on a consolidated and reportable segment basis assists investors in understanding the ongoing operating performance by presenting the financial results between periods on a more comparable basis.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Net income (loss)	\$ (582)	\$ 76	\$ (550)	\$ 28
Income tax expense (benefit)	(10)	1	(34)	25
Net interest and other expense	117	(3)	127	52
Depreciation and amortization (a)	61	62	122	124
EBITDA	(414)	136	(335)	229
Loss (income) from discontinued operations (net of tax)	7	(31)	9	(54)
Key items included in EBITDA:				
Restructuring, separation and other costs	15	12	22	38
Proxy costs	—	5	—	5
Goodwill impairment	530	—	530	—
Inventory adjustment	4	—	4	—
Accelerated depreciation	—	20	—	39
Gain on pension and other postretirement plan remeasurements	—	—	—	(18)
Net loss on divestitures	—	—	—	3
Total key items included in EBITDA	549	37	556	67
Adjusted EBITDA	\$ 142	\$ 142	\$ 230	\$ 242
Total key items included in EBITDA	\$ 549	\$ 37	\$ 556	\$ 67
Accelerated amortization of debt issuance costs	8	—	8	—
Debt refinancing costs	59	—	59	—
Unrealized (gain) loss on securities (b)	32	(27)	23	3
Total key items, before tax	\$ 648	\$ 10	\$ 646	\$ 70

(a) Excludes \$20 million of accelerated depreciation for the three months ended March 31, 2019, and \$39 million for the six months ended March 31, 2019 included as key items.

(b) Due to the adoption of new accounting guidance in October 2018, the unrealized losses on certain investment securities directly impact earnings and are recorded within the net interest and other expense caption on the Statements of Consolidated Comprehensive Income (Loss). See Note E of the Notes to Condensed Consolidated Financial Statements for more information.

Diluted EPS and Adjusted Diluted EPS

The following table reflects the U.S. GAAP calculation for the income (loss) from continuing operations adjusted for the cumulative diluted EPS effect for key items after tax that have been identified in the Adjusted EBITDA table in the previous section. Key items are defined as the financial effects from significant transactions that may have caused short-term fluctuations in net income and/or operating income which Ashland believes do not accurately reflect Ashland's underlying business performance and trends. The Adjusted diluted EPS for the income (loss) from continuing operations in the following table has been prepared to illustrate the ongoing effects of Ashland's operations. Management believes investors and analysts use this financial measure in assessing Ashland's business performance and that presenting this non-GAAP measure on a consolidated basis assists investors in better understanding Ashland's ongoing business performance and enhances their ability to compare period-to-period financial results.

	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Diluted EPS from continuing operations (as reported)	\$ (9.48)	\$ 0.71	\$ (8.93)	\$ (0.41)
Key items, before tax:				
Restructuring, separation and other costs	0.23	0.50	0.35	1.21
Gain on pension and other postretirement plan remeasurements	—	0.08	—	0.08
Legal settlement	—	—	—	(0.29)
Unrealized (gain) loss on securities	0.53	(0.42)	0.38	0.05
Goodwill impairment	8.75	—	8.75	—
Inventory adjustment	0.06	—	0.06	—
Accelerated amortization of debt issuance costs	0.13	—	0.13	—
Debt refinancing costs	0.97	—	0.97	—
Net loss on divestitures	—	—	—	0.05
Key items, before tax	10.67	0.16	10.64	1.10
Tax effect of key items (a)	(0.35)	0.04	(0.33)	(0.08)
Key items, after tax	10.32	0.20	10.31	1.02
Tax specific key items:				
Deferred tax rate changes	—	—	—	0.03
One-time transition tax	—	—	—	0.35
Restructuring and separation activity	—	(0.03)	—	(0.02)
Other tax reform	—	(0.05)	(0.41)	—
Tax specific key items (b)	—	(0.08)	(0.41)	0.36
Total key items	10.32	0.12	9.90	1.38
Adjusted diluted EPS from continuing operations (non-GAAP)	\$ 0.84	\$ 0.83	\$ 0.97	\$ 0.97
Amortization expense adjustment (net of tax) (c)	\$ 0.28	\$ 0.25	\$ 0.56	\$ 0.51
Adjusted diluted EPS from continuing operations (non-GAAP) excluding intangibles amortization expense	\$ 1.12	\$ 1.08	\$ 1.53	\$ 1.48

(a) Represents the diluted EPS impact from the tax effect of the key items that are identified above.

(b) Represents the diluted EPS impact from tax specific financial transactions, tax law changes or other matters that fall within the definition of key items. For additional explanation of these tax specific key items, see the income tax expense (benefit) discussion within the following caption review section.

(c) Amortization expense adjustment (net of tax) tax rates were 20% for the three and six months ended March 31, 2020, and 25% for the three and six months ended March 31, 2019.

RESULTS OF OPERATIONS – REPORTABLE SEGMENT REVIEW

During the second quarter of fiscal year 2020, Ashland changed the manner in which it manages the business moving from a functionally led to a business led organization. This change recognizes that Ashland has a diverse portfolio of businesses with different value propositions for the markets Ashland

serves. The organizational change allows Ashland to align its business models, resources and cost structure to the specific needs of each business and enable greater ownership and accountability for both short- and long-term performance. Ashland has realigned its segment reporting structure commensurate with this organizational change. As a result, Ashland's five reportable segments include the consumer specialty businesses: Life Sciences and Personal Care & Household; the industrial specialty businesses: Specialty Additives and Performance Adhesives; and Intermediates and Solvents. Corporate includes corporate governance activities and certain legacy matters. The historical segment information has been recast to conform to the current segment structure.

Results of Ashland's reportable segments are presented based on its management and internal accounting structure. The structure is specific to Ashland; therefore, the financial results of Ashland's reportable segments are not necessarily comparable with similar information for other companies. Ashland allocates all significant costs to its reportable segments except for certain significant company-wide restructuring activities, certain corporate governance costs and other costs or activities that relate to former businesses that Ashland no longer operates. The service cost component of pension and other postretirement benefits costs is allocated to each reportable segment on a ratable basis; while the remaining components of pension and other postretirement benefits costs are recorded within the other net periodic benefit income caption on the Statements of Consolidated Comprehensive Income (Loss). Ashland refines its expense allocation methodologies to the reportable segments from time to time as internal accounting practices are improved, more refined information becomes available and the industry or market changes. Significant revisions to Ashland's methodologies are adjusted for all segments on a retrospective basis. This includes charges in the current fiscal year for certain corporate governance costs, which were previously allocated. These costs are now reflected in Unallocated and Other for all periods presented.

The following table discloses sales, operating income and depreciation and amortization by reportable segment for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Sales				
<i>Life Sciences</i>	\$ 184	\$ 196	\$ 340	\$ 366
<i>Personal Care & Household</i>	159	183	296	337
Consumer Specialties	343	379	636	703
<i>Specialty Additives</i>	155	169	294	316
<i>Performance Adhesives</i>	85	89	159	171
Industrial Specialties	240	258	453	487
<i>Intermediates and Solvents</i>	37	44	64	77
<i>Intersegment sales (a)</i>	(10)	(14)	(10)	(24)
	<u>\$ 610</u>	<u>\$ 667</u>	<u>\$ 1,143</u>	<u>\$ 1,243</u>
Operating income (loss)				
<i>Life Sciences</i>	\$ 36	\$ 33	\$ 58	\$ 56
<i>Personal Care & Household</i>	(336)	25	(326)	42
Consumer Specialties	(300)	58	(268)	98
<i>Specialty Additives</i>	(161)	(2)	(152)	(24)
<i>Performance Adhesives</i>	16	17	27	26
Industrial Specialties	(145)	15	(125)	2
<i>Intermediates and Solvents</i>	(2)	9	(14)	11
<i>Unallocated and other</i>	(21)	(38)	(44)	(74)
	<u>\$ (468)</u>	<u>\$ 44</u>	<u>\$ (451)</u>	<u>\$ 37</u>

Depreciation expense								
<i>Life Sciences</i>	\$	8	\$	8	\$	16	\$	16
<i>Personal Care & Household</i>		10		10		20		21
<i>Consumer Specialties</i>		18		18		36		37
<i>Specialty Additives</i>		16		36		32		69
<i>Performance Adhesives</i>		3		3		6		6
<i>Industrial Specialties</i>		19		39		38		75
<i>Intermediates and Solvents</i>		3		2		6		5
<i>Unallocated and other</i>		—		2		—		3
	\$	40	\$	61	\$	80	\$	120
Amortization expense								
<i>Life Sciences</i>	\$	7	\$	7	\$	14	\$	14
<i>Personal Care & Household</i>		9		9		18		18
<i>Consumer Specialties</i>		16		16		32		32
<i>Specialty Additives</i>		4		3		8		9
<i>Performance Adhesives</i>		1		1		1		1
<i>Industrial Specialties</i>		5		4		9		10
<i>Intermediates and Solvents</i>		—		1		1		1
	\$	21	\$	21	\$	42	\$	43
EBITDA (b) (c)								
<i>Life Sciences</i>	\$	51	\$	48	\$	88	\$	86
<i>Personal Care & Household</i>		(317)		44		(288)		81
<i>Consumer Specialties</i>		(266)		92		(200)		167
<i>Specialty Additives</i>		(141)		37		(112)		54
<i>Performance Adhesives</i>		20		21		34		33
<i>Industrial Specialties</i>		(121)		58		(78)		87
<i>Intermediates and Solvents</i>		1		12		(7)		17
<i>Unallocated and other</i>		(21)		(36)		(44)		(71)
	\$	(407)	\$	126	\$	(329)	\$	200

(a) Intersegment sales are accounted for at prices that approximate fair value.

(b) Excludes income (loss) from discontinued operations, other net periodic benefit income (expense) and net income (loss) on divestitures. See the Statement of Consolidated Comprehensive Income (Loss) for applicable amounts excluded.

(c) Includes \$20 million of accelerated depreciation for the three months ended March 31, 2019 and \$39 million for the six months ended March 31, 2019.

Consumer Specialties

The Consumer Specialties group is comprised of the following business segments:

Life Sciences

Life Sciences is comprised of pharmaceuticals, nutrition, nutraceuticals, agricultural chemicals, advanced materials and fine chemicals. Pharmaceutical solutions include controlled release polymers, disintegrants, film coatings, solubilizers, and tablet binders. Nutrition solutions include thickeners, stabilizers, emulsifiers and additives for enhancing mouthfeel, controlling moisture migration, reducing oil uptake and controlling color. Nutraceutical solutions include products for weight management, joint comfort, stomach and intestinal health, sports nutrition and general wellness, and provide custom formulation, toll processing and particle engineering solutions. Customers include pharmaceutical, food, beverage, nutraceuticals and supplements manufacturers, hospitals and radiologists and industrial manufacturers.

Personal Care & Household

Personal Care & Household is comprised of biofunctionals, preservatives, skin care, sun care, oral care, hair care and household. These businesses have a broad range of nature-based, biodegradable, and performance ingredients for customer-driven solutions to help protect, renew, moisturize and revitalize skin and hair, and provide solutions for toothpastes, mouth washes and rinses, denture cleaning and care for teeth. Household supplies nature-derived rheology ingredients, biodegradable surface wetting agents, performance encapsulates, and specialty polymers for household, industrial and institutional cleaning products. Customers include formulators at large multinational branded consumer products companies and smaller, independent boutique companies.

March 2020 quarter compared to March 2019 quarter

Consumer Specialties' sales decreased \$36 million to \$343 million in the current quarter. Personal Care & Household and Life Sciences represented \$24 million and \$12 million of the decrease, respectively. Lower volume, unfavorable currency exchange, plant realignment and lower pricing decreased sales by \$23 million, \$4 million, \$6 million and \$3 million, respectively.

Operating income/loss decreased \$358 million to a loss of \$300 million for the current quarter. Personal Care & Household recorded a \$336 million loss, mostly due to a goodwill impairment, while Life Sciences recorded a \$36 million operating income, up \$3 million for the prior year quarter. Goodwill impairment, lower volume and unfavorable foreign exchange decreased operating income by \$356 million, \$8 million and \$2 million, respectively. Those decreases were partially offset by favorable price/mix and favorable costs which increased operating income/loss by \$6 million and \$2 million, respectively. Current quarter EBITDA decreased \$358 to a loss of \$266 million, a \$317 million loss in Personal Care & Household and a \$51 million income in Life Sciences, while Adjusted EBITDA decreased \$1 million to \$91 million, of which \$52 million and \$39 million originated from Life Sciences and Personal Care & Household, respectively. Adjusted EBITDA margin increased 2.2 percentage points in the current quarter to 26.5%.

Fiscal 2020 year-to-date compared to fiscal 2019 year-to-date

Consumer Specialties' sales decreased \$67 million to \$636 million in the current period. Personal Care & Household and Life Sciences represented \$26 million and \$41 million of the decrease, respectively. Lower volume, unfavorable currency exchange, plant restructuring and lower pricing decreased sales by \$48 million, \$7 million, \$10 million and \$2 million, respectively.

Operating income/loss decreased \$366 million to a loss of \$268 million for the current period. Personal Care & Household recorded a \$326 million loss, mostly due to a goodwill impairment, while Life Sciences recorded a \$58 million operating income, up \$2 million for the prior year quarter. Goodwill impairments, lower volume and unfavorable foreign exchange decreased operating income by \$356 million, \$17 million and \$3 million, respectively. Those decreases were partially offset by lower costs and favorable price/mix which increased operating income/loss by \$2 million and \$8 million, respectively. Current year EBITDA decreased \$367 to a loss of \$200 million, a \$288 million loss in Personal Care & Household and a \$88

million income in Life Sciences, while Adjusted EBITDA decreased \$10 million to \$157 million, of which \$89 million and \$68 million originated from Life Sciences and Personal Care & Household, respectively. Adjusted EBITDA margin increased 0.9 percentage points in the current period to 24.7%.

EBITDA and Adjusted EBITDA reconciliation

The EBITDA and Adjusted EBITDA amounts presented within this business section are provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for each segment. Each of these non-GAAP measures is defined as follows: EBITDA (operating income plus depreciation and amortization), Adjusted EBITDA (EBITDA adjusted for key items, which may include pro forma effects for significant acquisitions or divestitures, as applicable), and Adjusted EBITDA margin (Adjusted EBITDA, which may include pro forma adjustments, divided by sales or sales adjusted for pro forma results). Ashland does not allocate items to each reportable segment below operating income, such as interest expense and income taxes. As a result, reportable segment EBITDA and Adjusted EBITDA are reconciled directly to operating income since it is the most directly comparable Statements of Consolidated Comprehensive Income (Loss) caption.

The following EBITDA presentation for the three and six months ended March 31, 2020 and 2019 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Consumer Specialties. The key items during the three and six months ended March 31, 2020 related to a goodwill impairment of \$356 million for Personal Care & Household and \$1 million in restructuring costs for Life Sciences.

(In millions)	Life Sciences		Personal Care & Household		Consumer Specialties	
	Three months ended March 31					
	2020	2019	2020	2019	2020	2019
Operating income	\$ 36	\$ 33	\$ (336)	\$ 25	\$ (300)	\$ 58
Depreciation and amortization	15	15	19	19	34	34
EBITDA	51	48	(317)	44	(266)	92
Restructuring and other costs	1	—	—	—	1	—
Goodwill impairment	—	—	356	—	356	—
Adjusted EBITDA	\$ 52	\$ 48	\$ 39	\$ 44	\$ 91	\$ 92

(In millions)	Life Sciences		Personal Care & Household		Consumer Specialties	
	Six months ended March 31					
	2020	2019	2020	2019	2020	2019
Operating income	\$ 58	\$ 56	\$ (326)	\$ 42	\$ (268)	\$ 98
Depreciation and amortization	30	30	38	39	68	69
EBITDA	88	86	(288)	81	(200)	167
Restructuring and other costs	1	—	—	—	1	—
Goodwill impairment	—	—	356	—	356	—
Adjusted EBITDA	\$ 89	\$ 86	\$ 68	\$ 81	\$ 157	\$ 167

Industrial Specialties

The Industrial Specialties business group is comprised of the below business segments:

Specialty Additives

Specialty Additives is comprised of rheology- and performance-enhancing additives serving the coatings, construction, energy, automotive and various industrial markets. Solutions include coatings additives for architectural paints, finishes and lacquers, cement- and gypsum- based dry mortars, ready-mixed joint compounds, synthetic plasters for commercial and residential construction, and specialty materials for industrial applications. Products include rheology modifiers (cellulosic and associative thickeners), foam-control agents, surfactants and wetting agents, pH neutralizers, advanced ceramics used in catalytic converters, and environmental filters, ingredients that aid the manufacturing process of ceramic capacitors, plasma display panels and solar cells, ingredients for textile printing, thermoplastic metals and alloys for welding. Products help improve desired functional outcomes through rheology modification and control, water retention, workability, adhesive strength, binding power, film formation, deposition and suspension and emulsification. Customers include global paint manufacturers, electronics and automotive manufacturers, textile mills, the construction industry, and welders.

Performance Adhesives

Performance Adhesives is comprised of adhesives used in packaging, converting and structural applications. Packaging adhesives has an extensive line of pressure sensitive adhesives, functional coatings and primers combined with innovative technology solutions for narrow-, mid- and wide-web applications. Products meet stringent requirements in food and beverage safety, shipping, transportation, health and beauty, industrial, postage and security printing. Structural adhesives include light weighting vehicles and eliminating VOCs in buildings. Customers include converters of packaging materials, manufacturers of building materials and tier one suppliers to transportation industry.

March 2020 quarter compared to March 2019 quarter

Industrial Specialties' sales decreased \$18 million to \$240 million in the current quarter. Specialty Additives and Performance Adhesives represented \$14 million and \$4 million of the decrease, respectively. Lower volume, unfavorable currency exchange lower pricing, and plant restructuring decreased sales by \$12 million, \$2 million, \$3 million and \$1 million, respectively.

Operating income/loss decreased \$160 million to a loss of \$145 million for the current quarter. Specialty Additives recorded a \$161 million loss, mostly due to a Goodwill impairment, while Performance Adhesives recorded a \$16 million operating income, down \$1 million from the prior year quarter. Goodwill impairment, lower volume and unfavorable costs decreased operating income by \$174 million, \$3 million and \$5 million, respectively. Those decreases were partially offset by the prior year plant restructuring costs and improved price/mix of \$20 million and \$2 million, respectively. Current quarter EBITDA decreased \$160 to a loss of \$121 million, a \$141 million loss in Specialty Additives and a \$20 million income in Performance Adhesives, while Adjusted EBITDA decreased \$6 million to \$53 million, of which \$33 million and \$20 million originated from Specialty Additives and Performance Adhesives, respectively. Adjusted EBITDA margin decreased 0.8 percentage points in the current quarter to 22.1%.

Fiscal 2020 year-to-date compared to fiscal 2019 year-to-date

Industrial Specialties' sales decreased \$34 million to \$453 million in the current period. Specialty Additives and Performance Adhesives represented \$22 million and \$12 million of the decrease, respectively. Lower volume, unfavorable currency exchange, plant restructuring and lower pricing decreased sales by \$22 million, \$4 million, \$4 million and \$4 million, respectively.

Operating income/loss decreased \$127 million to a loss of \$125 million for the current year. Specialty Additives recorded a \$152 million loss, mostly due to a goodwill impairment, while Performance Adhesives recorded a \$27 million operating income, up \$1 million from the prior year period. Goodwill impairment and lower volume decreased operating income by \$174 million and \$6 million, respectively. Those decreases were partially offset by prior year plant restructuring costs and favorable price/mix of \$47 million

and \$6 million, respectively. Current year EBITDA decreased \$127 to a loss of \$78 million, a \$112 million loss in Specialty Additives and a \$34 million income in Performance Adhesives, while Adjusted EBITDA decreased \$1 million to \$96 million, of which \$62 million and \$34 million originated from Specialty Additives and Performance Adhesives, respectively. Adjusted EBITDA margin increased 1.3 percentage points in the current year to 21.2%.

EBITDA and adjusted EBITDA reconciliation

The following EBITDA and Adjusted EBITDA presentation (as defined and described in the section above) for the three and six months ended March 31, 2020 and 2019 below is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Industrial Specialties. Adjusted EBITDA results have been prepared to illustrate the ongoing effects of Ashland's operations, which exclude certain key items. The key items during the three and six months ended March 31, 2020 related to a Goodwill impairment for Specialty Additives. The key items during the prior year periods related to \$20 million and \$48 million of restructuring costs associated with the planned closure of a manufacturing facility within Specialty Additives (which included \$19 million and \$38 million of accelerated depreciation) for the three and six months ended March 31, 2019, respectively.

(In millions)	Specialty Additives		Performance Adhesives		Industrial Specialties	
	Three months ended March 31					
	2020	2019	2020	2019	2020	2019
Operating income	\$ (161)	\$ (2)	\$ 16	\$ 17	\$ (145)	\$ 15
Depreciation and amortization (a)	20	20	4	4	24	24
EBITDA	(141)	18	20	21	(121)	39
Accelerated depreciation	—	19	—	—	—	19
Goodwill Impairment	174	—	—	—	174	—
Severance and other restructuring costs	—	1	—	—	—	1
Adjusted EBITDA	\$ 33	\$ 38	\$ 20	\$ 21	\$ 53	\$ 59

(In millions)	Specialty Additives		Performance Adhesives		Industrial Specialties	
	Six months ended March 31					
	2020	2019	2020	2019	2020	2019
Operating income	\$ (152)	\$ (24)	\$ 27	\$ 26	\$ (125)	\$ 2
Depreciation and amortization (a)	40	40	7	7	47	47
EBITDA	(112)	16	34	33	(78)	49
Accelerated depreciation	—	38	—	—	—	38
Goodwill Impairment	174	—	—	—	174	—
Severance and other restructuring costs	—	10	—	—	—	10
Adjusted EBITDA	\$ 62	\$ 64	\$ 34	\$ 33	\$ 96	\$ 97

(a) Depreciation and amortization excludes accelerated depreciation of \$19 million and \$38 million for the three and six months ended March 31, 2019, which are included as key items.

Intermediates and Solvents

Intermediates and Solvents is comprised of the production of 1,4 butanediol (BDO) and related derivatives, including n-methylpyrrolidone. These products are used as chemical intermediates in the production of engineering polymers and polyurethanes, and as specialty process solvents in a wide array of applications including electronics, pharmaceuticals, water filtration membranes and more. Butanediol is also provided as a feedstock to the supplied to Life Sciences, Personal Care, and Specialty Additives for use as a raw material.

March 2020 quarter compared to March 2019 quarter

Intermediates and Solvents' sales decreased \$7 million to \$37 million in the current quarter. Lower volume and lower pricing decreased sales by \$3 million and \$4 million, respectively.

Operating income/loss decreased \$11 million to a loss of \$2 million for the current quarter. Unfavorable price/mix, unfavorable costs and inventory adjustments decreased operating income by \$4 million, \$3 million and \$4 million, respectively. Current quarter EBITDA decreased \$11 to \$1 million, while Adjusted EBITDA decreased \$7 million to \$5 million. Adjusted EBITDA margin decreased 13.8 percentage points in the current quarter to 13.5%.

Fiscal 2020 year-to-date compared to fiscal 2019 year-to-date

Intermediates and Solvents' sales decreased \$13 million to \$64 million in the current period. Lower volume and lower pricing decreased sales by \$7 million and \$6 million, respectively.

Operating income/loss decreased \$25 million to a loss of \$14 million for the current period. Lower volume, unfavorable price/mix, unfavorable costs and inventory adjustments decreased operating income by \$1 million, \$3 million, \$17 million and \$4 million, respectively. Current year EBITDA decreased \$24 to a loss of \$7 million, while Adjusted EBITDA decreased \$20 million to a loss of \$3 million. Adjusted EBITDA margin decreased 26.8 percentage points in the current year to -4.7%.

EBITDA and Adjusted EBITDA reconciliation

The following EBITDA presentation (as defined and described in the section above) for the three and six months ended March 31, 2020 and 2019 is provided as a means to enhance the understanding of financial measurements that Ashland has internally determined to be relevant measures of comparison for the results of Intermediates and Solvents. Key items for the three and six months ended March 31, 2020 included an inventory adjustment of \$4 million.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Operating income	\$ (2)	\$ 9	\$ (14)	\$ 11
Depreciation and amortization	3	3	7	6
EBITDA	\$ 1	\$ 12	\$ (7)	\$ 17
Inventory adjustment	4	—	4	—
Adjusted EBITDA	\$ 5	\$ 12	\$ (3)	\$ 17

Unallocated and other

The following table summarizes the key components of the Unallocated and other segment's operating income (loss) for the three and six months ended March 31, 2020 and 2019.

(In millions)	Three months ended		Six months ended	
	March 31		March 31	
	2020	2019	2020	2019
Restructuring activities	\$ (14)	\$ (24)	\$ (22)	\$ (53)
Environmental expenses	(5)	(4)	(8)	(6)
Proxy costs	—	(5)	—	(5)
Other expenses (primarily governance and legacy expenses)	(2)	(5)	(14)	(10)
Total expense	\$ (21)	\$ (38)	\$ (44)	\$ (74)

March 2020 quarter compared to March 2019 quarter

Unallocated and other recorded expense of \$21 million and \$38 million for the three months ended March 31, 2020 and 2019, respectively. The current and prior year quarters included charges for restructuring activities of \$14 million and \$24 million, respectively, which were comprised of the following items:

- \$12 million of stranded divestiture costs during the prior year quarter, primarily related to the planned divestiture of the Composites segment and Marl facility;
- \$14 million and \$8 million of severance, lease abandonment and other restructuring costs related to company-wide cost reduction programs during the current and prior quarters, respectively; and

- \$4 million of impairment related to the planned sale of an office building during the prior year quarter.

The current quarter included \$5 million for environmental expenses.

The remaining items during the prior year quarter primarily included \$4 million for environmental expenses and \$5 million in proxy defense costs.

Fiscal 2020 year-to-date compared to fiscal 2019 year-to-date

Unallocated and other recorded expense of \$44 million and \$74 million for the six months ended March 31, 2020 and 2019, respectively. The current and prior year periods included charges for restructuring activities of \$22 million and \$53 million, respectively, which were comprised of the following items:

- \$24 million of stranded divestiture costs during the prior year period;
- \$22 million and \$25 million of severance, lease abandonment and other restructuring costs related to company-wide cost reduction programs during the current and prior year periods, respectively; and
- \$4 million of impairment related to the planned sale of an office building during the prior year period.

The current year period also included \$8 million for environmental expenses.

The remaining items during the prior year period primarily included \$6 million for environmental expenses and \$5 million in proxy defense costs.

FINANCIAL POSITION

Liquidity

Ashland had \$353 million in cash and cash equivalents as of March 31, 2020, of which \$160 million was held by foreign subsidiaries and had no significant limitations that would prohibit remitting the funds to satisfy corporate obligations. In certain circumstances, if such amounts were repatriated to the United States, additional taxes might need to be accrued and paid depending on the source of the earnings remitted. Ashland currently has no plans to repatriate any amounts for which additional taxes would need to be accrued.

Ashland has taken actions and may continue to take actions intended to increase its cash position and preserve financial flexibility in light of current uncertainty in the global markets. In January 2020, Ashland renewed and extended its Revolving Credit Agreement through 2025 and issued new 2.00% senior notes in Europe for €500 million which mature in 2028. During the three months ended March 31, 2020, Ashland elected to access \$240 million on its Revolving Credit Facility, with these amounts on deposit as cash and cash equivalents. As of March 31, 2020, Ashland has total remaining borrowing capacity of \$339 million, comprised of amounts remaining available under the Revolving Credit Facility and two accounts receivable securitization facilities. Ashland has no major loan maturities until 2022.

Ashland believes that cash flow from operations, availability under existing credit facilities and arrangements, current cash and investment balances and the ability to obtain other financing, if necessary, will provide adequate cash funds for Ashland's foreseeable working capital needs, capital expenditures at existing facilities, dividend payments and debt service obligations. Ashland's cash requirements are subject to change as business conditions warrant and opportunities arise. The timing and size of any new business ventures or acquisitions that the Company may complete may also impact its cash requirements. For information regarding the impact of COVID-19 on the Company, including on its liquidity and capital resources, please see item 1A, risk factors in this report.

Ashland's cash flows from operating, investing and financing activities, as reflected in the Statements of Condensed Consolidated Cash Flows, are summarized as follows for the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended March 31	
	2020	2019
Cash provided (used) by:		
Operating activities from continuing operations	\$ 13	\$ 6
Investing activities from continuing operations	(49)	(49)
Financing activities from continuing operations	234	(36)
Discontinued operations	(78)	(49)
Effect of currency exchange rate changes on cash and cash equivalents	1	(2)
Net increase (decrease) in cash and cash equivalents	<u>\$ 121</u>	<u>\$ (130)</u>

Operating activities

The following discloses the cash flows associated with Ashland's operating activities for the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended March 31	
	2020	2019
Cash flows provided (used) by operating activities from continuing operations		
Net income (loss)	\$ (550)	\$ 28
Income (loss) from discontinued operations (net of income taxes)	9	(54)
Adjustments to reconcile income from continuing operations to cash flows from operating activities:		
Depreciation and amortization	122	163
Original issue discount and debt issuance costs amortization	12	4
Deferred income taxes	(28)	2
Stock based compensation expense	8	13
(Income) loss from restricted investments	16	(2)
Excess tax benefit on stock based compensation	1	2
Loss on early retirement of debt	59	—
Net loss on divestitures	—	3
Impairments	530	5
Pension contributions	(3)	(3)
Gain on pension and other postretirement plan remeasurements	—	(18)
Change in operating assets and liabilities (a)	(163)	(137)
Total cash flows provided by operating activities from continuing operations	<u>\$ 13</u>	<u>\$ 6</u>

(a) Excludes changes resulting from operations acquired or sold.

Cash flows used from operating activities from continuing operations amounted to inflows of \$13 million and \$6 million in the current and prior year periods, respectively.

Operating Activities – Operating Assets and Liabilities

The cash results during each period are primarily driven by net income (loss), excluding discontinued operation results, adjusted for certain non-cash items including depreciation and amortization (including original issue discount and debt issuance cost amortization), as well as changes in working capital, which are fluctuations within accounts receivable, inventory, trade payables and accrued expenses. Ashland continues to emphasize working capital management as a high priority and focus.

Changes in operating assets and liabilities for outflows of \$163 million and \$137 million for the six months ended March 31, 2020 and 2019, respectively, and were driven by the following net working capital accounts:

- Accounts receivable – There were cash outflows of \$19 million and inflows of \$2 million during the current and prior year periods, respectively.
- Inventory – There were cash outflows of \$15 million and \$1 million during the current and prior year periods, respectively.
- Trade and other payables – There were cash outflows of \$83 million and \$116 million during the current and prior year periods, respectively, and primarily related to the timing of certain payments.

The remaining changes to operating assets and liabilities resulted in outflows of \$46 million and \$22 million in the current and prior year periods, respectively, and were primarily due to income taxes paid or income tax refunds, interest paid, and adjustments to certain accruals and other long-term assets and liabilities.

Operating Activities – Summary

Operating cash flows for the current year period included a loss from continuing operations of \$541 million. Additionally, the current period included non-cash adjustments of \$530 million for a goodwill impairment charge, \$122 million for depreciation and amortization, \$59 million loss on early retirement of debt, \$12 million original issue discounts and debt issuance cost amortization, \$8 million for stock-based compensation expense and \$16 million loss on restricted investments.

Operating cash flows for the prior year period included a loss from continuing operations of \$26 million. Additionally, the prior year period included a non-cash adjustment of \$163 million for depreciation and amortization, \$2 million for a gain on restricted investments, \$5 million for an impairment of a held for sale facility, \$13 million for stock-based compensation expense and \$18 million for the gain on pension and other postretirement plan remeasurements.

Investing activities

The following discloses the cash flows associated with Ashland's investing activities for the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended	
	March 31	
	2020	2019
Cash flows provided (used) by investing activities from continuing operations		
Additions to property, plant and equipment	\$ (66)	\$ (70)
Proceeds from disposal of property, plant and equipment	—	4
Purchase of operations	—	(1)
Net purchase of funds restricted for specific transactions	(2)	(2)
Reimbursement from restricted investments	19	20
Proceeds from sales of securities	10	156
Purchase of securities	(10)	(156)
Proceeds from the settlement of derivative instruments	—	2
Payments for the settlement of derivative instruments	—	(2)
Total cash flows used by investing activities from continuing operations	<u>\$ (49)</u>	<u>\$ (49)</u>

Cash used by investing activities was \$49 million for both the current and prior year periods, respectively. The significant cash investing activities for the current period primarily related to cash outflows of \$66 million for property additions compared to \$70 million in the prior year period. Additionally, there were reimbursements from the restricted renewable annual asbestos trust of \$19 million during the current period compared to \$20 million in the prior year period.

Financing activities

The following discloses the cash flows associated with Ashland's financing activities for the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended	
	March 31	
	2020	2019
Cash flows provided (used) by financing activities from continuing operations		
Proceeds from issuance of long-term debt	804	—
Repayment of long-term debt	(767)	(8)
Premium on long-term debt repayment	(59)	—
Proceeds from (repayment of) short-term debt	306	11
Debt issuance costs	(11)	—
Cash dividends paid	(33)	(31)
Stock based compensation employee withholding taxes paid in cash	(6)	(8)
Total cash flows provided (used) by financing activities from continuing operations	\$ 234	\$ (36)

Cash flows (used) provided by financing activities resulted in an inflow of \$234 million for the current period as compared to an outflow of \$36 million for the prior year period.

Significant cash financing activities for the current period included proceeds from issuance of long-term debt, repayment of long-term debt, premiums on retirement of long-term debt, and debt issuance costs paid of \$804 million, \$767 million, \$59 million and \$11 million, respectively, all related to debt refinancing activity. See note H for additional information. The current year period also included short-term cash inflows of \$306 million, primarily related to draws on the 2020 Revolving Credit Facility. The current period included cash dividends paid of \$0.550 per share, for a total of \$33 million.

Significant cash financing activities for the prior year period included long-term cash outflows of \$8 million, primarily related to repayments of term loans and debentures. The prior period included cash dividends paid of \$0.50 per share, for a total of \$31 million. Additionally, \$11 million of inflows were drawn out the 2017 Revolving Credit Facility.

The following discloses the cash flows associated with Ashland's discontinued operations for the six months ended March 31, 2020 and 2019.

(In millions)	Six months ended	
	March 31	
	2020	2019
Cash provided (used) by discontinued operations		
Operating cash flows	\$ (79)	\$ (41)
Investing cash flows	1	(8)
Total cash used by discontinued operations	\$ (78)	\$ (49)

Cash flows for discontinued operations in the current period primarily related to previously divested businesses, including net payments of asbestos, environmental liabilities and tax payments associated with the Composites divestiture, which was a \$59 million cash outflow.

Cash flows for discontinued operations in the prior year period included cash outflows of \$25 million related to the activity of Composites and the Marl facility. The remaining cash flows for discontinued operations related to other previously divested businesses, including net payments of asbestos and environmental liabilities.

Free cash flow and other liquidity resources

The following represents Ashland's calculation of free cash flow for the disclosed quarters. Free cash flow does not reflect adjustments for certain non-discretionary cash flows such as mandatory debt repayments.

(In millions)	Six months ended	
	March 31	
	2020	2019
Total cash flows provided by operating activities from continuing operations	\$ 13	\$ 6
Adjustments:		
Additions to property, plant and equipment	(66)	(70)
Free cash flows (a)	<u>\$ (53)</u>	<u>\$ (64)</u>

(a) Includes \$13 million and \$33 million of restructuring payments for the six months ended March 31, 2020 and 2019, respectively.

Working capital (current assets minus current liabilities, excluding long-term debt due within one year) amounted to \$673 million and \$676 million as of March 31, 2020 and September 30, 2019, respectively. Liquid assets (cash, cash equivalents and accounts receivable) amounted to 88% and 94% of current liabilities (excluding current liabilities held for sale) as of March 31, 2020 and September 30, 2019, respectively.

The following summary reflects Ashland's cash and unused borrowing capacity as of March 31, 2020 and September 30, 2019.

(In millions)	March 31	September 30
	2020	2019
Cash and investment securities		
Cash and cash equivalents	\$ 353	\$ 232
Unused borrowing capacity		
Revolving credit facility	\$ 338	\$ 752
Accounts receivable securitizations	1	48

During the current year period, Ashland entered into a new revolving credit facility. The borrowing capacity remaining under the new \$600 million revolving credit facility was \$338 million due to an outstanding balance of \$240 million and a reduction of \$22 million for letters of credit outstanding at March 31, 2020. In total, Ashland's available liquidity position, which includes cash, the revolving credit facility and the accounts receivable securitization facilities, was \$692 million at March 31, 2020, compared to \$1,032 million at September 30, 2019.

Capital resources

Debt

The following summary reflects Ashland's debt as of March 31, 2020 and September 30, 2019.

(In millions)	March 31 2020	September 30 2019
Short-term debt (includes current portion of long-term debt)	\$ 471	\$ 166
Long-term debt (less current portion and debt issuance cost discounts) (a)	1,535	1,501
Total debt	\$ 2,006	\$ 1,667

(a) Includes \$15 million and \$12 million of debt issuance cost discounts as of March 31, 2020 and September 30, 2019, respectively.

During the current year, Ashland entered into a new credit facility, the 2020 Credit Agreement, which was comprised of a \$600 million, 5-year credit facility and a \$250 million 5-year term loan. Additionally, Ashland issued new 8-year Senior notes in Europe, for approximately \$554 million. The proceeds of these debt issuances were primarily used to tender on current Senior notes for a total of \$767 million. See Note H for more information.

Debt as a percent of capital employed was 40% and 32% at March 31, 2020 and at September 30, 2019, respectively. At March 31, 2020, Ashland's total debt had an outstanding principal balance of \$2,066 million, discounts of \$45 million, and debt issuance costs of \$15 million. The scheduled aggregate maturities of long-term debt by year (including the current portion and excluding debt issuance costs) are as follows: zero remaining in 2020, zero in 2021, \$421 million in 2022, \$22 million in 2023 and \$44 million in 2024.

Ashland credit ratings

Ashland's corporate credit rating with Standard & Poor's is BB+, while Moody's Investor Services is Ba1. Moody's Investor Services and Standard & Poor's outlooks both remained at stable. Subsequent changes to these ratings may have an effect on Ashland's borrowing rate or ability to access capital markets in the future.

Ashland debt covenant restrictions

Ashland's most recent credit agreement (the 2020 Credit Agreement) contains usual and customary representations, warranties and affirmative and negative covenants, including financial covenants for leverage and interest coverage ratios, limitations on liens, additional subsidiary indebtedness, restrictions on subsidiary distributions, investments, mergers, sale of assets and restricted payments and other customary limitations. As of March 31, 2020, Ashland is in compliance with all debt agreement covenant restrictions under the 2020 Credit Agreement.

The maximum consolidated net leverage ratio permitted under the 2020 Credit Agreement is 4.0. The 2020 Credit Agreement defines the consolidated net leverage ratio as the ratio of consolidated indebtedness minus unrestricted cash and cash equivalents to consolidated EBITDA (Covenant Adjusted EBITDA) for any measurement period. In general, the 2020 Credit Agreement defines Covenant Adjusted EBITDA as net income plus consolidated interest charges, taxes, depreciation and amortization expense, fees and expenses related to capital market transactions and proposed or actual acquisitions and divestitures, restructuring and integration charges, noncash stock and equity compensation expense, and any other nonrecurring expenses or losses that do not represent a cash item in such period or any future period; less any noncash gains or other items increasing net income. The computation of Covenant Adjusted EBITDA differs from the calculation of EBITDA and Adjusted EBITDA, which have been reconciled above in the "consolidated

review” section. In general, consolidated indebtedness includes debt plus all purchase money indebtedness, banker’s acceptances and bank guaranties, deferred purchase price of property or services, attributable indebtedness and guaranties. At March 31, 2020, Ashland’s calculation of the consolidated net leverage ratio was 3.1.

The minimum required consolidated interest coverage ratio under the 2020 Credit Agreement is 3.0. The 2020 Credit Agreement defines the consolidated interest coverage ratio as the ratio of Covenant Adjusted EBITDA to consolidated interest charges for any measurement period. At March 31, 2020, Ashland’s calculation of the consolidated interest coverage ratio was 7.7.

Any change in Covenant Adjusted EBITDA of \$100 million would have an approximate 0.6x effect on the consolidated net leverage ratio and a 1.4x effect on the consolidated interest coverage ratio. The average change in consolidated indebtedness of \$100 million would affect the consolidated leverage ratio by approximately 0.2x.

Additional capital resources

Cash projection

Ashland believes that cash flow from operations, availability under existing credit facilities and arrangements, current cash and investment balances and the ability to obtain other financing, if necessary, will provide adequate cash funds for the Company’s foreseeable working capital needs, capital expenditures at existing facilities, pending acquisitions, dividend payments and debt service obligations. The Company’s cash requirements are subject to change as business conditions warrant and opportunities arise. The timing and size of any new business ventures or acquisitions that the Company may complete may also impact its cash requirements. For information regarding the impact of COVID-19 on the Company, including on its liquidity and capital resources, please see item 1A, risk factors in this report.

Total equity

Total equity decreased \$588 million since September 30, 2019 to \$2,983 million at March 31, 2020. The decrease of \$588 million was due to net loss of \$550 million, deferred translation loss of \$14 million, and dividends of \$33 million, offset by \$9 million of common shares issued under stock incentive and other plans.

Stockholder dividends

In May 2019, the Board of Directors of Ashland announced a quarterly cash dividend of 27.5 cents per share to eligible stockholders at record, which represented an increase from previous quarterly cash dividend of 25.0 cents per share. This dividend was paid in the third and fourth quarter of fiscal 2019 and the first and second quarters of fiscal 2020.

Capital expenditures

Capital expenditures were \$66 million for the six months ended March 31, 2020 compared to \$70 million for the six months ended March 31, 2019.

CRITICAL ACCOUNTING POLICIES

The preparation of Ashland’s Condensed Consolidated Financial Statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, sales and expenses, and the disclosures of contingent assets and liabilities. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including goodwill and other intangible assets), income taxes, other liabilities and receivables associated with asbestos litigation and environmental remediation. These accounting policies are discussed in detail in “Management’s Discussion and Analysis – Critical Accounting Policies” in Ashland’s Annual Report on Form 10-K for the fiscal year ended September 30, 2019. Although management bases its estimates on historical experience and various other assumptions that are believed to be reasonable under the circumstances, actual results could differ significantly from the estimates under different assumptions or conditions. Management has reviewed the estimates affecting these items with the Audit Committee of Ashland’s Board of Directors. No material changes have been made to the valuation techniques during the six months ended March 31, 2020.

Goodwill and other indefinite-lived intangible assets

Ashland tests goodwill and other indefinite-lived intangible assets for impairment annually as of July 1 and when events and circumstances indicate an impairment may have occurred. Ashland tests goodwill and other indefinite-lived intangible assets for impairment by comparing the estimated fair value of the reporting units (for goodwill) or other indefinite-lived intangible assets to the related carrying value. If the carrying amount of a reporting unit or other indefinite-lived intangible asset exceeds its estimated fair value, Ashland records an impairment loss based on the difference between fair value and carrying amount, in the case of reporting units, not to exceed to the associated carrying amount of goodwill.

Reporting units are defined as either operating segments or one level below the operating segments for which discrete financial information is available and reviewed by the business management. During the second quarter of fiscal 2020, Ashland realigned its operations into five reportable segments which resulted in a reassessment of the Company's reporting units used to evaluate goodwill impairment. The Company's reporting units align with its reportable segments. Ashland determined that its reporting units are Life Sciences, Personal Care & Household, Specialty Additives, Performance Adhesives, and Intermediates and Solvents. Prior to the business realignment, the reporting units consisted of Ashland Specialty Ingredients and Intermediates and Solvents. The Ashland Specialty Ingredients reporting unit contained all of Ashland's reported goodwill at September 30, 2019.

In conjunction with the realignment, Ashland tested goodwill for impairment for each reporting unit both immediately before and immediately after the business realignment. The fair values of the reporting units were determined using a combination of discounted cash flow models and valuations based on earnings multiples for guideline public companies in each reporting unit's industry peer group.

The goodwill impairment test under the former reporting unit structure concluded that no impairment existed during the second quarter of fiscal 2020. Ashland then allocated goodwill to the new reporting unit structure using a relative fair value approach and re-assessed goodwill for impairment for each of its new reporting units. The impairment test under the new reporting unit structure concluded that Life Sciences and Performance Adhesives fair value were in excess of the carrying amounts by more than 10%. The carrying value of the Personal Care & Household reporting unit and the Specialty Additives reporting unit exceeded its respective fair value, resulting in a non-cash goodwill impairment charge of \$530 million, which was recorded within the Goodwill impairment caption within the Statement of Consolidated Comprehensive Income (Loss) for the three and six months ended March 31, 2020. Remaining goodwill after impairment was zero for Personal Care & Household and \$435 million for Specialty Additives. The Personal Care & Household goodwill impairment charge was due in large part to lower growth and lower margins since the acquisitions of the Oral Care and Avoca businesses, which collectively have resulted in reduced cash flow projections. The Specialty Additives goodwill impairment charge was also due in large part to lower growth and lower margins within the global construction and energy end markets, which collectively have resulted in reduced cash flow projections.

The table below provides a sensitivity analysis for Specialty Additives goodwill, utilizing reasonably possible changes in the assumptions for the shorter term and residual growth rates and the discount rate, to demonstrate the potential impacts to the estimated fair values. The table below provides, in isolation, the estimated fair value impacts related to a 25-basis point increase to discount rate or a 25-basis point decrease to residual growth rates, both of which would result in incremental impairment charges to Specialty Additives reporting unit.

	Approximate Percent Change in Estimated Fair Value	
	+25 bps	-25 bps
	Discount Rate	Growth Rate
Specialty Additives	-2.9%	-2.1%

Significant assumptions inherent in the valuation methodologies include estimates of future projected business results (principally revenue and EBITDA), long-term growth rates, and the weighted-average cost of capital. Ashland performed sensitivity analyses by using a range of inputs to confirm reasonableness of these estimates. Additionally, Ashland compares the indicated equity value to Ashland's market capitalization, and implied control premium/discount, to determine if the estimated enterprise value is reasonable compared to external market indicators. Ashland believes the data and assumptions used are appropriate in the circumstances and consistent with internal projections. Significant assumptions utilized in the impairment analysis performed during the second quarter of 2020 included the weighted average cost of capital, ranging between 9.0% and 10.5%, and terminal growth rate, ranging between 2.0% and 4.0% depending on the reporting unit.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Ashland's market risk exposure at March 31, 2020 is generally consistent with the types of market risk exposures presented in Ashland's Annual Report on Form 10-K for the fiscal year ended September 30, 2019.

ITEM 4. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures - As of the end of the period covered by this quarterly report, Ashland, under the supervision and with the participation of its management, including Ashland's Chief Executive Officer and its Chief Financial Officer, evaluated the effectiveness of Ashland's disclosure controls and procedures pursuant to Rule 13a-15(b) and 15d-15(b) promulgated under the Securities Exchange Act of 1934, as amended. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the disclosure controls and procedures were effective as of March 31, 2020.

Changes in Internal Control over Financial Reporting - During the three months ended March 31, 2020, there were no significant changes in Ashland's internal control over financial reporting, or in other factors, that occurred during the period covered by this quarterly report that have materially affected, or are reasonably likely to materially affect, Ashland's internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The following is a description of Ashland's material legal proceedings.

Asbestos-Related Litigation

Ashland is subject to liabilities from claims alleging personal injury caused by exposure to asbestos. Such claims result primarily from indemnification obligations undertaken in 1990 in connection with the sale of Riley Stoker Corporation (Riley), a former subsidiary. Although Riley was neither a producer nor a manufacturer of asbestos, its industrial boilers contained some asbestos-containing components provided by other companies.

Hercules LLC (formerly Hercules Incorporated), an indirect wholly-owned subsidiary of Ashland, is also subject to liabilities from asbestos-related personal injury lawsuits involving claims which typically arise from alleged exposure to asbestos fibers from resin encapsulated pipe and tank products which were sold by one of Hercules' former subsidiaries to a limited industrial market.

Ashland and Hercules are also defendants in lawsuits alleging exposure to asbestos at facilities formerly or presently owned or operated by Ashland or Hercules.

For additional detailed information regarding liabilities arising from asbestos-related litigation, see Note L of Notes to Condensed Consolidated Financial Statements in this quarterly report on Form 10-Q.

Environmental Proceedings

(a) *CERCLA and Similar State Law Sites* - Under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and similar state laws, Ashland and its subsidiaries may be subject to joint and several liability for cleanup costs in connection with alleged releases of hazardous substances at sites where it has been identified as a "potentially responsible party" (PRP). As of March 31, 2020, Ashland and its subsidiaries have been identified as a PRP by U.S. federal and state authorities, or by private parties seeking contribution, for the cost of environmental investigation and/or cleanup at 79 waste treatment or disposal sites. These sites are currently subject to ongoing investigation and remedial activities, overseen by the United States Environmental Protection Agency (USEPA) or a state agency, in which Ashland or its subsidiaries are typically participating as a member of a PRP group. Generally, the types of relief sought include remediation of contaminated soil and/or groundwater, reimbursement for past costs of site cleanup and administrative oversight and/or long-term monitoring of environmental conditions at the sites. The ultimate costs are not predictable with assurance.

(b) *Hattiesburg, Mississippi Resource Conservation and Recovery Act Matter* - In November 2008, the Mississippi Department of Environmental Quality (MDEQ) issued a Notice of Violation to Hercules' now-closed Hattiesburg, Mississippi manufacturing facility alleging that a process water impoundment basin at the facility had been operated as a hazardous waste storage and treatment facility without a permit in violation of the Resource Conservation and Recovery Act. In May 2011, the USEPA issued an inspection report from a September 2010 inspection with allegations similar to those of the MDEQ and promulgated an information request. Ashland has been working with the MDEQ and USEPA to settle this matter in the context of the shutdown and ongoing remediation of the Hattiesburg facility. The USEPA proposed a settlement penalty in excess of \$100,000. While it is reasonable to believe that this matter will involve a penalty from the MDEQ and/or the USEPA exceeding \$100,000, the potential penalty with respect to this enforcement matter should not be material to Ashland.

(c) *Lower Passaic River, New Jersey Matters* - Ashland, through two formerly owned facilities, and ISP, through a now-closed facility, have been identified as PRPs, along with approximately 70 other companies (the Cooperating Parties Group or the CPG), in a May 2007 Administrative Order of Consent (AOC) with the USEPA. The parties are required to perform a remedial investigation and feasibility study (RI/FS) of the entire 17 miles of the Passaic River. In June 2007, the USEPA separately commenced a Focused Feasibility Study (FFS) as an interim measure. In accordance with the 2007 AOC, in June 2012 the CPG voluntarily entered into another AOC for an interim removal action focused solely at mile 10.9 of the Passaic River. The allocations for the 2007 AOC and the 2012 removal action are based on interim allocations, are immaterial and have been accrued. In April 2014, the USEPA released the FFS. The CPG submitted the Draft RI/FS Report on April 30, 2015. The USEPA has released the FFS Record of Decision for the lower 8 miles and recently reached an agreement with another chemical company to conduct and pay for the

remedial design. This chemical company has sued Ashland, ISP and numerous other defendants to recover past and future costs pursuant to the CERCLA. Ashland, ISP and numerous other defendants have filed a Motion to Dismiss all of the claims. Ashland and ISP are participating in an USEPA allocation process. The release of the FFS Record of Decision, the current allocations proceedings and the lawsuit are not expected to be material to Ashland.

(d) Freetown, MA Resource Conservation and Recovery Act (RCRA) Matter - On September 27, 2018, the USEPA issued a Complaint, Compliance Order and Opportunity for Hearing to ISP Freetown Fine Chemicals, Inc.'s facility in Assonet, Massachusetts alleging various violations of the RCRA relating to certain distillation tanks at the facility and seeking a penalty of \$203,792. Ashland disputes USEPA's stated interpretation of the RCRA regulations and their applicability to these tanks. While this matter could result in a penalty from USEPA in excess of \$100,000, the potential penalty is not expected to be material to Ashland.

For additional information regarding environmental matters and reserves, see Note L of Notes to Condensed Consolidated Financial Statements in this quarterly report on Form 10-Q.

Other Pending Legal Proceedings

In addition to the matters described above, there are other various claims, lawsuits and administrative proceedings pending or threatened against Ashland and its current and former subsidiaries. Such actions are with respect to commercial matters, product liability, toxic tort liability and other environmental matters which seek remedies or damages, some of which are for substantial amounts. While Ashland cannot predict with certainty the outcome of such actions, it believes that adequate reserves have been recorded and losses already recognized with respect to such actions were immaterial as of March 31, 2020. There is a reasonable possibility that a loss exceeding amounts already recognized may be incurred related to these actions; however, Ashland believes that such potential losses were immaterial as of March 31, 2020.

ITEM 1A. RISK FACTORS

During the period covered by this report, there were no material changes from the risk factors previously disclosed in Ashland's Annual Report on Form 10-K for the fiscal year ended September 30, 2019.

The COVID-19 pandemic could have a material adverse effect on Ashland's business operations, results of operations, cash flows and financial position

Ashland is closely monitoring the impact of the COVID-19 pandemic on all aspects of its business and geographies, including how the pandemic will impact customers, employees, suppliers, vendors, business partners and distribution channels. The COVID-19 pandemic has created significant volatility, uncertainty and economic disruption, which may materially and adversely affect Ashland's business operations, cash flows, liquidity and financial position. The extent to which the COVID-19 pandemic impacts Ashland will depend on numerous evolving factors and future developments that are difficult to predict, including: the severity of the virus; the duration of the outbreak; governmental, business and other actions in response to the pandemic (which could include limitations on Ashland's operations or mandates to provide products or services); the impact of the pandemic on Ashland's supply chain; the impact of the pandemic on economic activity; the extent and duration of the effect on consumer confidence and spending, customer demand and buying patterns including spending on discretionary categories; the health of and the effect on Ashland's workforce and its ability to meet staffing needs through the operations and other critical functions, particularly if employees are quarantined as a result of exposure; any impairment in value of tangible or intangible assets which could be recorded as a result of weaker economic conditions; the impact on Ashland's business and the global economy from governmental actions related to international trade; and the potential effects on internal controls including those over financial reporting as a result of changes in working environments such as shelter-in-place and similar orders that are applicable to employees and business partners, among others. In addition, if the pandemic continues to create disruptions or turmoil in the credit or financial markets, or impacts Ashland's credit ratings, it could adversely affect Ashland's ability to access capital on favorable terms and continue to meet its liquidity needs, all of which are highly uncertain and cannot be predicted. In addition, Ashland cannot predict the impact that the COVID-19 pandemic will have on its customers, suppliers, vendors, and other business partners, and each of their financial conditions; however, any material effect on these parties could adversely impact Ashland. The impact of the COVID-19 pandemic may also exacerbate other risks discussed in Item 1A. Risk Factors in Ashland's Annual Report on Form 10-K for fiscal year ended September 30, 2019, any of which could have a material effect on Ashland. This situation is changing rapidly and additional impacts may arise that Ashland is not aware of currently.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

There was no share repurchase activity during the three months ended March 31, 2020.

Issuer Purchases of Equity Securities

Q2 Fiscal Periods	Total Number of Shares Purchased	Average Price Paid Per Share, including commission	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Dollar Value of Shares that May Be Purchased Under the Plans or Programs (in millions) (a)
January 1, 2020 to January 31, 2020	—	\$ —	—	\$ 800
February 1, 2020 to February 29, 2020	—	—	—	800
March 1, 2020 to March 31, 2020	—	—	—	800
Total	—	—	—	\$ 800

(a) During March 2018, Ashland's Board of Directors approved a new \$1 billion stock repurchase program, which replaced the previous stock repurchase program. Ashland's stock repurchase program does not obligate it to acquire any specific number of shares. Under the program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 of the Exchange Act. As of March 31, 2020, \$800 million remains available for repurchase under this authorization.

ITEM 6. EXHIBITS

(a) Exhibits

- 10.1* [Amendment to Ashland Severance Pay Plan dated January 29, 2020.](#)
- 31.1* [Certificate of Guillermo Novo, Chief Executive Officer of Ashland pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 31.2* [Certificate of J. Kevin Willis, Chief Financial Officer of Ashland pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.](#)
- 32* [Certificate of Guillermo Novo, Chief Executive Officer of Ashland, and J. Kevin Willis, Chief Financial Officer of Ashland pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101.INS** Inline XBRL Instance Document.
- 101.SCH** Inline XBRL Taxonomy Extension Schema Document.
- 101.CAL** Inline XBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF** Inline XBRL Taxonomy Extension Definition Linkbase Document.
- 101.LAB** Inline XBRL Taxonomy Extension Label Linkbase Document.
- 101.PRE** Inline XBRL Taxonomy Extension Presentation Linkbase Document.
- 104 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language): (i) Statements of Consolidated Comprehensive Income (Loss) for the three months ended March 31, 2020 and March 31, 2019; (ii) Condensed Consolidated Balance Sheets at March 31, 2020 and September 30, 2019; (iii) Statements of Consolidated Equity at March 31, 2020; (iv) Statements of Condensed Consolidated Cash Flows for the six months ended March 31, 2020 and March 31, 2019; and (v) Notes to Condensed Consolidated Financial Statements.

SM Service mark, Ashland or its subsidiaries, registered in various countries.

™ Trademark, Ashland or its subsidiaries, registered in various countries.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

May 6, 2020

Ashland Global Holdings Inc.

(Registrant)

/s/ J. Kevin Willis

J. Kevin Willis

Senior Vice President and Chief Financial Officer

(on behalf of the Registrant and as principal
financial officer)

**AMENDMENT
TO
ASHLAND SEVERANCE PAY PLAN**

WHEREAS, the Ashland Severance Pay Plan, as amended (the “Severance Plan”) is maintained to provide certain severance benefits to employees; and

WHEREAS, the Ashland Salary Continuation Plan is part of the Severance Plan; and

WHEREAS, the Compensation Committee of the Ashland Board of Directors exercised its right to amend the Salary Continuation Plan on January 29, 2020 (the “Amendment Date”).

NOW, THEREFORE, pursuant to such action of the Compensation Committee, as approved by the Board of Directors, the Salary Continuation Plan within the Severance Plan is amended as follows effective as of the Amendment Date.

1. Section 5(a) of the Salary Continuation Plan is amended and restated in its entirety as follows:

“The applicable amount described in this paragraph (a) shall be paid to a participant in an undiscounted lump sum within ten (10) business days after such participant's termination of employment without Cause. A participant (i) who was in band 22, 23, 24 or UNG on the day before the Change in Control or on the date of his or her termination from employment without cause shall be paid an amount equal to 52 weeks of his or her base pay plus the highest target annual incentive compensation (expressed as a percentage of base compensation for all applicable incentive compensation plans) payable for the determination period in which the participant's termination from employment occurs and (ii) who was [a member of the Executive Leadership Team (“ELT”)] on the day before the Change in Control or on the date of his or her termination from employment without cause shall be paid an amount equal to 104 weeks of his or her base pay plus the highest target annual incentive compensation (expressed as a percentage of base compensation for all applicable incentive compensation plans) payable for the determination period in which the participant's termination from employment occurs. The “determination period” is the period for which target annual incentive compensation is calculated and paid. All other participants will receive two (2) weeks of base pay for each completed 12 months of service, with a minimum benefit of 13 weeks of base pay and a maximum benefit of 52 weeks of base pay. For this purpose, a participant's "service" is his or her total aggregate years and months of service (whether or not continuous), rounded up to the next highest whole year.

For purposes of the Plan, “base pay” for eligible salaried employees (exempt and non-exempt), is determined by dividing the participant’s annual base salary by 52 weeks. It will also include any lump sum payments made to the participant in lieu of a percentage merit salary increase during the 12-month period immediately preceding the termination of employment. Base pay does not include special pay such as severance pay, discretionary and non-discretionary bonus, income from vested equity awards, payments under an incentive pay plan, special allowances or any other forms of compensation a participant receives from the company. The company determines the items constituting a participant’s base pay.

2. In all other respects the Plan shall remain unchanged.

IN WITNESS WHEREOF, this Amendment is executed effective as of the Amendment Date.

ASHLAND GLOBAL HOLDINGS INC.

By: _____
Title: _____
Date: _____

CERTIFICATIONS

I, Guillermo Novo, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ashland Global Holdings Inc.;
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 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 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 6, 2020

/s/ Guillermo Novo

Guillermo Novo
Chairman and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATIONS

I, J. Kevin Willis, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Ashland Global Holdings Inc.;
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 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 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 6, 2020

/s/ J. Kevin Willis

J. Kevin Willis
Chief Financial Officer
(Principal Financial Officer)

ASHLAND GLOBAL HOLDINGS INC.

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

In connection with the Quarterly Report of Ashland Global Holdings Inc. (the "Company") on Form 10-Q for the period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned, Guillermo Novo, Chief Executive Officer of the Company, and J. Kevin Willis, 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:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Guillermo Novo

Guillermo Novo
Chief Executive Officer
May 6, 2020

/s/ J. Kevin Willis

J. Kevin Willis
Chief Financial Officer
May 6, 2020