

2019 Annual Report



TM

Valvoline™

Service-Driven
Product-Fueled
Technology-Enabled



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Non-GAAP Measures:
 This Annual Report includes certain financial measures, including EBITDA, Adjusted EBITDA and free cash flow, that do not conform to generally accepted accounting principles in the United States (U.S. GAAP). As further described in our 2019 Form 10-K, these non-GAAP measures do not purport to be alternatives to net income or cash flows from operating activities as measures of operating performance or cash flows. However, management believes the use of these non-GAAP measures on both a consolidated and reportable segment basis assists investors in understanding the ongoing operating performance of Valvoline’s business by presenting comparable financial results between periods. The non-GAAP information provided may not be consistent with the methodologies used by other companies and should not be construed as an alternative to reported results determined in accordance with U.S. GAAP. All non-GAAP information has been reconciled with reported U.S. GAAP results in the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section of our 2019 Form 10-K, which has been enclosed with this Annual Report and is available online on our website at <http://investors.valvoline.com/sec-filings>, and on the SEC’s website at <http://www.sec.gov>.

Forward-Looking Statements:
 Certain statements in this Annual Report, other than statements of historical fact, including estimates, projections and statements related to our business plans and operating results, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. We have identified some of these forward-looking statements with words such as “anticipates,” “believes,” “expects,” “estimates,” “is likely,” “predicts,” “projects,” “forecasts,” “may,” “will,” “should,” and “intends” and the negative of these words or other comparable terminology. These forward-looking statements are based on our current expectations, estimates, projections and assumptions as of the date such statements are made and are subject to risks and uncertainties that may cause results to differ materially from those expressed or implied in the forward-looking statements. Additional information regarding these risks and uncertainties are described in our Form 10-K, which has been included in this Annual Report and is available on our website at <http://investors.valvoline.com/sec-filings>, and on the SEC’s website at <http://www.sec.gov>. We assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future, unless required by law.

We are building the world’s leading engine and automotive maintenance business by bringing Hands-On Expertise for the benefit of our customers every day.

OUR VALUES

- ✔ It all starts with our people
- ✔ Safety is always our priority
- ✔ We are committed to winning ... the right way
- ✔ We work hard, celebrate success and have fun
- ✔ We strive for greatness

OUR VOW

Our vow is to bring Hands-On Expertise for the benefit of our customers every day, moving the business forward with speed and excellence.

OUR VISION

We are building the world’s leading engine and automotive maintenance business. We will accelerate growth around the world by increasing our focus and investment in:

- ✔ The Valvoline™ brand, built on superior products and service.
- ✔ The industry’s best retail services model.
- ✔ Technology that enables speed, innovation and increased efficiency in every aspect of our business.
- ✔ Strong value-adding relationships with our channel partners.

Dear Fellow Stakeholders:

At Valvoline, we are building the world's leading engine and automotive maintenance business. At our first Investor Day event, in May 2019, we laid out the roadmap that guides our near-term actions toward achieving that vision. From a portfolio perspective, the plan is to aggressively grow our Quick Lubes segment, maintain profitability in our Core North America segment, and develop opportunities in our International segment.

The significant growth that we're experiencing in Quick Lubes is being driven, first, by our relentless focus on consistently delivering a "Quick, Easy, Trusted" customer experience; and second, by our push to add approximately 100 stores annually as we fill out our national footprint in the United States and Canada. Soon, service-driven profits are expected to comprise more than half of Valvoline's total profitability, benefiting investors through improved margins, increased stability, and expanded growth opportunities with a strong return on investment. Beyond our Quick Lubes business, we are building new service capabilities and digital platforms that complement our portfolio of premium products, bringing more value to our installer, fleet and retail customers, further differentiating us from our product-only competitors.

Also in FY19, Valvoline Instant Oil ChangeSM achieved a remarkable feat: 13 straight years of same-store sales growth, ending the year with record systemwide SSS growth of 10.1%. Core North America showed improving year-over-year results in the second half of the year, setting it on the road to stabilization despite ongoing challenges in the retail channel. In International, we enhanced our European supply chain and expanded our reach into Eastern Europe and Russia by acquiring a regional lubricant supplier and facility.

We faced challenges in FY19 but finished with solid momentum. As we accelerate the shift to a service-driven business model, we are establishing a strong foundation for future long-term growth. With our team of Hands-On Experts, we are prepared to drive significant progress in FY20.

Sincerely,



Samuel J. Mitchell, Jr.
Chief Executive Officer



Service-Driven, Product-Fueled, Technology-Enabled

At Valvoline, the foundation of our culture is "Hands-On Expertise." This approach brings a service orientation to our work, setting us apart from the competition.

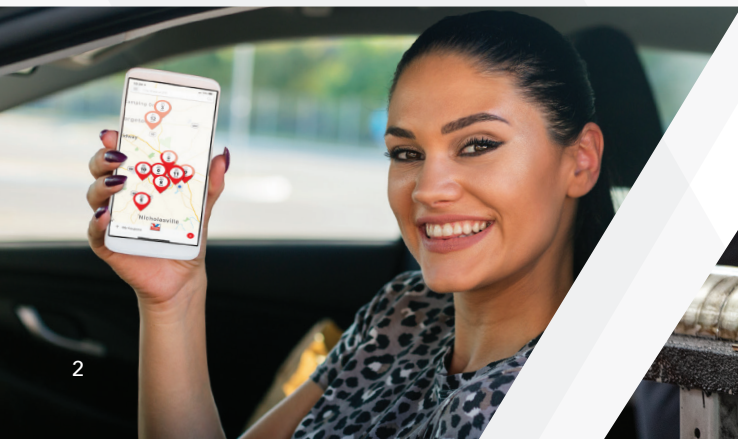
In FY19, we continued our expansion beyond products with more focus on services, increasing value to customers and consumers. We continue to produce premium branded automotive maintenance products, and we're enhancing the value proposition in each of our business segments with great services, too. Through a unique integration of premium products, superior services and innovative technology, we are driving our business forward.



Our customers and consumers benefit from our unique integration of services, products and technology.

We deliver a quick, easy and trusted experience to Valvoline Instant Oil ChangeSM consumers through our app, which helps them plan a visit by showing real-time wait times at our company-owned stores. Once they arrive, they receive customized data-driven recommendations for our premium products. They also get an automatic open-recall check on their vehicle so that, if needed, they can stay safe by visiting a partner dealership to have it resolved.

We focus on reducing fleet customers' total cost of ownership, which is why we partnered with Cummins to help develop a natural gas engine lubricant specification that doubles heavy-duty engine oil drain intervals versus the previous spec. We launched the first product to meet that spec, Valvoline Premium Blue One SolutionTM, which is approved for use in gasoline, diesel, and natural gas engines. We also help interpret customers' used oil analysis to identify ways to improve engine performance and optimize drain intervals.



Financial Highlights¹

Fiscal Years Ended September 30	2019	2018	2017
Sales	\$ 2,390	\$ 2,285	\$ 2,084
Operating income	\$ 398	\$ 395	\$ 394
Net income	\$ 208	\$ 166	\$ 304
Earnings before interest, taxes, depreciation and amortization (EBITDA) ²	\$ 399	\$ 449	\$ 574
Adjusted EBITDA ²	\$ 478	\$ 466	\$ 447
Diluted earnings per share (EPS)	\$ 1.10	\$ 0.84	\$ 1.49
Weighted average diluted common shares outstanding	189	197	204
Cash flows from operating activities	\$ 325	\$ 320	\$ (130)
Additions to property, plant and equipment	\$ 108	\$ 93	\$ 68
Free cash flow ^{2,3}	\$ 217	\$ 227	\$ 196
Systemwide same-store sales (SSS) growth ⁴	10.1%	8.3%	7.4%
Quick Lubes store count	1,385	1,242	1,127

1. In millions, except store counts and per-share amounts.

2. See attached 2019 Form 10-K for a reconciliation of non-GAAP measures.

3. Excludes a nearly \$400 million voluntary pension contribution in FY17.

4. Includes company-owned and franchised stores. Systemwide SSS growth determined on a fiscal-year basis with new stores included after the first full fiscal year of operation. See attached 2019 Form 10-K for a discussion of management's use of key business measures.

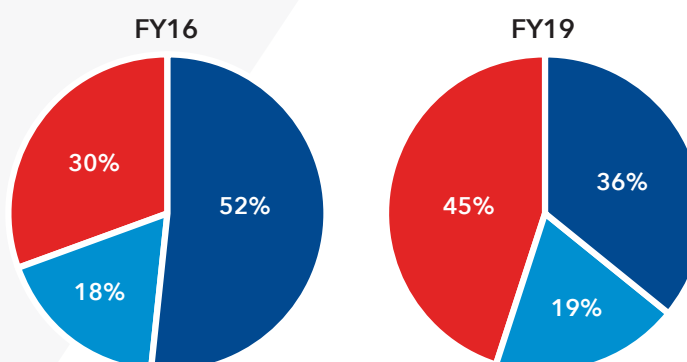
Powering the Shift to Services

Benefits

- Higher margins with attractive tailwinds
- Increased stability through expanded captive distribution of product portfolio with end-to-end control and lower sensitivity to raw material inflation
- Platform for expanded service offerings

Trend in Segment Adjusted EBITDA Mix

- Quick Lubes
- Core North America
- International



Reconciliation of Non-GAAP Adjusted EBITDA

Adjusted EBITDA by Segment (in millions)	Quick Lubes		Core North America		International	
Fiscal Years Ended September 30	2019	2016	2019	2016	2019	2016
Operating income	\$178	\$117	\$152	\$212	\$85	\$74
Depreciation and amortization	\$36	\$17	\$18	\$16	\$7	\$5
EBITDA	\$214	\$134	\$170	\$228	\$92	\$79
Key items ¹	--	--	\$4	--	(\$2)	--
Adjusted EBITDA	\$214	\$134	\$174	\$228	\$90	\$79

1. For FY19, key items include business interruption expenses of \$4 million and \$2 million in Core North America and International, respectively, and an acquisition-related bargain purchase gain of \$4 million in International.



EUROPE

Expanded footprint to serve a key region

Acquired regional lubricant supplier and facility in Eastern Europe to expand supply chain network to serve growing region

Shortening route to market and expansion in new channels

Improved customer experience with new company-managed logistics facility in Netherlands



NORTH AMERICA

Innovation and retail expansion in the large mature market where Valvoline originated.

Announced global product line to service electric vehicles

Acquired Minit Lube, adding to Quick Lubes' footprint into Western Canada

Served as official partner of 2019 Concacaf Gold Cup soccer championship

Launched new installer channel service offerings



LATIN AMERICA

Growing market share in a high-potential market

Leveraging and expanding Cummins partnership to accelerate heavy-duty business growth

Relaunched and expanded Premium Protection™ motor oil line, to offer full slate of products to better serve market



MIDDLE EAST & AFRICA

Rapidly expanding business footprint in an emerging region

Entered new markets to further serve growth in region

Expanded supply chain footprint to South Africa and United Arab Emirates to better serve regional markets



Major Offices



Research and Development Centers



Lubricant Blending and Packaging



Major Third-Party Production



Consumer Retail Locations (VIOC, GCOC, Express Care, JV)

Hands-On Expertise Around the Globe

CHINA

Fortifying market position in a rapidly evolving marketplace

Partnered with services provider The Master Too™ to co-develop quick lube model

Strengthened relationship with construction equipment maker LiuGong to be its preferred lubricant provider outside of China



SOUTHEAST ASIA

Expanded market penetration

Double-digit growth in key markets through expanded distribution and sell-through

Developed closer relationship with region's mechanics through second year of Mechanic Week marketing events

3rd

INDIA

Consistent share growth through our joint venture in an evolving market

Established new agreements with Volvo Eicher and expanded Tata Motors partnership to include new co-branded motor oil

Renewed key agreements with original equipment manufacturer (OEM) partners, including Mahindra Automotive



AUSTRALIA-PACIFIC

Strong profitable business with a high share across multiple segments

Secured new retail distribution to further serve DIY market

Increased penetration in marine sector through national distributor



140+

countries where
Valvoline is sold

7,900

employees
worldwide

\$2.4B

FY19 revenue

Quick Lubes

Grow

In our Quick Lubes business segment, we promise to be the **quick, easy and trusted** way for customers to avoid costly, inconvenient breakdowns. With an unwavering focus on service – along with proven strategies, top-notch recruiting and talent management, proprietary tools including industry-leading point-of-sale technology and award-winning SuperPro™ process management system, a new consumer app, and innovative marketing– we are winning with employees, customers and franchisees. That's what powers the confidence we have in Quick Lubes' growth.

At Valvoline Instant Oil Change, FY19 systemwide same-store sales (SSS)¹ grew a record 10.1%, marking our 13th consecutive year of growth. Overall, the Quick Lubes business added 143 company-owned and franchised locations in FY19 for a total of 1,385, including our first company-owned locations in Canada.

Since 2015, when Valvoline began making a concerted effort to invest in the segment, Quick Lubes has shown a 10% compound annual growth rate in units and 8.2% average growth in systemwide SSS. The powerful combination of unit and SSS growth has led to total systemwide retail store sales¹ of more than \$1.4 billion in FY19.

WINNING WITH EMPLOYEES

Our people are the foundation of what we do. When we win with employees, we win with customers.

We start by attracting the right talent. A strong employee value proposition – we offer a career, not just a job – coupled with sharp recruiting strategies help us attract top candidates so that we are able to be highly selective in our hiring, even in a tight labor market. In FY19, VIOC won a 2019 North American Talent Board Candidate Experience Award.

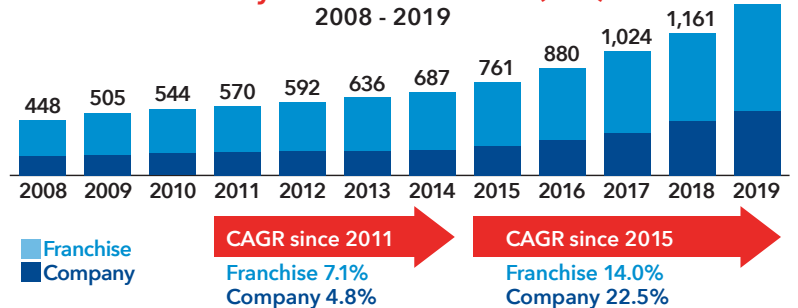
After hiring, we provide more than 270 hours of training on average per employee, to ensure they have the skills to deliver hands-on expertise and world-class service.

Our top performers grow their careers by advancing in our unrivaled promotion path. Ninety percent of our field operations leaders have been internal hires.

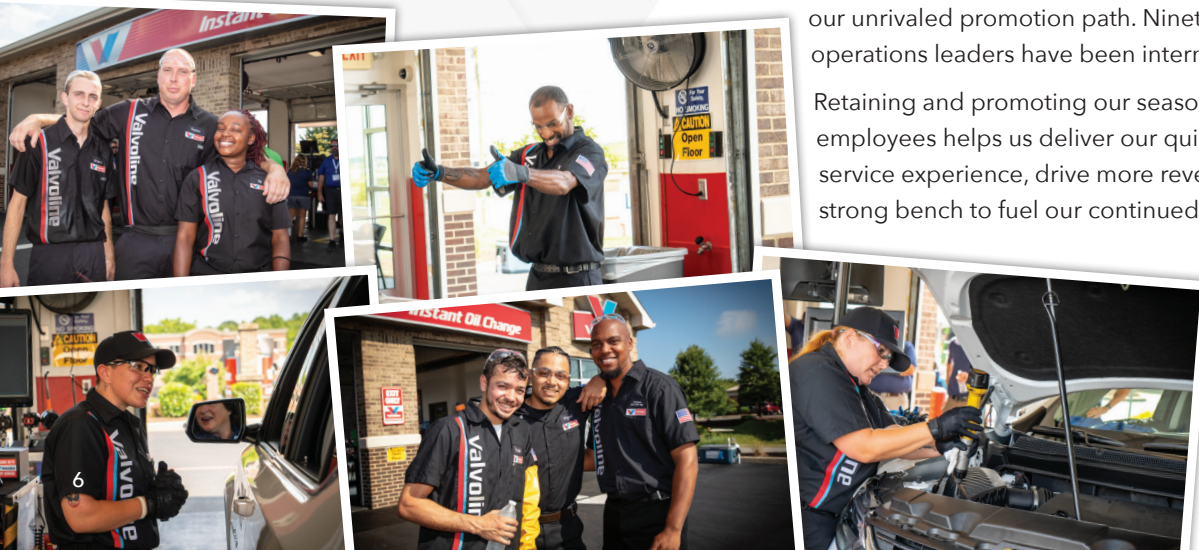
Retaining and promoting our seasoned, well-trained employees helps us deliver our quick, easy, trusted service experience, drive more revenue, and build a strong bench to fuel our continued future growth.

Our Quick Lubes business segment serves passenger car and light truck customers through three primary brands: Valvoline Instant Oil Change (VIOC) in the United States, Valvoline Great Canadian Oil Change (GCOC) in Canada, and Valvoline Express Care™ in both markets. VIOC and GCOC offer preventive auto maintenance services, including full-service oil changes. Valvoline Express Care centers are locally operated by independent owners and offer oil changes and other standard auto maintenance services using customer-trusted Valvoline products.

Total System Store Sales¹ (\$M)



1. Valvoline does not recognize sales from franchised stores as Quick Lubes segment revenue. Quick Lubes revenue is limited to sales at company-owned stores, sales of lubricants and other products to franchisees, and royalties and other fees from franchised stores. See attached 2019 Form 10-K for a discussion of management's use of key business measures.



WINNING WITH CUSTOMERS

Technology is at the forefront of how we deliver quick, easy, trusted service to our 18 million VIOC and GCOC customers a year and maintain a strong customer satisfaction score of 4.6 out of 5 stars based on an annual survey. We've recently invested in technology solutions to help drive customer retention by improving trust and reducing wait times – a key element of customer satisfaction.

Our industry-leading CarCam™ and Bay Tracker technologies let VIOC customers, who are encouraged to stay in their car, be a part of a transparent service experience. From the driver's seat, they can watch the work while it's being done, under their vehicle and under the hood, and track the time elapsed. They see the work as it's performed, they experience it, and their trust in us is earned. We've rolled it out to all company-owned service centers, and our franchisees are beginning to launch it in franchised locations.

In FY19, we took parts of the proprietary technology behind CarCam, Bay Tracker and our industry-leading point-of-sale system to power a new VIOC consumer app. The app, unique to our industry, shows real-time wait times at service centers to help customers better plan their visit. Data shows that the app is helping grow customer retention. Plus, it provides a platform to build upon for future capabilities such as a loyalty program or e-commerce to deliver additional value to customers.



WINNING WITH FRANCHISEES

Something that makes us unique is that we can pilot and prove out our processes, systems and marketing programs in our company-owned VIOC service centers before rolling them out to our franchisees. This model works – and it builds trust among our franchise partners that our programs will help them grow their business. **Franchisees have similar results as our company operations, with 8.4% average growth in SSS since 2015.**

Our winning formula is one reason that our franchise operators are helping fuel our unit growth: The top eight franchisees – who represent 70% of our franchise system and have more than 130 years of combined experience with Valvoline – have signed development agreements to build an additional 220 units by 2024.

Don Smith
CEO of Henley Enterprises,
VIOC's largest franchisee

Valvoline has been incredibly fair and honest. It has always been a collaborative effort in building one of the premier franchises in the United States. Having been involved with other franchises, Valvoline is clearly superior with both service and deliverables.

Core North America

Valvoline's Core North American business segment generates significant profitability and strong cash flow generation, which enables investment to grow Quick Lubes, develop International and fund other capital allocation initiatives. A cost-savings program implemented in FY19 provides us flexibility to reinvest in the Core North America business to help mitigate market pressures, particularly in the do-it-yourself (DIY) retail channel.

Focus areas include launching new installer channel services to strengthen the value proposition of our trusted 150-year-old brand and growing heavy-duty. These initiatives will play an important role in maintaining profitability in Core North America over time.

Core North America sells lubricants and other automotive and engine-maintenance products across the United States and Canada primarily through three channels. The retail channel reaches do-it-yourself consumers through auto-parts stores, mass merchants and warehouse-distributor accounts. The installer channel sells to do-it-for-me outlets, such as auto dealerships, service centers and quick lubes; and heavy-duty fleet accounts in the on-highway fleet, transit, vocational, power generation and construction industries. We also sell to original equipment manufacturers (OEMs) and specialty outlets.

STRENGTHENING OUR VALUE PROPOSITION WITH SERVICES

In addition to our premium products, Valvoline is growing a competitive advantage by offering a suite of services that help our installer channel customers grow their business and give our consumers a superior experience.

In FY19, we launched our Auto Career Accelerator (ACA), an online recruiting platform that connects thousands of emerging professionals to open positions in both the automotive services industry. Plus, we launched a program that

allows our installer partners to outsource their customer service needs to our award-winning Valvoline customer support center. With the capability and expertise to support an array of installer channel customers, the in-house center offers our partners solutions in virtual call control, outbound lead management, overflow telephone support and other customer support functions.

In FY19, we launched our Vehicle Recall Awareness Program, an innovative, technology-powered initiative aimed at reducing the number of open recalls on the road. About 20% of U.S. vehicles on the road today have at least one open recall, according to Carfax. In the program, each consumer who visits a participating Valvoline

Instant Oil Change service center automatically receives a

check on open recalls for their vehicle. If an open recall is identified, the consumer is notified and provided details and an incentive to encourage them to have their recall resolved at one of Valvoline's preferred dealership partners.

It's a win for everyone: The Valvoline customer gets a safer vehicle and an incentive to come back to VIOC; the OEM gets a recall service completed; the dealership gets a potential new customer for auto sales; and Valvoline gets a boost in the consumer trust that further strengthens brand equity.

Initial results have been positive, resulting in more than 2,000 recalls serviced at our dealer partners. As expansion to new markets begins, Valvoline is delivering similar results providing dealerships with a unique solution to drive traffic with positive ROI and access to new customers, all while improving consumer safety.

At Valvoline Instant Oil ChangeSM
WE CARE ABOUT YOUR SAFETY!

VEHICLE RECALL FOR YOUR:
2009 HONDA CRV

Please review the important information
See reverse side for details.

Reward Card \$50
Valvoline Instant Oil Change
0000 0000 0000 0000
GOOD THRU 12/20
DEBIT
CARDHOLDER NAME
YOUR NEW CARD
VALID ONLY IN THE U.S.
VISA

BUILDING THE VALVOLINE BRAND

Valvoline's target consumers value high-quality products they can trust. **In FY19, we strengthened our DIY consumer messaging, emphasizing our unique R&D approach, our one-of-a-kind engine testing lab, and our history of significant category innovation.**

A broad-based digital and broadcast media campaign featured our unique, state-of-the-art engine lab. We took a digital-first approach to reach precisely the right consumers and bring to life our tagline "Trusted for 150 Years." Running in English and Spanish, the campaign gave consumers an exclusive, behind-the-scenes look at the innovation that goes on in the Valvoline Engine Lab while actual Valvoline technicians test and certify products. It reinforced the message that what you put in your engine matters.



DRIVING MOMENTUM IN HEAVY-DUTY

Heavy-duty is another area of focus for our installer channel, where we have opportunity to gain market share.

We launched a pilot in FY19 with longtime partner Cummins, a leading supplier of heavy-duty engines. **In the U.S. Northeast, we partnered with a Cummins regional sales team, with the support of our technical teams, to sell Valvoline products directly to existing Cummins customers.** By the end of FY19, this collaboration led to the acquisition of more than 150 new heavy-duty accounts. We have since expanded the program to additional regions in the United States and Canada. Combined with our superior product and service offerings, our strong partnership with Cummins has allowed us to capture market share in heavy-duty.



International

Develop

The lubricant market outside North America presents a significant opportunity for Valvoline's International business segment. The global addressable market is about 3½ times the size of the North America lubricants market by volume, and it is expected to grow at a 1.1% compounded annual rate over the next five years. Valvoline's estimated consolidated share is less than 3% globally. That's why our overall strategy for International is to develop the business to capture profitable market share.

International, including unconsolidated joint ventures¹, has delivered segment volume growth over the past 10 years while outpacing the category growth rate. We're doing that by focusing on channel development, service platforms and building our brand.

The International business segment sells products for consumer and commercial vehicles and equipment in more than 140 countries, including key markets across Asia Pacific; Europe, Middle East and Africa; and Latin America. We make use of wholly owned affiliates, joint ventures and strong relationships with independent distributors to drive opportunities with our products and services.



OPTIMIZING DISTRIBUTOR & SUPPLY CHAIN NETWORKS

To develop our sales channels, a critical factor for International growth, we expand and constantly strive to optimize our relationships with distributors and supply chain partners.

As Valvoline enters new markets, we seek to identify the right distributors, for both our passenger car and heavy-duty products, and cultivate those relationships to expand market coverage, in turn acquiring new volume opportunities.

In Mexico, we have increased market coverage by leveraging the close relationships we have with U.S. retailers as they expand into Mexico and with our longtime heavy-duty partner Cummins. For passenger car products, we've grown our market coverage by 32% over the past five years; for heavy-duty, coverage growth has been 36% in the same period.

In FY19, Valvoline expanded our European supply chain by acquiring Fabrika Maziva a.d. Kruševac, a regional lubricant supplier that includes a manufacturing facility. Adding a new node in our supply chain network has expanded our access to and opportunities in Eastern Europe and Russia.

Also in FY19, we deepened a partnership with LiuGong, a fast-growing global construction equipment maker based in China, to be the preferred provider of lubricants for LiuGong equipment outside of China. We expect this partnership to further strengthen our distribution network.

Mexico Distributor Coverage





EXPANDING VALUE TO WIN NEW ACCOUNTS & SUPPORT PREMIUM MARGINS

Optimizing our service platforms helps us provide the products, services and marketing programs to deliver measurable value and competitive advantage in the marketplace.

In Asia, where we're an emerging brand, we have focused on building durable, close relationships with mechanics, who strongly influence what brand consumers choose. In FY19

for the second year, we held Mechanic Week events across Asia to connect with, engage and celebrate the important role mechanics play in drivers' lives. It included live training and consultations with our technical and regional leadership teams; a social media campaign; roadshows; and more. As a result, we're seeing deeper engagement between our sales teams and mechanics. In FY20, Mechanic Week will continue and expand in Asia and other markets.

Also in FY19, Valvoline introduced an online tool called Lubricant Advisor that helps installers find the right Valvoline products to service a specific vehicle. It also helps them advise on other products a consumer might need, facilitating the potential for increased sales. Available in multiple languages, the tool has launched in Europe, Latin America and Australia-New Zealand and will soon expand into other regions.

BUILDING BRAND AWARENESS & EQUITY

Valvoline is an iconic American brand with a history of innovation. We've been trusted for more than 150 years – and that's a powerful message to share around the world.

In Latin America, for example, we're growing equity by establishing ourselves as an innovative brand that helps drivers keep their vehicles running by using the right product for the right engine.

In early FY20, we relaunched our Premium Protection line and expanded to a full slate of conventional, synthetic blend and full synthetic motor oils. In a price-driven market, consumers have historically chosen lower-grade products, even as modern engines, which increasingly require full synthetic or synthetic blend motor oil, have begun penetrating the vehicle population. This means engines likely aren't being properly maintained.

Through precise consumer messaging to establish Valvoline as a trusted advisor and offering the better synthetic blend at a strong value compared to the lower-end conventional motor oil, we're helping Latin America's drivers use the right product to take better care of their engine.



Governance

Valvoline Executive Officers



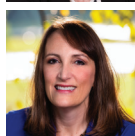
Samuel J. Mitchell, Jr.
Chief Executive Officer and Director



Thomas A. Gerrald II
Senior Vice President,
Core North America



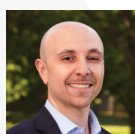
Frances E. Lockwood
Senior Vice President and
Chief Technology Officer



Heidi J. Matheys
Senior Vice President and
Chief Marketing Officer



Craig A. Moughler
Senior Vice President and
Chief Supply Chain Officer



Jamal K. Muashsher
Senior Vice President, International



Mary E. Meixelsperger
Chief Financial Officer



Julie M. O'Daniel
Senior Vice President, Chief Legal Officer
and Corporate Secretary



Brad A. Patrick
Chief People and
Communications Officer



Anthony R. Puckett
Senior Vice President and
President, Quick Lubes



Michael S. Ryan
Chief Accounting Officer and Controller

Valvoline Board of Directors

Valvoline is governed by an nine-member board of directors, eight of whom are independent directors under New York Stock Exchange (NYSE) guidelines. The board operates the following committees, all of which consist entirely of outside directors: Audit; Compensation; and Governance and Nominating. Valvoline's Chief Executive Officer (CEO) and Chief Financial Officer have each submitted certifications concerning the accuracy of financial and other information in Valvoline's annual report on Form 10-K, as required by Sections 302 and 906 of the Sarbanes-Oxley Act of 2002. The certifications are filed as exhibits to Valvoline's 2019 annual report on Form 10-K. In addition, the NYSE requires that the CEO of listed companies annually certify that he or she is not aware of any violation by the company of NYSE corporate governance listing standards. Valvoline's CEO, Samuel J. Mitchell, Jr., submitted Valvoline's certification on Feb. 22, 2019.

Stephen F. Kirk ^{2,3}
Chairman of the Board; Retired Senior Vice President and Chief Operating Officer, The Lubrizol Corporation

Gerald W. Evans Jr. ^{2,3}
Chief Executive Officer, Hanesbrands Inc.

Richard J. Freeland ^{2,3}
Retired President and Chief Operating Officer and Director, Cummins Inc.

Carol H. Kruse ^{2,3}
Former Senior Vice President and Chief Marketing Officer, ESPN and Cambia Health Solutions

Stephen E. Macadam ^{2,3}
Vice Chairman, EnPro Industries Inc.

Vada O. Manager ^{1,2a,3}
President and Chief Executive Officer, Manager Global Consulting Group, and Senior Counselor, APCO Worldwide

Samuel J. Mitchell, Jr.
Chief Executive Officer, Valvoline Inc.

Charles M. Sonstebly ^{1a,2,3}
Retired Vice Chairman, The Michaels Companies

Mary J. Twinem ^{1,2,3a}
Retired Executive Vice President and Chief Financial Officer, Buffalo Wild Wings Inc.

Committees

1. Audit; 2. Governance and Nominating; 3. Compensation; a. Committee Chair

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549
FORM 10-K**

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 30, 2019

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
Commission file number 001-37884

VALVOLINE INC.



Valvoline™

Kentucky
(State or other jurisdiction of incorporation or organization)

30-0939371
(I.R.S. Employer Identification No.)

100 Valvoline Way
Lexington, Kentucky 40509
Telephone Number (859) 357-7777

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 \$0.01 per share	VVV	New York Stock Exchange

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

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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 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, 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. (Check one):

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 Act). Yes No

The aggregate market value of voting common stock held by non-affiliates at March 31, 2019 was approximately \$3.5 billion. At November 15, 2019, there were 188,395,670 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement ("Proxy Statement") for its 2020 Annual Meeting of Shareholders, which will be filed within 120 days of the Registrant's fiscal year end, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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Forward-Looking Statements

Certain statements in this Annual Report on Form 10-K, other than statements of historical facts, including estimates, projections, statements related to the Company's business plans and operating results are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Valvoline has identified some of these forward-looking statements with words such as "anticipates," "believes," "expects," "estimates," "is likely," "predicts," "projects," "forecasts," "may," "will," "should" and "intends" and the negative of these words or other comparable terminology. These forward-looking statements are based on Valvoline's current expectations, estimates, projections and assumptions as of the date such statements are made and are subject to risks and uncertainties that may cause results to differ materially from those expressed or implied in the forward-looking statements. Factors that might cause such differences include, but are not limited to, those discussed under the headings "Risk Factors" in Part I, Item 1A of this Form 10-K, "Management's Discussion and Analysis of Financial Condition and Results of Operation" in Part II, Item 7 of this Form 10-K and "Quantitative and Qualitative Disclosures about Market Risk" in Part II, Item 7A of this Form 10-K. Valvoline assumes no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future, unless required by law.

PART I

ITEM 1. BUSINESS

Overview

Valvoline Inc., a Kentucky corporation, is a worldwide marketer and supplier of engine and automotive maintenance products and services. The terms “Valvoline,” the “Company,” “we,” “us,” “management” and “our” as used herein refer to Valvoline Inc., its predecessors and its consolidated subsidiaries, except where the context indicates otherwise. On September 28, 2016, Valvoline completed its initial public offering (“IPO”) of common stock and trades on the New York Stock Exchange (“NYSE”) under the symbol “VVV.”

Valvoline™ is one of the most recognized and respected premium consumer brands in the global automotive lubricant industry, known for its innovative, high quality products and superior levels of service. Established in 1866, Valvoline’s heritage spans over 150 years, during which it was the petroleum industry’s first U.S. trademarked motor oil brand and has developed powerful name recognition across multiple product and service channels. In addition to the iconic Valvoline-branded passenger car motor oils and other automotive lubricant products, Valvoline provides a wide array of lubricants used in heavy duty equipment, as well as automotive chemicals and fluids designed to improve engine performance and lifespan.

Valvoline has a strong international presence with products sold in more than 140 countries. In the United States and Canada, Valvoline’s products and services are sold to retailers with over 50,000 retail outlets, to installer customers with over 15,000 locations, and through 1,385 company-owned and franchised stores.

Company background

Valvoline was incorporated in May 2016 as a subsidiary of Ashland Global Holdings Inc. (which together with its predecessors and consolidated subsidiaries is referred to herein as “Ashland”). Prior to this time, Valvoline operated as an unincorporated commercial unit of Ashland. Following a series of restructuring steps prior to the IPO, the Valvoline business was transferred from Ashland to Valvoline such that the Valvoline business included substantially all of the historical Valvoline business reported by Ashland, as well as certain other legacy Ashland assets and liabilities transferred to Valvoline from Ashland (the “Contribution”). In connection with the IPO, 34.5 million shares of Valvoline common stock were sold to investors and Ashland retained 170 million shares representing 83% of the total outstanding shares of Valvoline common stock.

On May 12, 2017, Ashland distributed all of its remaining interest in Valvoline to Ashland stockholders (the “Distribution”) through a pro rata dividend on shares of Ashland common stock outstanding at the close of business on the record date of May 5, 2017, which marked the completion of Valvoline’s separation from Ashland. Effective upon the Distribution, Ashland no longer owned any shares of Valvoline common stock, and Valvoline was no longer a controlled and consolidated subsidiary of Ashland.

Valvoline’s products

Valvoline’s portfolio is designed to deliver quality product solutions to meet the needs of its diverse customers with varying needs. Valvoline has a history of leading innovation with ground-breaking products such as its all climate motor oil and the first high mileage motor oil. In addition to the iconic Valvoline-branded passenger car motor oils and other co-branded and private label automotive lubricant products, Valvoline provides a wide array of lubricants used in heavy duty equipment, as well as automotive coolants and chemicals designed to improve engine performance and lifespan. Valvoline products are used in a broad range of vehicles and engines, including light-duty (passenger cars, light trucks and two wheelers), heavy duty (heavy trucks, agricultural, mining and construction equipment), and electric vehicles. Premium branded product offerings enhance Valvoline’s high quality reputation and provide customers with solutions that address a wide variety of needs. Valvoline’s product offerings fall into the following categories:

Product categories		% of 2019 Sales	Description
Lubricants	Passenger car / Light duty	86%	Comprehensive assortment meeting the needs of passenger car, motorcycle and other light duty vehicles, including motor oil, transmission fluid, greases and gear oil
	Heavy duty		Lubricating solutions for a wide range of heavy duty applications ranging from on-road (Class 4 – Class 8 vehicles) to off-road construction, mining, agricultural and power generation equipment
Antifreeze	Antifreeze / Coolants	5%	Antifreeze/coolants for original equipment manufacturers (“OEMs”); full assortment of additive technologies and chemistries to meet virtually all light-duty and heavy duty engine applications and heat transfer requirements of batteries and fuel cells used to power electric vehicles
Chemicals	Maintenance chemicals	3%	Functional and maintenance chemicals ranging from brake fluids and power steering fluids to chemicals specifically designed to clean and maintain optimal performance of fuel, cooling and drive train systems
	Coatings		Specialty coatings designed to target rust prevention, and sound absorption for automotive and industrial applications
Filters	Filters	3%	Oil and air filters meeting the needs of light-duty vehicles
Other	Other complementary products and royalties	3%	Windshield wiper blades, light bulbs, serpentine belts, drain plugs, and franchisee royalties

Industry overview

Valvoline participates primarily in the global finished lubricants market. In total, global annual lubricants demand is estimated to be approximately 12 billion gallons. Demand for passenger car motor oil and motorcycle oil is estimated to account for 22% of global lubricant demand. Heavy-duty oil, tractor oil and other transport lubricants accounts for another 41%, while the remaining 37% of global lubricant demand is comprised of non-transport lubricants such as hydraulic oil, gear oil, process oil and greases. The United States has historically accounted for the largest portion of lubricant demand, but has recently been passed by China, with India third. The lubricants market is impacted by the following key drivers and trends:

- Global transportation lubricants market demand is shifting towards higher performance finished lubricants, largely driven by advancements in vehicle/equipment design as well as more rigorous OEM and regulatory requirements for improved efficiency, optimized fuel consumption along with reduced carbon footprints and toxic emissions.
- Recent multiyear trends indicate that the North American transport lubricants market has experienced relatively flat average annual volumes due in part to an increase in oil change intervals, which have resulted from the shift towards higher performance lubricants, offset by an increase in the number of automobiles on the road and miles driven.
- Continued growth in the number of vehicles on the road has led to expansion of passenger vehicle lubricant sales in developing regions.

Reportable segments

Valvoline’s reporting structure is composed of three reportable segments: Quick Lubes, Core North America, and International. Additionally, to reconcile to consolidated results, certain corporate and other non-operational matters are included in Unallocated and other. Refer to the below for a description of each reportable segment:

Quick Lubes

The Quick Lubes segment services the passenger car and light truck quick lube market through company-owned, independent franchises and joint venture retail quick lube service center stores, as well as independent Express Care stores that service vehicles with Valvoline products. Valvoline operates the second largest quick lube service chain by number of stores in the United States with Valvoline Instant Oil ChangeSM (“VIOC”) and the third largest quick lube service chain in Canada with the Valvoline Great Canadian Oil Change brand. Valvoline’s quick lube service center stores offer customers a quick, easy and trusted way to maintain their vehicles, utilizing well-trained technicians who have access to a proprietary service process that sets forth rigorous protocols for both the steps that must be followed in the service of vehicles and for interactions with customers. The Express CareTM platform supports smaller North American operators that do not fit Valvoline’s franchise model and generally offer other services in addition to quick lubes, such as automotive repairs and car washes. Joint venture service center stores operate in eastern China throughout the Shandong province. As of September 30, 2019, the Quick Lubes system consisted of 519 company-owned and 866 franchised locations and operated in 46 states in the U.S. and five provinces in Canada. As of September 30, 2019, there were 307 Express CareTM locations in the U.S. and Canada and five joint venture service center locations in China.

Core North America

The Core North America segment sells ValvolineTM and other branded and private label engine and automotive maintenance products in the United States and Canada to retailers for consumers to perform their own automotive and engine maintenance, as well as to installers that service vehicles and equipment for consumers. Sales of Valvoline products for consumers to perform their own automotive and engine maintenance are referred to as “Do-It-Yourself” or “DIY” consumers, and sales of Valvoline products for consumers to have their vehicles and equipment serviced are referred to as “Do-It-For-Me” or “DIFM” consumers. Sales for DIY consumers are primarily branded products sold through the retail channel to customers such as retail automotive parts stores, as well as to leading mass merchandisers and independent automotive part stores. Sales through the retail channel also include non-branded packaged goods to warehouse distributors that resell to both DIY consumers and to installers for DIFM consumers. Sales for DIFM consumers are generally sold through the installer channel to customers such as car dealers, general repair shops and third-party quick lube locations directly as well as through a network of distributors. Valvoline also sells products to heavy duty fleet customers, such as on-highway fleets and construction companies through the installer distributor network. Valvoline also has a strategic relationship with Cummins Inc. (“Cummins”), a leading supplier of heavy duty engines, for co-branding products for heavy duty consumers. Other sales within Core North America include OEM and specialty customers.

International

Valvoline’s International segment sells ValvolineTM and other branded engine and automotive products through wholly-owned affiliates, joint ventures, licensees and independent distributors in more than 140 countries outside of the United States and Canada for the maintenance of consumer and commercial vehicles and equipment. Key international regions include Europe, Middle East, and Africa (“EMEA”); Latin America (which includes Mexico, Central and South America); and Asia Pacific (Australia and Asia, including India and China). Valvoline has a growing presence in a number of emerging markets, including China, India and Latin America. International sales include products for both light duty and heavy duty. Light duty products are sold internationally primarily through distributors to installer customers. Heavy duty products are sold either directly to key customers or through distributors. Valvoline has 50/50 joint ventures with Cummins in India, China and Argentina and joint ventures with other partners in Latin America.

Unallocated and other

Certain corporate and non-operational matters, such as net pension and other postretirement plan expense, company-wide restructuring activities and adjustments related to legacy businesses that are no longer attributed to Valvoline are generally included within Unallocated and other.

Business and growth strategies

The strength of Valvoline’s business model is the ability to generate profitable sales across multiple channels to market, leveraging the strength of the Valvoline brand through effective marketing, innovative product technology and the capabilities of the Valvoline team. Valvoline has delivered strong profits and return on capital, with balanced results. Today, Valvoline leverages its multi-channel model to deliver solid margins, generate high free cash flow, and provide significant growth opportunities. Valvoline’s key business and growth strategies include:

- Aggressively growing Quick Lubes through organic service center expansion and opportunistic acquisitions, while enhancing retail service capabilities through a consistent and preferred customer experience delivered by hands-on experts;
- Strengthening and maintaining the foundation in Core North America by leveraging investments in technology and marketing to drive speed, efficiency and value across the business and customer interactions, while increasing penetration of Valvoline's full product portfolio;
- Accelerating International market share growth through continued development of and investment in key emerging and high value markets;
- Broadening capabilities to serve future transport vehicles by developing relationships with OEMs and leveraging innovation in the development of future products and light services in direct and adjacent markets; and
- Accelerating the shift to a services-driven business by leveraging customer relationships and experiences to develop new capabilities globally.

Quick Lubes store development

During fiscal 2019, Valvoline acquired 60 service center stores, which included 31 franchise service center stores acquired from Oil Changers Inc. on October 31, 2018, five former franchise service centers stores, and 24 service center stores acquired in single and multi-store transactions. These acquisitions continue to expand Valvoline's Quick Lubes system in underdeveloped market opportunity areas within North America and included the first company-owned service center stores outside the U.S. in Canada. During the last five fiscal years from fiscal 2015 to fiscal 2019, Valvoline acquired a total of 346 service center stores, which included 146 franchise service center stores, 88 former franchise service center stores, and 112 service center stores acquired in single and multi-store transactions. These acquisitions included the Company's first international quick lube service center store acquisition and began Valvoline's expansion into Canada with franchise service center stores.

As of September 30, 2019, Valvoline operated, either directly or through its franchisees, 1,385 quick lube service center stores, a net increase of 143 over the prior year. In addition to the 60 acquired stores added to the Quick Lubes system, 28 newly-constructed company-owned stores and franchisee expansion in key markets combined to add 83 net new stores to the system during fiscal 2019. Since fiscal 2015, the Quick Lubes system added 443 net new stores, primarily through opportunistic acquisitions as noted above, as well as new store development with newly-constructed company-owned stores and franchisee expansion. As of September 30, 2019, the Quick Lubes system consisted of 519 company-owned and 866 franchised locations and operated in 46 states in the U.S. and five provinces in Canada and 307 Express Care™ locations in the U.S. and Canada. During fiscal 2019, Valvoline invested in a joint venture in China to pilot expansion of retail quick lube service center stores outside of North America, and as of September 30, 2019, there were five joint venture locations in operation.

VIOC delivered system-wide same-store sales growth of 10.1% in fiscal 2019, a record for full-year system-wide same-store sales growth and the 13th consecutive year of system-wide same-store sales growth (determined on a fiscal year basis for company-owned and franchised stores, with new stores excluded from the metric until the completion of their first full fiscal year in operation).

Competition

The industry is highly competitive and Valvoline faces competition in all product categories and subcategories. Competition is based on several key criteria, including brand recognition, product performance and quality, product price, product availability and security of supply, ability to develop products in cooperation with customers and customer service, as well as the ability to bring innovative products or services to the marketplace.

The Quick Lubes segment competes with other major franchised brands that offer a turn-key operations management system, such as Jiffy Lube (owned by Shell), Grease Monkey, Take 5 Oil Change, Express Oil Change and Mr. Lube, as well as national branded companies that offer a professional signage program with limited business model support, similar to Valvoline's Express Care network, as well as regional players such as American Lube Fast and Avis Lube that are not directly affiliated with a major brand. Valvoline also competes to some degree with automotive dealerships and service centers, which provide quick lube and other preventative maintenance services. Valvoline believes there are approximately 9,000 existing quick lube stores currently operating in the U.S. market. Jiffy Lube is currently the Company's largest competitor by number of stores with approximately 1,900 stores owned or operated by franchisees in

the U.S. The Canadian quick lubes market is similarly fragmented with a small number of large players that comprise roughly half of the market, while the remainder is made up of smaller local and regional competitors, automotive dealerships and service stations.

In the Core North America segment, Valvoline's principal competitors for retail customers are global integrated oil brands, such as Shell, which produces Pennzoil and Quaker State; BP, which produces Castrol; Exxon Mobil, which produces Mobil 1; as well as mid-tier brands and private label producers. Valvoline currently ranks as the number three passenger car motor oil brand in the DIY market by volume. With respect to installer customers in the United States and Canada, Valvoline competes with these same major integrated oil brands, many of which have significantly greater financial resources and more diverse portfolios of products and services, leading to greater operating and financial flexibility.

Major competitors of Valvoline's International segment vary by region. Valvoline generally faces strong competition from global integrated oil brands, as these companies have a particularly strong presence in Europe and Asia. In certain markets, Valvoline also competes with regional brands, including brands produced by national oil companies, such as Sinopec in China and Indian Oil in India.

Competitive factors in all of these markets include price, innovation of solutions, brand awareness and loyalty, customer service, and sales and marketing. Valvoline's Core North America and International reportable segments also compete at retailers on the basis of shelf space and product packaging.

Marketing and sales

Valvoline places a high priority on sales and marketing and focuses marketing efforts on areas expected to yield the highest rate of return. Valvoline has a centralized marketing services group as well as dedicated marketing resources in each reportable segment, which are well qualified to reach target customers. The majority of Valvoline's large customers are supported by direct sales representatives with a number of key customers having dedicated Valvoline teams. In addition, Valvoline has a number of distributors within the Core North America and International reportable segments that represent the Company's products. In Core North America, Valvoline products are sold to consumers through over 50,000 retail outlets, to installer customers with over 15,000 locations, and in Quick Lubes through 1,385 company-owned and franchised stores, 307 Express Care™ locations, and five joint venture locations. Valvoline serves its customer base through its sales force and technical support organization, allowing leverage of the Company's technology portfolio and customer relationships globally, while meeting customer demands locally. Valvoline also utilizes its digital infrastructure and technology to more efficiently interact with customers, driving customer engagement to deliver growth, customer retention and acquisition.

Valvoline uses a variety of marketing techniques to build awareness of, and create demand for, Valvoline products and services. Valvoline advertises through social and digital media, as well as traditional media outlets such as television and radio. Valvoline selectively sponsors teams in high performance racing, including a current sponsorship of Hendrick Motorsports, featuring drivers Chase Elliott, Jimmie Johnson, William Byron and Alex Bowman. In addition, Valvoline sponsors other teams and players, including the Manchester City Football Club and the Memphis Grizzlies, as well as Valvoline's joint venture sponsorship of renowned Indian cricket player, Virat Kohli.

Research and development

Valvoline's research and development is focused on developing new and innovative services and products to meet the current and future needs of its customers. These services and products are developed through Valvoline's "Hands on Expertise" innovation approach, which begins with the mathematical modeling of critical product design elements and extends through in store testing and vehicle performance testing. In addition, Valvoline technology centers, located in the Americas, EMEA and Asia Pacific regions, develop solutions for existing and emerging on and off-road equipment. Valvoline's research and development team also leverages its strong relationships with customers and suppliers to incorporate their feedback into the research and development process. In addition to its own research and development initiatives, Valvoline also conducts limited testing for other entities, which builds its expertise and partially offsets its research and development costs. Valvoline will continue to incur research and development expenditures in the future to develop innovative, high-quality products and services and to help maintain and enhance Valvoline's competitive position.

Intellectual property

Valvoline is continually seeking to develop new technology and enhance its existing technology. Valvoline has been issued approximately 40 U.S. and 70 international patents and has nearly 35 U.S. and 90 international patent applications pending or published. Valvoline also holds over 2,500 trademarks in various countries around the world, which Valvoline believes are some of its most valuable assets. These trademarks include the Valvoline trademark and the famous “V” brand logo trademark, which are registered in over 150 countries. In addition, Valvoline uses various trade names and service marks in its business, including Valvoline™ and Valvoline Instant Oil ChangeSM, among others and including those for key products. Valvoline also has a variety of intellectual property licensing agreements. Valvoline owns over 700 domain names that are used to promote Valvoline products and services and provide information about the Company.

Raw material supply and prices

The key raw materials used in Valvoline’s business are base oils, additives, packaging materials (high density polyethylene bottles, corrugated packaging and steel drums) and ethylene glycol. Valvoline continuously monitors global supply and cost trends of these key raw materials and obtains these raw materials from a diversified network of large global suppliers and regional providers. Valvoline’s sourcing strategy is to ensure supply through contracting with a diversified supply base while leveraging market conditions to take advantage of spot opportunities whenever such conditions are available. Valvoline leverages worldwide spend to pursue favorable contract terms from global suppliers and utilizes regional providers to ensure market competitiveness and reliability in its supply chain. For materials that must be customized, Valvoline works with market leaders with global footprints and well-developed business continuity plans. Valvoline also utilizes the Company’s research and development resources to develop alternative product formulations, which provide flexibility in the event of supply interruptions. Valvoline closely monitors the Company’s supply chain and conducts annual supply risk assessments of its critical suppliers to reduce risk.

Valvoline has a large manufacturing and distribution footprint in the United States, with seven lubricant blending and packaging plants and several packaging and warehouse locations. Additional blending and packaging plants are located in Australia, Canada, the Netherlands, and a recently acquired facility in Eastern Europe. Valvoline is also in the process of building its first blending and packaging plant in China, which when complete is expected to have annual capacity in excess of 30 million gallons of lubricants and coolants. The plant is currently on schedule for production to begin in early fiscal 2021. Valvoline also uses numerous third-party toll manufacturers and warehouses both in the US and internationally and is part of joint ventures that operate blending and packaging facilities in Ecuador and India.

Valvoline seeks to actively manage fluctuations in supply costs, product selling prices and the timing thereof to preserve margins. The prices of many of Valvoline’s products fluctuate based on the price of base oil, which is a large percentage of Valvoline’s cost of sales. Given that base oil, a derivative of crude, is highly correlated to the global oil market, there can be volatility in base oil prices. The amount of volatility is related to the world crude price as well as to the global supply and demand balance of base oil. Base oil prices generally follow crude prices, but the lag period between changes in the price of crude oil and changes in the price of base oil is influenced by whether there is an excess of or shortness in the supply of base oil.

Valvoline works diligently to adjust product selling prices to react to changes in base oil costs and protect margins. As part of the strategy to mitigate the impact of base oil volatility, Valvoline has negotiated base oil supply contracts with terms that have reduced the impact of changes in the base oil market on Valvoline’s financial results. Valvoline contracts in several of the Company’s sales channels accelerate the timing of adjustments to selling prices in response to changes in raw material prices. Pricing adjustments to products sold to Valvoline’s larger national or regional installer customer accounts are generally made pursuant to their contracts and are often based on movements in published base oil indices. Pricing for product sold to Valvoline’s franchisees is adjusted on a periodic basis pursuant to an agreed upon index (weighted combination of published base oil indices), the composition and weighting of which may be updated from time to time by Valvoline and representatives of Valvoline’s franchisees. Pricing adjustments for product sold to retail customers, private label products in the United States and product sold to smaller installer customer accounts are generally market driven, based on negotiations in light of base oil costs and the pricing strategies of Valvoline’s competitors.

Backlog

Although Valvoline may experience availability constraints from time to time for certain products, orders are generally filled within 30 days of receiving them. Therefore, Valvoline usually has a product backlog of less than 30 days at any one time, which the Company does not consider material to its business.

Seasonality

Overall, there is little seasonality in Valvoline's business. Valvoline's Quick Lubes business, and to a lesser extent, its Core North America business tend to experience slightly higher sales volume in the summer months due to summer vacations and increased driving, as well as during the periods of time leading into holidays. Both businesses also tend to slow a little from October to February due to inclement weather in parts of the United States and Canada. Valvoline's International business experiences little seasonality due to its geographic diversity and the high percentage of its business in the commercial and industrial lubricants market, which is less influenced by weather.

Environmental and regulatory matters

Valvoline is subject to numerous federal, state, local and non-U.S. environmental health and safety ("EHS") laws and regulations. These laws and regulations govern matters such as safe working conditions; product stewardship; air emissions; discharges to the land and surface waters; generation, handling, storage, transportation, treatment and disposal of hazardous substances and waste materials; and the registration and evaluation of chemicals. Valvoline maintains policies and procedures to control EHS risks and monitor compliance with applicable EHS laws and regulations. These laws and regulations also require Valvoline to obtain and comply with permits, registrations or other authorizations issued by governmental authorities. These authorities can modify or revoke the Company's permits, registrations or other authorizations and can enforce compliance through fines and injunctions. Valvoline expects to incur ongoing costs to comply with existing and future EHS requirements, including the cost of dedicated EHS resources that are responsible for ensuring its business maintains compliance with applicable laws and regulations.

Valvoline is also subject to regulation by various U.S. federal regulatory agencies and by the applicable regulatory authorities in countries in which Valvoline's products are manufactured and sold. Such regulations principally relate to the ingredients, classification, labeling, manufacturing, packaging, transportation, advertising and marketing of Valvoline's products. In addition, the Company is subject to the Foreign Corrupt Practices Act (the "FCPA") and other countries' anti-corruption and anti-bribery regimes.

While there are no current regulatory matters that Valvoline expects to be material to its results of operations, financial position, or cash flows, there can be no assurances that existing or future environmental laws and other regulations applicable to the Company's operations or products will not lead to a material adverse impact on Valvoline's results of operations, financial position or cash flows.

Employees

As of September 30, 2019, Valvoline had approximately 7,900 employees worldwide (excluding contract employees).

Available information

More information about Valvoline is available on the Company's website at <http://www.valvoline.com>. On this website, Valvoline makes available, free of charge, its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as well as any beneficial ownership reports of officers and directors filed on Forms 3, 4 and 5. All such reports are available as soon as reasonably practicable after they are electronically filed with, or electronically furnished to, the SEC. Valvoline also makes available, free of charge on its website, its Amended and Restated Articles of Incorporation, By-Laws, Corporate Governance Guidelines, Board Committee Charters, Director Independence Standards and the Global Standards of Business Conduct that apply to Valvoline's directors, officers and employees. These documents are also available in print to any shareholder who requests them. The information contained on Valvoline's website is not part of this Annual Report on Form 10-K and is not incorporated by reference in this document. References to website addresses are provided as inactive textual references only. The SEC also maintains a website (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers, including Valvoline, that file electronically with the SEC.

Executive officers of Valvoline

The following is a list of Valvoline's executive officers, their ages, positions and experience during the last five years.

SAMUEL J. MITCHELL, JR. (age 58) is Chief Executive Officer and Director of Valvoline. Mr. Mitchell was appointed as a director and Chief Executive Officer in May 2016 and September 2016, respectively. He served as Senior Vice President of Ashland from 2011 to September 2016 and President of Valvoline from 2002 to September 2016.

MARY E. MEIXELSPERGER (age 59) is Chief Financial Officer of Valvoline since June 2016. Prior to joining Valvoline, Ms. Meixelsperger was Senior Vice President and Chief Financial Officer of DSW Inc. from April 2014 to June 2016 and held the roles of Chief Financial Officer, Controller and Treasurer at Shopko Stores from 2006 to 2014.

JULIE M. O'DANIEL (age 52) is Senior Vice President, Chief Legal Officer and Corporate Secretary of Valvoline since January 2017. Ms. O'Daniel served as General Counsel and Corporate Secretary from September 2016 to January 2017. She served as Lead Commercial Counsel of Valvoline from April 2014 to September 2016 and as Litigation Counsel of Valvoline from July 2007 to April 2014.

THOMAS A. GERRALD II (age 55) is Senior Vice President, Core North America of Valvoline since September 2016. Mr. Gerrald served as Senior Vice President, U.S. Installer Channel, of Valvoline from June 2012 to September 2016.

FRANCES E. LOCKWOOD (age 69) is Senior Vice President and Chief Technology Officer of Valvoline since September 2016. Ms. Lockwood served as Senior Vice President, Technology, of Valvoline from May 1994 to September 2016.

HEIDI J. MATHEYS (age 47) is Senior Vice President and Chief Marketing Officer of Valvoline since September 2016. Ms. Matheys served as Senior Vice President, Do-It-Yourself ("DIY") Channels, of Valvoline from August 2013 to September 2016 and as Vice President, Global Brands, of Valvoline from September 2012 to August 2013.

CRAIG A. MOUGHLER (age 62) is Senior Vice President and Chief Supply Chain Officer of Valvoline since March 2019. Mr. Moughler served as Senior Vice President, International and Product Supply from September 2016 to March 2019. He served as Senior Vice President, International of Valvoline from October 2002 to September 2016.

BRAD A. PATRICK (age 55) is Chief People and Communications Officer of Valvoline since January 2018. Prior to joining Valvoline, Mr. Patrick was Executive Vice President and Chief Human Resources Officer of Shearer's Snacks from November 2015 to January 2018 and held the role of Executive Vice President and Chief Human Resources Officer at Tempur Sealy International, Inc. from December 2010 to November 2015.

ANTHONY R. PUCKETT (age 57) is Senior Vice President and President, Quick Lubes of Valvoline since September 2016. He served as President of Valvoline Instant Oil Change from August 2007 to September 2016.

JAMAL K. MUASHSHER (age 44) is Senior Vice President, International of Valvoline since March 2019. Mr. Muashsher service as Vice President, Marketing, Digital and Customer Experience of Core North America from June 2016 to March 2019 and as Director of Marketing, DIY, of Valvoline from August 2014 to June 2016.

MICHAEL RYAN (age 52) is Chief Accounting Officer and Controller of Valvoline since September 2019. Prior to joining Valvoline, Mr. Ryan was Senior Vice President, Financial Operations and Chief Accounting Officer at Utz Quality Foods, LLC from 2017 to 2019. Prior to that role, Mr. Ryan was Interim Chief Financial Officer at SolAero Technologies Corporation from 2016 to 2017 and also held roles of Senior Vice President, Chief Accounting Officer at Laureate Education, Inc. from 2015 to 2016 and Senior Vice President, Chief Accounting Officer and Controller, at Hanesbrands, Inc. from 2012 to 2015.

ITEM 1A. RISK FACTORS

The following “risk factors” could materially and adversely affect Valvoline’s business, operations, financial position or future financial performance. This information should be considered when reading the rest of this Annual Report on Form 10-K, including Management’s Discussion and Analysis and the consolidated financial statements and related notes. These factors could cause future results to differ from those in forward-looking statements and from historical trends.

Risks related to Valvoline’s business

Because of the concentration of Valvoline’s sales to a small number of retailers, the loss of one or more, or a significant reduction in, orders from, its top retail customers could adversely affect its financial results, as could the loss of one of its distributor relationships.

Valvoline’s Core North America segment’s sales represented approximately 42% of Valvoline’s total sales in fiscal 2019. Five key retailers together accounted for 46% of Core North America’s fiscal 2019 sales and 46% of the Company’s outstanding trade accounts receivable as of September 30, 2019. One of these key retailers accounted for greater than 18% of Core North America’s fiscal 2019 sales. Valvoline’s volume of sales to these customers fluctuates and can be influenced by many factors, including product pricing, competition for shelf space, purchasing patterns and promotional activities. For example, Valvoline’s retail customers have increasingly shifted shelf distribution towards private label lubricant products from mid-tier brands, which has negatively impacted Core North America’s retail channel DIY branded lubricant sales. Additionally, many of Valvoline’s retail customers have changed their promotional strategies, increasing the frequency and number of brands promoted at any given time, including private label, which has further negatively impacted branded lubricant sales within the retail channel. In response to these market dynamics, Valvoline has strengthened its consumer messaging, optimized pricing in relation to these promotional strategies and focused its efforts on increasing synthetic lubricant sales; however, if those strategies are not effective, or if Valvoline is unable to adapt to changing market dynamics, Valvoline’s results of operations could be negatively affected. The loss of, or significant reduction in orders from, one of Valvoline’s top five retail customers or any other significant customer could have a material adverse effect on its business, financial condition, results of operations or cash flows, as could customer disputes regarding shipments, fees, merchandise condition or related matters. Valvoline’s inability to collect accounts receivable from one of its major customers, or a significant deterioration in the financial condition of one of these customers, including a bankruptcy filing or a liquidation, could also have a material adverse effect on Valvoline’s financial condition, results of operations or cash flows.

Valvoline also relies on independent distributors to sell and deliver its products. The consolidation of distributors, loss of a relationship with a distributor, significant disagreement with a distributor, or significant deterioration in the financial condition of a distributor could also have a material adverse effect on Valvoline’s financial condition, results of operations or cash flows.

Valvoline faces significant competition from other companies, which places downward pressure on prices and margins and may adversely affect Valvoline’s business and results of operations.

Valvoline operates in highly competitive markets, competing against a number of domestic and international companies. Competition is based on several key criteria, including brand recognition, product performance and quality, product price, product availability and security of supply, ability to develop products in cooperation with customers and customer service, as well as the ability to bring innovative products or services to the marketplace. Certain key competitors, including Shell/Pennzoil, BP/Castrol and Exxon/Mobil, are significantly larger than Valvoline and have greater financial resources and more diverse portfolios of products and services, leading to greater operating and financial flexibility. As a result, these competitors may be better able to withstand adverse changes in conditions within the relevant industry, changing retail market dynamics, the prices of raw materials and energy or general economic conditions. In addition, competitors’ pricing decisions could compel Valvoline to decrease its prices, which could negatively affect Valvoline’s margins and profitability. Recently, Valvoline has seen increasing competition from private label competitors, which has negatively impacted branded lubricant sales in the retail channel as price gaps between private label and branded products has grown. Further competition from private label competitors, including the entry of new private label competitors, or additional competition in markets served by Valvoline, could adversely affect margins and profitability and could lead to a reduction in market share. Also, Valvoline competes in certain markets that are relatively flat, such as the U.S. passenger car motor oil market. If Valvoline’s strategies for dealing with flat markets and leveraging market opportunities are not successful, its results of operations could be negatively affected.

The competitive nature of Valvoline's markets or other factors may delay or prevent it from passing-through increases in raw material costs on to its customers. In addition, certain of Valvoline's suppliers may be unable to deliver products or raw materials or may withdraw from contractual arrangements. The occurrence of either event could adversely affect Valvoline's results of operations.

Rising and volatile raw material prices, especially for base oil and lubricant additives, have in the past and may in the future, negatively impact Valvoline's costs, results of operations and the valuation of its inventory. Valvoline may not always be able to raise prices in response to increased costs of raw materials or may experience a lag in passing through such cost increases, as the ability to pass on the costs of such price increases is largely dependent upon market conditions. Likewise, reductions in the valuation of Valvoline's inventory due to market volatility may not be recovered and could result in losses.

Valvoline purchases certain products and raw materials from suppliers, often pursuant to written supply contracts. If those suppliers are unable to meet Valvoline's orders in a timely manner or choose to terminate or otherwise avoid contractual arrangements, Valvoline may not be able to make alternative supply arrangements or may face increased costs from alternative suppliers. For base oils, Valvoline's suppliers are primarily large oil producers, many of whom operate oil lubricant production and sales businesses as part of their enterprise. There are risks inherent in obtaining important raw materials from actual or potential competitors, including the risk that applicable antitrust laws may be inadequate to mitigate Valvoline's exposure to these risks. Valvoline purchases substantially all of its lubricant additives from four key suppliers. Because the industry is characterized by a limited number of lubricant additives suppliers, there are a limited number of alternative suppliers with whom Valvoline could transact in the event of a disruption to its existing supply relationships; for example, due to disruptions to its suppliers' operations caused by natural disasters, severe weather conditions, climate change or significant changes in trade regulations. The inability of Valvoline's suppliers to meet its supply demands could also have a material adverse effect on its business.

Also, domestic and global government regulations related to the manufacture or transport of certain raw materials may impede Valvoline's ability to obtain those raw materials on commercially reasonable terms. If Valvoline is unable to obtain and retain qualified suppliers under commercially acceptable terms, its ability to manufacture and deliver products in a timely, competitive and profitable manner or grow its business successfully could be adversely affected.

Valvoline has set aggressive growth goals for its business, including increasing sales, cash flow, market share, margins and number of Quick Lubes stores, to achieve its long-term strategic objectives. Execution of Valvoline's growth strategies and business plans to facilitate that growth involves a number of risks.

Valvoline has set aggressive growth goals for its business to meet its long-term strategic objectives and improve shareholder value by aggressively growing Quick Lubes, maintaining Core North America and developing International. Valvoline's failure to meet one or more of these goals or objectives could negatively impact its business and is one of the most important risks that Valvoline faces. Aspects of that risk include, among others, changes to the global economy, failure to identify acquisition targets to grow Quick Lubes, changes to the competitive landscape, including those related to automotive maintenance recommendations and consumer preferences, entry of new competitors, attraction and retention of skilled employees, the potential failure of product innovation plans, failure to comply with existing or new regulatory requirements, failure to maintain a competitive cost structure and other risks outlined in greater detail in this "Risk Factors" section.

Damage to Valvoline's brand and reputation could have an adverse effect on its business.

Maintaining Valvoline's strong reputation with both consumers and customers is a key component of its business. Product or service complaints or recalls, its inability to ship, sell or transport affected products and governmental investigations may harm its reputation with consumers and customers, which may materially and adversely affect its business operations, decrease sales and increase costs.

Valvoline manufactures and markets a variety of products, such as automotive and industrial lubricants and antifreeze, and provides automotive maintenance services. If allegations are made that some of Valvoline's products have failed to perform up to consumers' or customers' expectations or have caused damage or injury to individuals or property, or that Valvoline's services were not provided in a manner consistent with its vision and values, the public may develop a negative perception of Valvoline and its brands. In addition, if Valvoline's franchisees, Express Care and joint venture operators do not successfully operate their quick lube service centers in a manner consistent with Valvoline's standards, its brand, image and reputation could be harmed, which in turn could negatively impact its business and operating results. In addition, if any party with whom Valvoline has a sponsorship relationship were to generate adverse publicity, Valvoline's brand image could be harmed. A negative public perception of Valvoline's brands, whether justified or not, could impair its reputation, involve it in litigation, damage its brand equity and have a material adverse effect on its business. In addition,

damage to the reputation of Valvoline's competitors or others in its industry could negatively impact Valvoline's reputation and business.

Valvoline uses information technology systems to conduct business, and a cyber security threat, privacy/data breach, or failure of a key information technology system could adversely affect Valvoline's business and reputation.

Valvoline relies on its information technology systems, including systems which are managed or provided by third-party service providers, to conduct its business. Despite employee training and other measures to mitigate them, cyber-security threats to its information technology systems, and those of its third-party service providers, are increasing and becoming more advanced and breaches could occur as a result of denial-of-service attacks or other cyber-attacks, hacking, phishing, viruses, malicious software, ransomware, computer malware, social engineering, break-ins, security breaches or due to error or misconduct by its employees, contractors or third-party service providers. A breach of or failure of Valvoline's information technology systems could lead to the loss and destruction of trade secrets, confidential information, proprietary data, intellectual property, customer and supplier data, and employee personal information, and could disrupt business operations which could adversely affect Valvoline's relationships with business partners and harm its brands, reputation and financial results. Valvoline's customer data may include names, addresses, phone numbers, email addresses and payment account information, among other information. Depending on the nature of the customer data that is compromised, Valvoline may also have obligations to notify users, law enforcement or payment companies about the incident and may need to provide some form of remedy, such as refunds for the individuals affected by the incident. Valvoline could also face fines and penalties should it fail to adequately notify affected parties pursuant to new and evolving privacy laws in various jurisdictions in which it does business.

Demand for Valvoline's products and services could be adversely affected by consumer spending trends, declining economic conditions, industry trends and a number of other factors, all of which are beyond its control.

Demand for Valvoline's products and services may be affected by a number of factors it cannot control, including the number and age of vehicles in current service, regulation and legislation, technological advances in the automotive industry and changes in engine technology, including the adoption rate of electric or other alternative engine technologies, changing automotive OEM specifications and longer recommended intervals between oil changes. In addition, during periods of declining economic conditions, consumers may defer vehicle maintenance. Similarly, increases in energy prices or other factors may cause miles driven to decline, resulting in less vehicle wear and tear and lower demand for maintenance, which may lead to consumers deferring purchases of Valvoline's products and services. All of these factors, which impact metrics such as drain intervals and oil changes per day, could result in a decline in the demand for Valvoline's products and services and adversely affect its sales, cash flows and overall financial condition.

Valvoline's significant global operations subject it to risks, which could adversely affect its business, financial condition and results of operations.

Sales from the International business segment accounted for 24% of Valvoline's sales for fiscal 2019 and Valvoline expects sales from international markets to grow in the future. Also, a significant portion of Valvoline's manufacturing capacity is located outside of the United States and that percentage is anticipated to grow when Valvoline finishes building its first blending and packaging plant in China, which is expected to be complete by the end of calendar 2020. In addition, Valvoline added additional international manufacturing capacity through an acquisition in Eastern Europe in fiscal 2019. Accordingly, its business is subject to risks related to the differing legal, political, cultural, social and regulatory requirements and economic conditions of many jurisdictions.

The global nature of Valvoline's business presents difficulties in hiring and maintaining a workforce in certain countries. Fluctuations in exchange rates may affect product demand and may adversely affect the profitability in U.S. dollars of products and services provided in other countries. In addition, other countries may impose additional withholding taxes or otherwise tax Valvoline's income, or adopt other restrictions on trade or investment, including currency exchange controls. The imposition of new or additional tariffs or other significant changes in trade regulations are also risks that could impair Valvoline's financial performance. For example, the United States, China and the European Union (the "EU") have all recently imposed or indicated the possibility of imposing new or additional tariffs on goods imported and exported. If Valvoline is subject to new or additional tariffs, such as, in China, where Valvoline products became subject to additional tariffs in fiscal 2019, operating costs could increase and Valvoline may not be able to recapture those costs. In addition, if Valvoline is unable to successfully grow its brand internationally, it may not be able to achieve its international growth plans, which could negatively impact sales, profitability and cash flow.

Certain legal and political risks are also inherent in the operation of a company with Valvoline's global scope. For example, it may be more difficult for Valvoline to enforce its agreements or collect receivables through other legal systems. There is

a risk that non-U.S. governments may nationalize private enterprises in certain countries where Valvoline operates. Terrorist activities and the response to such activities may threaten Valvoline's operations. Social and cultural standards in certain countries may not support compliance with Valvoline's corporate policies including those that require compliance with substantive laws and regulations. Also, changes in general economic and political conditions in countries where Valvoline operates are a risk to Valvoline's financial performance and future growth. In addition, in executing its global growth strategies, Valvoline has entered into several important strategic relationships with joint venture partners, such as Cummins, unaffiliated distributors, toll manufacturers and others. The need to identify financially and commercially strong partners to fill these roles who will comply with the high manufacturing and legal compliance standards Valvoline requires is a risk to Valvoline's financial performance.

As Valvoline continues to operate its business globally, its success will depend, in part, on its ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to Valvoline's global operations will not have an adverse effect on its business, financial condition or results of operations.

Adverse developments in the global economy or in regional economies and potential disruptions of financial markets could negatively impact Valvoline's customers and suppliers, and therefore have a negative impact on its results of operations.

A global or regional economic downturn may reduce customer demand or inhibit Valvoline's ability to produce and sell products. Valvoline's business and operating results are sensitive to global and regional economic downturns, credit market tightness, declining consumer and business confidence, fluctuating commodity prices, volatile exchange rates, changes in interest rates, sovereign debt defaults and other challenges, including those related to international sanctions and acts of aggression or threatened aggression that can affect the global economy. With 76% of Valvoline's sales coming from North America in fiscal 2019, Valvoline is particularly sensitive to the risk of an economic slowdown or downturn in that region. In the event of adverse developments or stagnation in the economy or financial markets, Valvoline's customers may experience deterioration of their businesses, reduced demand for their products, cash flow shortages and difficulty obtaining financing. As a result, existing or potential customers might delay or cancel plans to purchase products and may not be able to fulfill their obligations to Valvoline in a timely fashion. Further, suppliers may experience similar conditions, which could impact their ability to fulfill their obligations to Valvoline. A weakening or reversal of the global economy or a substantial part of it could negatively impact Valvoline's business, results of operations, financial condition and ability to grow.

Valvoline's marketing activities may not be successful.

Valvoline invests substantial resources in advertising, consumer promotions and other marketing activities in order to maintain and strengthen its brand image and product awareness. The Valvoline name and brand image are integral to the growth of its business and its expansion into new markets. Failure to adequately market and differentiate its products and services from competitive products and services could adversely affect Valvoline's business. There can be no assurances that Valvoline's marketing strategies will be effective or that its investments in advertising activities will result in a corresponding increase in sales of its products. If Valvoline's marketing initiatives are not successful, it will have incurred significant expenses without the benefit of higher sales of its products.

Valvoline's success depends upon its ability to attract and retain key employees and the identification and development of talent to succeed senior management.

Valvoline's success depends on its ability to attract, retain and develop key personnel in a highly competitive labor market, and the inability to recruit and retain key personnel or the unexpected loss of key personnel may adversely affect Valvoline's operations. This risk of unwanted employee turnover is substantial in positions that require certain technical expertise, particularly in the Quick Lubes business. This risk is also substantial in developing international markets that Valvoline has targeted for growth and in North America, where attracting marketing and technical expertise to geographies necessary to support its management is important to its success. In addition, Valvoline relies heavily on its senior management team, and its future success depends, in part, on its ability to identify and develop or recruit talent to succeed its senior management and other key positions throughout the organization. If Valvoline fails to identify and develop or recruit successors, it is at risk of being harmed by the departures of these key employees.

Valvoline may be unable to execute its growth strategy, and acquisitions, joint ventures, strategic alliances and investments could result in operating difficulties, dilution and other harmful consequences that may adversely impact Valvoline's business and results of operations.

Acquisitions, particularly for the Quick Lubes business segment, are an important element of Valvoline's overall growth strategy. In addition, building strategic alliances for distribution and manufacturing, particularly in international markets,

including through joint venture partnerships, product distribution and toll manufacturing arrangements, are also an important element of Valvoline's overall growth strategy. Valvoline expects to continue to evaluate and enter into discussions regarding a wide array of potential strategic transactions, and to continue to grow its Quick Lubes business organically and through acquisitions. An inability to execute these plans could have a material adverse impact on Valvoline's financial condition and results of operations. In addition, the process of integrating an acquired company, business, or product may create unforeseen operating difficulties or expenditures. The areas where Valvoline faces risks include:

- inability to fully execute plans to add stores to Valvoline's Quick Lubes business, due to lack of desirable real estate sites, regulatory or municipal hurdles, a lack of viable acquisition targets, or other factors;
- diversion of management's time and attention from operating Valvoline's business to acquisition integration challenges;
- failure to successfully grow the acquired business or product lines;
- inability to implement adequate controls, procedures and policies at the acquired company;
- integration of the acquired company's accounting, human resources and other administrative systems, and coordination of product, engineering and sales and marketing functions;
- transition of operations, users and customers onto Valvoline's existing platforms;
- reliance on the expertise of Valvoline's strategic partners with respect to market development, sales, local regulatory compliance and other operational matters;
- failure to achieve expected synergies or realize expected financial or strategic benefits from an acquisition;
- failure to obtain required approvals on a timely basis, if at all, from governmental authorities, or conditions placed upon approval under competition and antitrust laws which could, among other things, delay or prevent Valvoline from completing a transaction, or otherwise restrict its ability to realize the expected financial or strategic goals of an acquisition;
- in the case of non-U.S. acquisitions, the need to integrate operations across different cultures and languages and to address economic, currency, political and regulatory risks associated with specific countries;
- cultural challenges associated with integrating employees from the acquired company into Valvoline's organization, and retention of employees from the companies that Valvoline acquires;
- liability for, or reputational harm from, activities of the acquired company before the acquisition or from Valvoline's strategic partners; and
- litigation or other claims in connection with the acquired company, including claims from terminated employees, customers, former security holders or other third parties.

Valvoline's failure to address these risks or other problems encountered in connection with its past or future acquisitions, investments or strategic alliances could cause Valvoline to fail to realize the anticipated benefits of such acquisitions, investments or strategic alliances, incur unanticipated liabilities and harm Valvoline's business generally.

Valvoline's acquisitions, investments and strategic alliances could also result in dilutive issuances of its equity securities, the incurrence of debt, contingent liabilities or amortization expenses, impairment of goodwill or purchased long-lived assets and restructuring charges, any of which could harm its financial condition, results of operations and cash flows. Also, the anticipated benefits of Valvoline's acquisitions may not be realized. Valvoline's balance sheet includes goodwill primarily related to acquisitions and future acquisitions may result in Valvoline's recognition of additional goodwill. The impairment of a significant portion of this goodwill would negatively affect its financial results.

Failure to develop and market new products, services and production technologies could impact Valvoline's competitive position and have an adverse effect on its business and results of operations.

The lubricants industry is subject to periodic technological change and ongoing product improvements. In order to maintain margins and remain competitive, Valvoline must successfully innovate and introduce new products, improvements or services that appeal to its customers and ultimately to global consumers. Changes in additive technologies, base oil production techniques and sources, and the demand for improved performance by OEMs and consumers place particular pressure on Valvoline to continue to improve its product offerings. In addition, the adoption of electric vehicles is increasing, which reduces the demands for lubricants, but expands the opportunity for other products required by electric vehicles, including coolants, fluids and greases. If Valvoline is unable to develop and market products for electric vehicles, its business and results of operations could be adversely impacted. Further, Valvoline's efforts to respond to changes in consumer demand in a timely and cost-efficient manner to drive growth could be adversely affected by difficulties or delays in product development and service innovation, including the inability to identify viable new products, successfully complete research and development, obtain regulatory approvals, obtain intellectual property protection or gain market acceptance of new products or service techniques. Due to the lengthy development process, technological challenges and intense competition, there can be no assurance that any of the products Valvoline is

currently developing, or could develop in the future, will achieve substantial commercial success. The time and expense invested in product development may not result in commercial products or provide revenues. Valvoline could be required to write-off its investments related to a new product that does not reach commercial viability. Moreover, Valvoline may experience operating losses after new products are introduced and commercialized because of high start-up costs, unexpected manufacturing costs or problems, or lack of demand.

The success of Valvoline's growth initiatives depends on its ability to successfully develop and implement digital platforms to better engage customers and consumers.

Valvoline is in the process of designing and implementing a number of digital platforms that will integrate its operations with customer and consumer data. The successful development and implementation of these digital platforms will depend on Valvoline's ability to identify an appropriate strategy, dedicate adequate resources and select technologies that will provide it with adequate flexibility to adapt to future developments in the marketplace and changes in consumer and customer behavior. Valvoline has incurred and expects to incur significant upfront investments to develop these digital platforms. There is a risk that once implemented, these digital platforms will not deliver all or part of the expected benefits, including additional sales. As Valvoline develops and implements its digital platforms, it may elect to modify, replace or abandon certain technology initiatives, which could result in asset write-downs.

Business disruptions from natural, operational and other catastrophic risks could seriously harm Valvoline's operations and financial performance. In addition, a catastrophic event at one of Valvoline's facilities or involving its products or employees could lead to liabilities that could further impair its operations and financial performance.

Business disruptions, including those related to operating hazards inherent in the production of lubricants, natural disasters, severe weather conditions, climate change, supply or logistics disruptions, increasing costs for energy, temporary plant and/or power outages, information technology systems and network disruptions, cyber-security breaches, terrorist attacks, armed conflicts, war, pandemic diseases, fires, floods or other catastrophic events, could seriously harm Valvoline's operations, as well as the operations of Valvoline's customers and suppliers, and may adversely impact Valvoline's financial performance. For example, Valvoline's Deer Park, Texas blending facility was temporarily shut down during fiscal 2019 for approximately five weeks due to a fire and the resulting chemical releases at a nearby third-party petrochemical terminal, which increased operating costs as Valvoline shifted production to its other blending facilities. Although it is impossible to predict the occurrence or consequences of any such events, they could result in reduced demand for Valvoline's products; make it difficult or impossible for Valvoline to manufacture its products, deliver products and services to its customers, or receive raw materials from suppliers; lead to increased costs of raw materials; or create delays and inefficiencies in the supply chain. In addition to leading to a serious disruption of Valvoline's businesses, a catastrophic event at one of Valvoline's facilities or involving its products or employees could lead to substantial legal liability to or claims by parties allegedly harmed by the event.

While Valvoline maintains business continuity plans that are intended to allow it to continue operations or mitigate the effects of events that could disrupt its business, Valvoline cannot provide assurances that its plans would fully protect it from all such events. In addition, insurance maintained by Valvoline to protect against property damage, loss of business and other related consequences resulting from catastrophic events is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of Valvoline's damages or damages to others in the event of a catastrophe. In addition, insurance related to these types of risks may not be available now or, if available, may not be available in the future at commercially reasonable rates.

Valvoline may not achieve some or all of the expected benefits of its restructuring and cost-savings program and this program may adversely affect its business.

In the second fiscal quarter of 2019, Valvoline announced a broad-based restructuring and cost-savings program that is expected to reduce costs, simplify processes, and focus the organization's structure and resources on key growth initiatives. Implementation of the program may be costly and disruptive to Valvoline's business and Valvoline may not be able to realize the cost savings and benefits initially anticipated. Cost savings expectations are estimates that are inherently difficult to predict; therefore, there can be no assurance that the estimates described in this Annual Report on Form 10-K will prove to be accurate or that the objectives of the program will be achieved. A variety of factors could cause Valvoline not to realize some or all of the expected cost savings, including, among others, delays in the anticipated timing of activities related to the program, unexpected costs associated with operating the business or executing the program, or Valvoline's ability to achieve the efficiencies contemplated by the program. Further, any cost savings that Valvoline realizes may be offset, in whole or in part, by a reduction in net sales or through increases in other expenses. Additionally, as a result of these restructuring and cost-savings initiatives, Valvoline may experience a loss of continuity and accumulated knowledge and incur inefficiencies during transitional periods. Reorganization and restructuring can require a

significant amount of management's and other employees' time and focus, which may divert attention from effectively operating and growing Valvoline's business.

If Valvoline fails to achieve some or all of the expected benefits or savings of its restructuring and cost-savings program within the expected time periods, or if its transitions and plans are not effective, it could have an adverse effect on Valvoline's business, financial condition, results of operations, or cash flows. For more information about the restructuring and cost-savings program, refer to Note 11 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K as well as to Management's Discussion and Analysis of Financial Condition and Results of Operations included in Item 7 of Part II of this Annual Report on Form 10-K.

Data protection requirements could increase operating costs and requirements and a breach in information privacy or other related risks could negatively impact operations.

Valvoline is subject to federal, state, and non-U.S. laws, directives, and regulations relating to the collection, use, retention, disclosure, security and transfer of personal data relating to its customers and employees. These laws, directives and regulations, and their interpretation and enforcement continue to evolve and may be inconsistent from jurisdiction to jurisdiction. For example, the General Data Protection Regulation ("GDPR"), which went into effect in the EU on May 25, 2018, applies to all of Valvoline's activities conducted from an establishment in the EU and may also apply to related products and services that Valvoline offers to customers in the EU. Complying with the GDPR and similar emerging and changing privacy and data protection requirements may cause Valvoline to incur substantial costs. Noncompliance with these legal obligations relating to privacy and data protection could result in penalties, legal proceedings by governmental entities or others, and significant legal and financial exposure and could affect its ability to retain and attract customers. Any failure or perceived failure by Valvoline or any third parties with which it does business to comply with these laws, rules and regulations, or with other obligations to which Valvoline may be or become subject, may result in actions against Valvoline by governmental entities, private claims and litigation, fines, penalties or other liabilities. Any such action would be expensive to defend, damage Valvoline's reputation and adversely affect business, operating results, financial position and cash flows.

The impact of changing laws or regulations or the manner of interpretation or enforcement of existing laws or regulations could adversely impact Valvoline's financial performance and restrict its ability to operate its business or execute its strategies.

New laws or regulations, or changes in existing laws or regulations or the manner of their interpretation or enforcement, could increase Valvoline's cost of doing business and restrict its ability to operate its business or execute its strategies. This risk includes, among other things, regulations related to the protection and use of private information of its employees and customers, regulations issued by the U.S. Federal Trade Commission (and analogous non-U.S. agencies) affecting Valvoline and its customers and compliance with the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals, or REACH regulation (and analogous non-EU initiatives). In addition, compliance with laws and regulations is complicated by Valvoline's substantial and growing global footprint, which will require significant and additional resources to ensure compliance with applicable laws and regulations in the more than 140 countries where Valvoline conducts business.

Valvoline's global operations expose it to trade and economic sanctions and other restrictions imposed by the United States, the EU and other governments and organizations. The U.S. Departments of Justice, Commerce, State and Treasury and other federal agencies and authorities have a broad range of civil and criminal penalties they may seek to impose against corporations and individuals for violations of economic sanctions laws, export control laws, the FCPA and other federal statutes and regulations, including those established by the Office of Foreign Assets Control ("OFAC"). Under these laws and regulations, as well as other anti-corruption laws, anti-money-laundering laws, export control laws, customs laws, sanctions laws and other laws governing Valvoline's operations, various government agencies may require export licenses, may seek to impose modifications to business practices, including cessation of business activities in sanctioned countries or with sanctioned persons or entities and modifications to compliance programs, which may increase compliance costs, and may subject Valvoline to fines, penalties and other sanctions. A violation of these laws or regulations could adversely impact Valvoline's business, results of operations and financial condition.

Although Valvoline has implemented policies and procedures in these areas, it cannot be sure that its policies and procedures are sufficient or that directors, officers, employees, representatives, distributors, consultants and agents have not engaged and will not engage in conduct for which Valvoline may be held responsible, nor can Valvoline be sure that its business partners have not engaged and will not engage in conduct that could materially affect their ability to perform their contractual obligations to Valvoline or even result in its being held liable for such conduct. Violations of the FCPA, OFAC restrictions or other export control, anti-corruption, anti-money-laundering and anti-terrorism laws or regulations may result

in severe criminal or civil sanctions, and Valvoline may be subject to other liabilities, which could have a material adverse effect on its business, financial condition, cash flows and results of operations.

The business model for Valvoline's Quick Lubes business, including its dependence on franchised oil change centers, presents a number of risks.

The Quick Lubes business, including VIOC and Valvoline Great Canadian Oil Change, is made up of an international network of both company-owned and franchised stores. Valvoline's success relies in part on the financial success and cooperation of its franchisees. However, Valvoline has limited influence over their operations. Valvoline's franchisees manage their businesses independently and are responsible for the day-to-day operations of approximately 63% of Quick Lube system stores as of September 30, 2019. Valvoline's royalty and other payments from franchised stores are largely dependent on franchisee sales. Valvoline's franchisees may have limited or no sales growth, and Valvoline's revenues and margins could be negatively affected as a result. In addition, if sales or business performance trends worsen for franchisees, their financial results may deteriorate, which could result in, among other things, store closures, delayed or reduced royalty payments to Valvoline and reduced growth in the number of Quick Lube stores.

Valvoline's success also depends on the willingness and ability of its independent franchisees to implement major initiatives, which may require additional investment by them, and remain aligned with Valvoline on operating, promotional and capital-intensive reinvestment plans. The ability of Valvoline's franchisees to contribute to the achievement of Valvoline's overall plans is dependent in large part on the availability of funding to its franchisees at reasonable interest rates and may be negatively impacted by the financial markets in general or the creditworthiness of individual franchisees.

Valvoline's operating performance and reputation could also be negatively impacted if its independent franchisees experience service failures or otherwise operate in a manner that projects a brand image inconsistent with Valvoline's values, particularly if Valvoline's contractual and other rights and remedies are limited, costly to exercise or subject to litigation. If Valvoline's franchisees do not successfully operate Quick Lube stores in a manner consistent with Valvoline's standards, Valvoline's brand, image and reputation could be harmed, which in turn could negatively impact its business and operating results. Although Valvoline should not be liable for the acts of its independently-owned franchisees, it is possible that a court may not recognize the legal distinction between Valvoline and its franchisees and hold Valvoline liable for a franchisee's violation of applicable laws or regulations.

The ownership mix of company-owned and franchised Quick Lube stores also affects Valvoline's results and financial condition. The decision to own stores or to operate under franchise or license agreements is driven by a large number of factors with a complex and changing interrelationship. The size of Valvoline's largest franchisees creates additional risk due to Valvoline's dependence on their particular growth, financial and operating performance and cooperation and alignment with Valvoline's initiatives.

Valvoline is the primary supplier of products to all Quick Lube stores. The growth and performance of Valvoline's lubricants and other product lines depends in large part on the performance of its Quick Lubes business, potentially amplifying the negative effect of the other risks related to the Quick Lubes business model.

Valvoline shares in ownership of joint ventures, which may limit its ability to manage third-party risks associated with these projects.

For financial or strategic reasons, Valvoline conducts a portion of its business through joint ventures. Joint ventures, particularly Valvoline's existing 50/50 joint ventures with Cummins in India and China, are an important part of its growth strategy internationally. In these joint ventures, Valvoline shares influence over the operation of the joint venture and its assets, but does not have a controlling interest or vote. Therefore, joint ventures may involve risks such as the possibility that a joint venture partner in an investment might become bankrupt, be unable to meet its capital contribution obligations, have economic or business interests or goals that are inconsistent with Valvoline's business interests or goals, or take actions that are contrary to Valvoline's direction or to applicable laws and regulations. If Valvoline's relationship with one of its joint venture partners were to deteriorate, it could negatively impact Valvoline's ability to achieve its growth goals internationally. In addition, joint venture partners could take actions binding on the joint venture without Valvoline's consent, or Valvoline may be unable to take action without the concurrence of its joint venture partners. Consequently, actions by the joint venture, joint venture partner or other third-party could expose Valvoline to claims for damages, financial penalties and reputational harm, any of which could have an adverse effect on its business and operations. Although joint ventures may generate positive cash flow, in some cases they may be unable or unwilling to distribute that cash to the joint venture partners.

Valvoline's substantial indebtedness may adversely affect its business, results of operations and financial condition.

Valvoline has substantial indebtedness and financial obligations. As of September 30, 2019, Valvoline had outstanding indebtedness of approximately \$1.3 billion, with a borrowing capacity remaining under its existing credit facilities of \$634 million.

Valvoline may incur substantial additional debt from time to time to finance working capital, capital expenditures, investments or acquisitions, or for other general corporate purposes. Valvoline's substantial indebtedness could adversely affect its business, results of operations and financial condition by, among other things:

- requiring Valvoline to dedicate a substantial portion of its cash flows to pay principal and interest on its debt, which would reduce the availability of its cash flow to fund working capital, capital expenditures, acquisitions, execution of its growth strategy and other general corporate purposes;
- limiting Valvoline's ability to borrow additional amounts to fund working capital, capital expenditures, acquisitions, debt service requirements, execution of its growth strategy and other purposes;
- making Valvoline more vulnerable to adverse changes in general economic, industry and regulatory conditions and in its business by limiting its flexibility in planning for, and making it more difficult for it to react quickly to, changing conditions;
- placing Valvoline at a competitive disadvantage compared with its competitors that have less debt and lower debt service requirements;
- making Valvoline more vulnerable to increases in interest rates since some of its indebtedness is subject to variable rates of interest; and
- making it more difficult for Valvoline to satisfy its financial obligations.

In addition, Valvoline may not be able to generate sufficient cash flows to repay its indebtedness when it becomes due and to meet its other cash needs. If Valvoline is not able to pay its debts as they become due, it could be in default under the terms of its indebtedness. Valvoline might also be required to pursue one or more alternative strategies to repay indebtedness, such as selling assets, refinancing or restructuring its indebtedness or selling additional debt or equity securities. Valvoline may not be able to refinance its debt or sell additional debt or equity securities or its assets on favorable terms, if at all, and if it must sell its assets, it may negatively affect Valvoline's ability to generate revenues.

If Valvoline is unable to access the capital markets or obtain bank credit, its financial position, growth plans, liquidity and results of operations could be negatively impacted.

Valvoline is dependent on a stable, liquid, and well-functioning financial system to fund its operations and capital investments. In particular, Valvoline may rely on the public and private debt and equity markets to fund portions of its capital investments and the commercial paper market and bank credit facilities to fund seasonal needs for working capital. Valvoline's access to these markets depends on multiple factors including the condition of the capital markets, Valvoline's operating performance and credit ratings. If rating agencies lower Valvoline's credit ratings, it could adversely impact Valvoline's ability to access the debt markets, its cost of funds and other terms for new debt issuances. Each of the credit rating agencies reviews its rating periodically, and there is no guarantee Valvoline's current credit rating will remain the same.

Imposition of new taxes, disagreements with tax authorities or additional tax liabilities could adversely affect Valvoline's business, financial condition, reputation or results of operations.

Valvoline's products are made, manufactured, distributed or sold in more than 140 countries and territories. As such, Valvoline is subject to a myriad of tax laws and regulations applicable in those countries and territories, as well as those of the United States and its various state and local governments. Economic and political pressure to increase tax revenues in jurisdictions where Valvoline operates or does business, or the adoption of new or reformed tax regulations, may make resolving tax disputes more difficult, and the final resolution of tax audits and any related litigation may differ from historical provisions and accruals resulting in an adverse impact on Valvoline's business, financial condition, reputation or results of operations. Changes in how United States multinational corporations are taxed on earnings, including changes in interpretations and the issuance of additional guidance surrounding recently enacted U.S. tax reform legislation, could adversely affect Valvoline's business, financial condition or results of operations.

Valvoline may fail to adequately protect its intellectual property rights or may be accused of infringing the intellectual property rights of third parties.

Valvoline relies heavily upon its trademarks, domain names and logos, as well as upon trade secrets, to market its brands and to build and maintain brand loyalty and recognition. Valvoline also relies on a combination of laws and contractual

restrictions with employees, customers, suppliers, affiliates and others, to establish and protect its various intellectual property rights. For example, Valvoline has generally registered and continues to register and renew, or secure by contract where appropriate, trademarks and service marks as they are developed and used, and reserve, register and renew domain names as appropriate. Effective trademark protection may not be available or may not be sought in every country in which Valvoline's products are made available and contractual disputes may affect the use of marks governed by private contract. Similarly, not every variation of a domain name may be available to or be registered by Valvoline, even if available.

Valvoline generally seeks to apply for patents or for other similar statutory protections as and if it deems appropriate, based on then-current facts and circumstances, and will continue to do so in the future. No assurances can be given that any patent application Valvoline has filed or will file will result in a patent being issued, or that any existing or future patents will afford adequate or meaningful protection against competitors or against similar technologies. In addition, no assurances can be given that third parties will not create new products or methods that achieve similar results without infringing upon patents Valvoline owns. Furthermore, the terms of patents are finite and the patents that Valvoline owns will eventually expire after the statutory term of patent protection ends in the jurisdiction where such patents are issued.

Despite these measures, Valvoline's intellectual property rights may still not be protected in a meaningful manner, challenges to contractual rights could arise and third parties could copy or otherwise obtain and use Valvoline's intellectual property without authorization, including its trade secrets and other confidential intellectual property. The occurrence of any of these events could result in the erosion of Valvoline's brands and limit its ability to market its brands using its various trademarks, cause Valvoline to lose such trade secrets, as well as impede its ability to effectively compete against competitors with similar products and services, any of which could adversely affect its business, financial condition and results of operations.

From time to time, Valvoline has been subject to legal proceedings and claims, including claims of alleged infringement of trademarks, copyrights, patents and other intellectual property rights held by third parties. In the future, third parties may sue Valvoline for alleged infringement of their proprietary or intellectual property rights. Valvoline may not be aware of whether its products do or will infringe existing or future patents or other intellectual property rights of others. In addition, litigation may be necessary to enforce Valvoline's intellectual property rights, protect its trade secrets or determine the validity and scope of proprietary rights claimed by others. Any litigation or other intellectual property proceedings of this nature, regardless of outcome or merit, could result in substantial costs and diversion of management and technical resources, or loss of rights in Valvoline's intellectual property, any of which could adversely affect Valvoline's business, financial condition and results of operations.

Valvoline's pension and other postretirement benefit plan obligations are currently underfunded, and Valvoline may have to make significant cash payments to some or all of these plans, which would reduce the cash available for its businesses.

In connection with Valvoline's separation from Ashland, Valvoline assumed certain of Ashland's historical pension and other postretirement benefit plans and related liabilities. The funded status of Valvoline's pension plans is dependent upon many factors, including returns on invested assets, the level of certain market interest rates and the discount rate used to determine pension obligations. Though Valvoline has taken a number of actions over the past three fiscal years to reduce the risk and volatility associated with the most significant of these plans, the U.S. qualified plan, changing market conditions or laws and regulations could require material increases in the expected cash contributions to Valvoline's pension plans in future years. Specifically, unfavorable returns on plan assets or unfavorable changes in applicable laws or regulations could materially change the timing and amount of required plan funding, which would reduce the cash available for Valvoline's businesses. In addition, a decrease in the discount rate used to determine pension obligations could result in an increase in the valuation of pension obligations, which could affect the reported funded status of Valvoline's pension plans and future contributions. Similarly, an increase in discount rates could increase the periodic pension cost in subsequent fiscal years. Valvoline's policy to recognize changes in the fair value of the pension assets and liabilities annually and as otherwise required through mark to market accounting could result in volatility in Valvoline's earnings, which could be material. In addition, Valvoline's pension and other postretirement benefit plan obligations are currently underfunded, and Valvoline may have to make significant cash payments to some or all of these plans, which would reduce the cash available for its businesses.

Under the Employee Retirement Income Security Act of 1974, as amended, the Pension Benefit Guaranty Corporation ("PBGC") has the authority to terminate an underfunded tax-qualified pension plan under limited circumstances. In the event Valvoline's tax-qualified pension plans are terminated by the PBGC, Valvoline could be liable to the PBGC for some portion of the underfunded amount.

Failure to maintain effective internal controls in accordance with Section 404 of Sarbanes-Oxley could have a material adverse effect on Valvoline's business and stock price.

As a public company, Valvoline is subject to Section 404 of the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley"), which requires annual assessments by Valvoline's management of the effectiveness of Valvoline's internal control over financial reporting and annual reports by Valvoline's independent registered public accounting firm that address the effectiveness of internal control over financial reporting. During the course of its annual assessment, Valvoline may identify deficiencies or material weaknesses which it may not be able to remediate in time to meet its deadline for compliance with Section 404. Evaluating and maintaining internal control can divert management's attention from other matters that are important to the operation of Valvoline's business. Valvoline may not be able to conclude on an ongoing basis that it has effective internal control over financial reporting in accordance with Section 404 or Valvoline's independent registered public accounting firm may not be able or willing to issue an unqualified report on the effectiveness of Valvoline's internal control over financial reporting. If Valvoline concludes that its internal control over financial reporting is not effective in any annual assessment, Valvoline cannot be certain as to the timing of completion of its evaluation, testing and remedial actions or their effect on its operations. If either Valvoline is unable to conclude that it has effective internal control over financial reporting or its independent auditors are unable to provide it with an unqualified report as required by Section 404 in any annual assessment, then investors could lose confidence in Valvoline's reported financial information, which could have a negative effect on the trading price of Valvoline's stock.

Valvoline is subject to payment-related risks for company-owned and franchised Quick Lube stores.

At company-owned and franchised Quick Lube stores, Valvoline accepts a variety of payment methods, including credit cards and debit cards. Accordingly, Valvoline is, and will continue to be, subject to significant and evolving regulations and compliance requirements, including obligations to implement enhanced authentication processes that could result in increased costs, reduce the ease of use of certain payment methods and expand liability for Valvoline. For certain payment methods, including credit and debit cards, Valvoline pays interchange and other fees, which may increase over time and raise the Company's operating costs. Valvoline relies on independent service providers for payment processing, including credit and debit cards. If these independent service providers become unwilling or unable to provide these services to Valvoline, or if the cost of using these providers increases, Valvoline's business could be harmed. Valvoline is also subject to payment card association operating rules, including data security rules, certification requirements and rules governing electronic funds transfers, which could change or be reinterpreted to make it difficult or impossible for Valvoline to comply. If Valvoline fails to comply with these rules or requirements, or if its data security systems are breached or compromised, Valvoline may be liable for losses incurred by card issuing banks or consumers, subject to fines and higher transaction fees, lose its ability to accept credit and debit card payments from its customers or process electronic fund transfers or facilitate other types of payments and its brand, business and results of operations could be significantly harmed.

Valvoline's business exposes it to potential product liability claims and recalls, false advertising claims and other claims, which could adversely affect its financial condition and performance.

The development, manufacture and sale of automotive, commercial and industrial lubricants and automotive chemicals and the provision of automotive maintenance services involve an inherent risk of exposure to product liability claims, false advertising claims, product recalls, workplace exposure, product seizures and related adverse publicity. A product liability claim, false advertising claim or related judgment against Valvoline could also result in substantial and unexpected expenditures, affect consumer or customer confidence in Valvoline's products and services, and divert management's time and attention from other responsibilities. Although Valvoline maintains product and general liability insurance, there can be no assurance that the type or level of coverage it has is adequate or that it will be able to continue to maintain its existing insurance or obtain comparable insurance at a reasonable cost, if at all. A product recall or a partially or completely uninsured product liability, false advertising or other judgment against Valvoline could have a material adverse effect on its reputation, results of operations and financial condition.

Valvoline has incurred, and will continue to incur, costs as a result of EHS and hazardous substances liabilities and related compliance requirements. These costs could adversely impact Valvoline's cash flow, its results of operations or financial condition.

Valvoline is subject to extensive federal, state, local and non-U.S. laws, regulations, rules and ordinances relating to pollution, protection of the environment and human health and safety, as well as the generation, storage, handling, treatment, disposal and remediation of hazardous substances and waste materials. Valvoline has incurred, and will continue to incur, costs and capital expenditures to comply with these laws and regulations.

EHS regulations change frequently, and such regulations and their enforcement have tended to become more stringent over time. Accordingly, changes in EHS laws and regulations and the enforcement of such laws and regulations could

interrupt Valvoline's operations, require modifications to its facilities or cause it to incur significant liabilities, costs or losses that could adversely affect its profitability. Actual or alleged violations of EHS laws and regulations could result in restrictions or prohibitions on plant operations as well as substantial damages, penalties, fines, civil or criminal sanctions and remediation costs.

Valvoline's business involves the production, storage and transportation of hazardous substances. Under some environmental laws, Valvoline may be strictly liable and/or jointly and severally liable for environmental damages caused by releases of hazardous substances and waste materials into the environment. For instance, under relevant laws and regulations Valvoline may be deemed liable for soil and/or groundwater contamination at sites it currently owns and/or operates even though the contamination was caused by a third party such as a former owner or operator, and at sites it formerly owned and operated if the release of hazardous substances or waste materials was caused by it or by a third party during the period it owned and/or operated the site. Valvoline also may be deemed liable for soil and/or groundwater contamination at sites to which it sent hazardous wastes for treatment or disposal, notwithstanding that the original treatment or disposal activity accorded with all applicable regulatory requirements.

Valvoline is responsible for, and has financial exposure to, liabilities from pending and threatened claims which could adversely impact its results of operations and cash flow.

There are various claims, lawsuits and administrative proceedings pending or threatened against Valvoline. Such actions are with respect to commercial matters, false advertising, product liability, toxic tort liability and other matters that seek remedies or damages, some of which are for substantial amounts. While these actions are being contested, their outcome is not predictable. Valvoline's results could be adversely affected by financial exposure to these liabilities. Valvoline could also be subject to additional legal proceedings in the future that may adversely affect its business, including administrative proceedings, class actions, employment and personal injury claims, disputes with current or former suppliers, claims by current or former franchisees and intellectual property claims.

Insurance maintained by Valvoline to protect against claims for damages alleged by third parties is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of Valvoline's liabilities to others. In addition, insurance related to these types of risks may not be available now or, if available, may not be available in the future at commercially reasonable rates.

Risks related to Valvoline's separation from Ashland

The Distribution could result in significant tax liability to Ashland, and in certain circumstances, Valvoline could be required to indemnify Ashland for material taxes pursuant to indemnification obligations under the Tax Matters Agreement.

Ashland obtained a written opinion of counsel to the effect that the Distribution should qualify for non-recognition of gain and loss under Section 355 of the Internal Revenue Code of 1986, as amended (the "Code"). The opinion of counsel does not address any U.S. state, local or non-U.S. tax consequences of the Distribution. The opinion assumes that the Distribution is completed according to the terms of the Separation Agreement entered into between Ashland and Valvoline (the "Separation Agreement") and relies on the facts as described in the Separation Agreement, the Tax Matters Agreement, other ancillary agreements, the information statement distributed to Ashland's shareholders in connection with the Distribution and a number of other documents. In addition, the opinion is based on certain representations as to factual matters from, and certain covenants by, Ashland and Valvoline. The opinion cannot be relied on if any of the assumptions, representations or covenants is incorrect, incomplete or inaccurate or is violated in any material respect.

The opinion of counsel is not binding on the Internal Revenue Service (the "IRS") or the courts, and thus there can be no assurance that the IRS or a court will not take a contrary position. Ashland has not requested, and does not intend to request, a ruling from the IRS regarding the U.S. federal income tax consequences of the Distribution.

If the Distribution were determined not to qualify for non-recognition of gain and loss, then Ashland would recognize a gain as if it had sold its Valvoline common stock in a taxable transaction in an amount up to the fair market value of the common stock it distributed in the Distribution. In addition, certain reorganization transactions undertaken in connection with the separation and the Distribution could be determined to be taxable, which could result in additional taxable gain. Under certain circumstances set forth in the Tax Matters Agreement, Valvoline could have a substantial indemnification obligation to Ashland with respect to the tax associated with some or all of such gain, which could have a material adverse impact on Valvoline's financial condition.

Valvoline could have an indemnification obligation to Ashland if events or actions subsequent to the Distribution cause the Distribution to be taxable.

If, due to breaches of covenants that Valvoline has agreed to in connection with the Separation Agreement or the Distribution, it were determined that the Distribution did not qualify for non-recognition of gain and loss, Valvoline could be required to indemnify Ashland for the resulting taxes (and reasonable expenses). In addition, Section 355(e) of the Code generally creates a presumption that the Distribution would be taxable to Ashland, but not to its shareholders, if Valvoline or its shareholders were to engage in transactions that result in a 50% or greater change (by vote or value) in the ownership of Valvoline's stock during the four-year period beginning on the date that begins two years before the date of the Distribution, which occurred on May 12, 2017, unless it were established that such transactions and the Distribution were not part of a plan or series of related transactions. If the Distribution were taxable for U.S. federal income tax purposes to Ashland due to a breach of Valvoline's covenants or a 50% or greater change in the ownership of Valvoline's stock during the aforementioned four-year period, Ashland would recognize a gain as if it had sold Valvoline common stock in a taxable transaction in an amount up to the fair market value of the stock held by it immediately before the Distribution, and Valvoline generally would be required to indemnify Ashland for the tax on such gain and related expenses, as well as any additional gain in connection with certain reorganization transactions undertaken to effect the separation and the Distribution. Any such obligation could have a material impact on Valvoline's financial condition.

Valvoline will have joint and several liability with Ashland for the consolidated U.S. federal income taxes of the Ashland consolidated group for the taxable periods in which Valvoline was part of the Ashland consolidated group. In addition, Valvoline has agreed to indemnify Ashland for certain pre-IPO U.S. taxes that arise on audit and are directly attributable to neither the Valvoline business nor Ashland's specialty ingredients and performance materials businesses (collectively, the "Chemicals business").

Valvoline and Ashland as well as their respective subsidiaries were part of U.S. federal consolidated group tax returns and certain combined or similar group tax returns (together, "Combined Tax Returns") through the date of the Distribution. Therefore, Valvoline has joint and several liability with Ashland to the respective taxing authorities for the Combined Tax Returns for the periods up to and including the date of the Distribution.

Pursuant to the Tax Matters Agreement, Valvoline is required to indemnify Ashland for: (a) certain U.S. federal, state or local taxes of Ashland and/or its subsidiaries for any tax period ending on or prior to the (i) Distribution that arise on audit or examination and are directly attributable to Valvoline or (ii) IPO that arise on audit or examination and are directly attributable to neither the Valvoline business nor the Chemicals business; and (b) certain non-U.S. taxes of Ashland and/or its subsidiaries for any tax period ending on or prior to the Distribution that arise on audit or examination and are directly attributable to Valvoline. This indemnification obligation could be material if Ashland receives a material tax assessment for pre-IPO tax periods, several of which are currently under IRS audit.

The Tax Matters Agreement also requires Valvoline to indemnify Ashland for any taxes (and reasonable expenses) resulting from the failure of the Distribution to qualify for non-recognition of gain and loss or certain reorganization transactions related to the separation or the IPO and Distribution to qualify for their intended tax treatment ("Transaction Taxes"), where the taxes result from (1) breaches of representations or covenants that Valvoline made or agreed to in connection with these transactions, (2) the application of certain provisions of U.S. federal income tax law to the Distribution with respect to acquisitions of Valvoline common stock or (3) any other actions that Valvoline knows or reasonably should expect would give rise to such taxes.

The Tax Matters Agreement also requires Valvoline to indemnify Ashland for a portion of certain other taxes arising from the separation allocated to Valvoline generally based on Valvoline's market capitalization relative to the market capitalization of Ashland at the time of the Distribution.

Valvoline's inability to resolve favorably any disputes that arise between Valvoline and Ashland with respect to their past relationship may adversely affect its operating results.

Disputes may arise between Ashland and Valvoline in a number of areas relating to their past relationship, including labor; tax; employee benefits, including pension liabilities; indemnification; services provided to one another; and other matters arising from Valvoline's separation from Ashland. Valvoline may not be able to resolve disputes with Ashland, and even if it does, the resolution may not be favorable and could adversely affect Valvoline's operating results.

Ashland has agreed to indemnify Valvoline for certain liabilities. However, there can be no assurance that the indemnity will be sufficient to insure Valvoline against the full amount of such liabilities, or that Ashland's ability to satisfy its indemnification obligation will not be impaired in the future.

Pursuant to the Separation Agreement and certain other agreements with Ashland, Ashland agreed to indemnify Valvoline for certain liabilities. However, third parties could also seek to hold Valvoline responsible for any of the liabilities that Ashland agreed to retain, and there can be no assurance that the indemnity from Ashland will be sufficient to protect Valvoline against the full amount of such liabilities, or that Ashland will be able to fully satisfy its indemnification obligations in the future. Even if Valvoline ultimately succeeded in recovering from Ashland any amounts for which Valvoline is held liable, Valvoline may be temporarily required to bear these losses. Each of these risks could negatively affect Valvoline's business, financial position, results of operations and cash flows.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Valvoline's corporate headquarters is located in Lexington, Kentucky, where the Company currently leases approximately 187,000 square feet. Valvoline owns or leases several facilities throughout North America, Europe, Australia, and Asia that comprise over 2 million square feet of blending, warehouse, research and development and office space. In addition, Valvoline owns or leases the property associated with 519 company-owned quick-lube service center stores under the Valvoline Instant Oil ChangeSM and Valvoline Great Canadian Oil Change brands throughout the United States and Canada, respectively. The properties leased by Valvoline generally have expiration dates ranging from less than one year to more than 20 years, with certain renewal options available.

In addition, Valvoline contracts with third parties to provide blending, packaging, warehousing and distribution services. Valvoline believes its physical properties are suitable and adequate for the Company's business, and none of the property owned by Valvoline is subject to any major known encumbrances. Additional information regarding certain lease obligations may be found in Note 13 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K.

ITEM 3. LEGAL PROCEEDINGS

From time to time, Valvoline is party to lawsuits, claims and other legal proceedings that arise in the ordinary course of business. Many of these legal matters involve complex issues of law and fact and may proceed for protracted periods of time. The Company's legal proceedings are reviewed on an ongoing basis to establish liabilities for the outcome of such matters where losses are determined to be probable and reasonably estimable and to provide disclosure of matters for which management believes a material loss is at least reasonably possible. There are certain claims and legal proceedings pending where loss is not determined to be probable or reasonably estimable, and therefore, accruals have not been made. As disclosed within the Note 16 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K, the Company believes it has established adequate accruals for liabilities that are probable and reasonably estimable.

Although the ultimate resolution of these matters cannot be predicted with certainty and there can be no assurances that the actual amounts required to satisfy liabilities from these matters will not exceed the amounts reflected in the consolidated financial statements, based on information available at this time and taking into account established accruals for estimated liabilities, it is the opinion of management that such pending claims or proceedings are not reasonably likely to have a material adverse effect on its financial position, results of operations, or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market information

Valvoline common stock is listed on the NYSE and trades under the symbol "VVV." Valvoline's common stock also has trading privileges on NASDAQ. Prior to September 23, 2016, the pricing date of the IPO, there was no public market for Valvoline's common stock.

As of November 15, 2019, there were approximately 10,000 registered holders of Valvoline common stock.

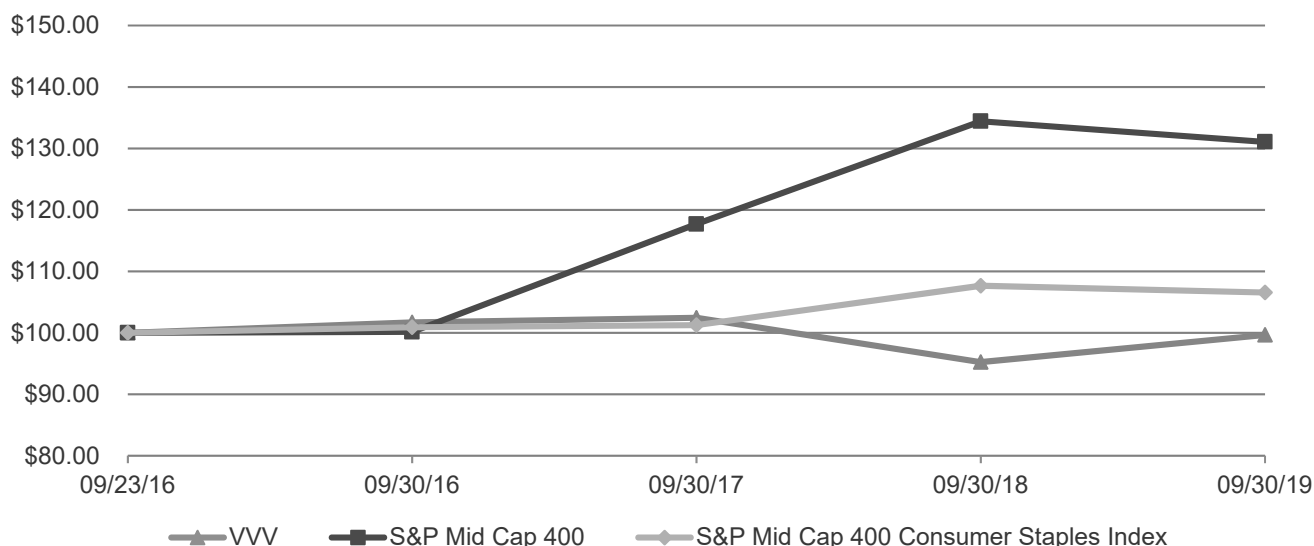
Dividend policy

Valvoline expects to continue to pay quarterly cash dividends to the holders of its common stock; however, the declaration and payment of dividends to holders of Valvoline common stock will be at the discretion of Valvoline's Board of Directors (the "Board") in accordance with applicable law after taking into account various factors, including Valvoline's financial condition, operating results, current and anticipated cash needs, cash flows, impact on Valvoline's effective tax rate, indebtedness, legal requirements and other factors that the Board considers relevant. In addition, the instruments governing Valvoline's indebtedness may limit its ability to pay dividends. Therefore, no assurance is given that Valvoline will pay any dividends to its stockholders, or as to the amount of any such dividends if the Board determines to do so.

Stock performance graph

The following graph compares the cumulative total stockholder return on a \$100 investment in Valvoline common stock, the S&P Mid Cap 400 Index, and the S&P Mid Cap 400 Consumer Staples Index for the period from September 23, 2016 (the date Valvoline common stock commenced trading) to September 30, 2019. This graph assumes an investment in the Valvoline common stock and each index were \$100 on September 23, 2016 and that all dividends were reinvested.

Comparison of 3-year Cumulative Total Shareholder Return



Comparison of cumulative total returns	9/23/2016	9/30/2016	9/30/2017	9/30/2018	9/30/2019
Valvoline Inc.	\$ 100.00	\$ 101.69	\$ 102.44	\$ 95.23	\$ 99.66
S&P Mid Cap 400 Index	\$ 100.00	\$ 100.15	\$ 117.70	\$ 134.42	\$ 131.07
S&P Mid Cap 400 Consumer Staples Index	\$ 100.00	\$ 100.91	\$ 101.25	\$ 107.66	\$ 106.56

Purchases of Company common stock

The Company did not repurchase any shares of common stock during the three months ended September 30, 2019 pursuant to the Board of Directors authorization on January 31, 2018 to repurchase up to \$300 million of common stock through September 30, 2020. As of September 30, 2019, \$75 million remains available for share repurchases under this authorization.

ITEM 6. SELECTED FINANCIAL DATA

Valvoline Inc. and Consolidated Subsidiaries Five-Year Selected Financial Information ^{(a) (b)}

(In millions, except per share data)	For the years ended September 30				
	2019	2018	2017	2016	2015
Summary of operations					
Sales	\$ 2,390	\$ 2,285	\$ 2,084	\$ 1,929	\$ 1,967
Gross profit	\$ 810	\$ 806	\$ 776	\$ 748	\$ 700
Operating income	\$ 398	\$ 395	\$ 394	\$ 396	\$ 360
Net income ^(c)	\$ 208	\$ 166	\$ 304	\$ 273	\$ 196
Common stock information					
Basic earnings per share ^(d)	\$ 1.10	\$ 0.84	\$ 1.49	\$ 1.60	\$ 1.15
Diluted earnings per share ^(d)	\$ 1.10	\$ 0.84	\$ 1.49	\$ 1.60	\$ 1.15
Dividends per common share	\$ 0.42	\$ 0.30	\$ 0.20	\$ —	\$ —
Cash flow information					
Cash flows from operating activities	\$ 325	\$ 320	\$ (130)	\$ 311	\$ 330
Less: Additions to property, plant and equipment	(108)	(93)	(68)	(66)	(45)
Plus: Discretionary contributions to pension plans	—	—	394	—	—
Free cash flow ^(e)	\$ 217	\$ 227	\$ 196	\$ 245	\$ 285

(In millions)	As of September 30				
	2019	2018	2017	2016	2015
Balance sheet information					
Total assets	\$ 2,064	\$ 1,854	\$ 1,915	\$ 1,825	\$ 978
Long-term debt and capital lease obligations (including current portion)	\$ 1,367	\$ 1,342	\$ 1,075	\$ 749	\$ 4
Stockholders' (deficit) equity	\$ (258)	\$ (358)	\$ (117)	\$ (330)	\$ 617

Unaudited (In millions)	For the years ended September 30				
	2019	2018	2017	2016	2015
Other financial and operational data					
Lubricant sales volume (gallons)	178.4	181.9	179.7	174.5	167.4
Company-owned same-store sales growth ^(f)	9.7 %	8.7 %	7.0 %	6.2 %	7.5 %
Franchised same-store sales growth ^{(f) (g)}	10.4 %	8.0 %	7.5 %	8.0 %	7.8 %
Combined same-store sales growth ^{(f) (g)}	10.1 %	8.3 %	7.4 %	7.5 %	7.7 %
EBITDA ^(h)	\$ 399	\$ 449	\$ 574	\$ 468	\$ 335
Adjusted EBITDA ^(h)	\$ 478	\$ 466	\$ 447	\$ 440	\$ 412

- (a) During the periods presented, Valvoline experienced certain changes in the composition of its assets and liabilities affecting the comparability of financial information between years. These changes include, but are not limited to, the Contribution of assets and liabilities from Ashland in fiscal 2016, an IPO in fiscal 2016, establishing a stand-alone capital structure in fiscal 2016, and the separation from Ashland in fiscal 2017.
- (b) At the beginning of fiscal 2019, Valvoline adopted the new revenue recognition accounting standard using the modified retrospective method to those contracts that were not completed as of October 1, 2018. Refer to Notes 2 and 3 to the Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K for details regarding the impact of adoption.
- (c) Net income includes the impact of immediately recognizing actuarial gains and losses for defined benefit pension and other postretirement plan remeasurements. During the years ended September 30, Valvoline recognized the following pre-tax remeasurements: a loss of \$69 million in 2019, a loss of \$38 million in 2018, a gain of \$68 million in 2017, a gain of \$18 million in 2016, and a loss of \$46 million in 2015. Net income also includes the impact of the enactment of U.S. and Kentucky tax reform legislation, which resulted in an income tax benefit of \$5 million in fiscal 2019 and income tax expense of \$78 million in fiscal 2018.
- (d) The weighted average common shares outstanding for the years ended September 30, 2016 and 2015 are based on the 170 million shares issued to Ashland in the Contribution.
- (e) In addition to cash flows from operating activities determined in accordance with U.S. GAAP, Valvoline uses free cash flow as a non-GAAP metric of cash flow generation. By deducting capital expenditures from operating cash flows and adding discretionary contributions to pension plans, the Company is able 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 from operating activities, free cash flow includes the impact of capital expenditures, providing a more complete picture of cash generation. Free cash flow has certain limitations, including that it does not reflect adjustments for certain non-discretionary cash flows, such as mandatory debt repayments. The amount of mandatory versus discretionary expenditures can vary

significantly between periods. Valvoline's results of operations are presented based on its management structure and internal accounting practices. The structure and practices are specific to Valvoline; therefore, its financial results and free cash flow are not necessarily comparable with similar information for other comparable companies. Free cash flow has limitations as an analytical tool and should not be considered in isolation from, or as an alternative to, or more meaningful than, cash flows provided by operating activities as determined in accordance with U.S. GAAP. In evaluating free cash flow, be aware that in the future Valvoline may incur expenses similar to those for which adjustments are made in calculating free cash flow. Valvoline's presentation of free cash flow should not be construed as a basis to infer that its future results will be unaffected by unusual or nonrecurring items. Because of these limitations, one should rely primarily on cash flows provided by operating activities as determined in accordance with U.S. GAAP and use free cash flow only as a supplement.

- (f) Valvoline determines same-store sales growth on a fiscal year basis, with new stores excluded from the metric until the completion of their first full fiscal year in operation.
- (g) Valvoline franchisees are distinct legal entities and Valvoline does not consolidate the results of operations of its franchisees.
- (h) In addition to net income determined in accordance with U.S. GAAP, Valvoline evaluates operating performance using certain non-GAAP measures including Earnings before interest, taxes, depreciation and amortization ("EBITDA"), which management defines as net income/loss, plus income tax expense/benefit, net interest and other financing expenses, and depreciation and amortization; and Adjusted EBITDA, which Valvoline defines as EBITDA adjusted for key items and net pension and other postretirement plan income/expense. Key items consist of income or expenses associated with certain unusual, infrequent or non-operational income or expenses not directly attributable to the underlying business, which management believes impacts the comparability of operational results between periods and are also often related to legacy matters or market-driven events that do not have an immediate, corresponding impact on the Company's ongoing performance. Key items may consist of adjustments related to: the impairment of an equity investment; legacy businesses, including the separation from Ashland and associated impacts of related indemnities; significant acquisitions or dispositions, restructuring-related matters, and other matters that are non-operational or unusual in nature. Net pension and other postretirement plan income/expense includes several elements impacted by changes in plan assets and obligations that are primarily driven by changes in the debt and equity markets, as well as those that are predominantly legacy in nature and related to prior service to the Company from employees (e.g., retirees, former employees, current employees with frozen benefits). These elements include (i) interest cost, (ii) expected return on plan assets, (iii) actuarial gains/losses, and (iv) amortization of prior service cost/credit. Significant factors that can contribute to changes in these elements include changes in discount rates used to remeasure pension and other postretirement obligations on an annual basis or upon a qualifying remeasurement, differences between actual and expected returns on plan assets, and other changes in actuarial assumptions, such as the life expectancy of plan participants. Accordingly, management considers that these elements are more reflective of changes in current conditions in global financial markets (in particular, interest rates) and are outside the operational performance of the business and are also primarily legacy amounts that are not directly related to the underlying business and do not have an immediate, corresponding impact on the compensation and benefits provided to eligible employees for current service. Adjusted EBITDA will continue to include pension and other postretirement service costs related to current employee service as well as the costs of other benefits provided to employees for current service.

Valvoline believes the use of non-GAAP measures assists investors in understanding the ongoing operating performance of its business by presenting comparable financial results between periods. The non-GAAP information provided is used by management and may not be comparable to similar measures disclosed by other companies, because of differing methods used by other companies in calculating EBITDA and Adjusted EBITDA. EBITDA and Adjusted EBITDA provide a supplemental presentation of Valvoline's operating performance.

EBITDA and Adjusted EBITDA each have limitations as analytical tools and should not be considered in isolation from, or as an alternative to, or more meaningful than, net income as determined in accordance with U.S. GAAP. Because of these limitations, one should rely primarily on net income as determined in accordance with U.S. GAAP and use EBITDA and Adjusted EBITDA only as supplements. In evaluating EBITDA and Adjusted EBITDA, one should be aware that in the future Valvoline may incur activity similar to those for which adjustments are made in calculating EBITDA and Adjusted EBITDA. Valvoline's presentation of EBITDA and Adjusted EBITDA should not be construed as a basis to infer that future results will be unaffected by unusual or nonrecurring items.

The following table reconciles net income to EBITDA and Adjusted EBITDA for the periods presented.

(In millions)	For the years ended September 30				
	2019	2018	2017	2016	2015
Net income	\$ 208	\$ 166	\$ 304	\$ 273	\$ 196
Income tax expense	57	166	186	148	101
Net interest and other financing expenses	73	63	42	9	—
Depreciation and amortization ^(a)	61	54	42	38	38
EBITDA	399	449	574	468	335
Net pension and other postretirement plan expense (income)	60	—	(138)	(35)	37
Net legacy and separation-related expenses ^(a)	3	14	11	6	—
Business interruption expenses ^(a)	6	—	—	—	—
Acquisition and divestiture-related (gains) losses ^(b)	(4)	3	—	1	26
Impairment of equity investment ^(a)	—	—	—	—	14
Restructuring and related expenses ^(a)	14	—	—	—	—
Adjusted EBITDA	\$ 478	\$ 466	\$ 447	\$ 440	\$ 412

(a) These expense (income) amounts were included in operating income in the respective years ended September 30.

(b) Acquisition and divestiture-related (gains) losses in fiscal 2019 and 2018 were included in operating income, while losses in fiscal 2016 and 2015 were reported below operating income.

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the consolidated financial statements and the accompanying Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K.

BUSINESS OVERVIEW

Valvoline is a worldwide marketer and supplier of engine and automotive maintenance products and services. Established in 1866, Valvoline's heritage spans over 150 years, during which it has developed powerful name recognition across multiple product and service channels. In addition to the iconic Valvoline-branded passenger car motor oils and other automotive lubricant products, Valvoline provides a wide array of lubricants used in heavy duty equipment, as well as automotive chemicals and fluids designed to improve engine performance and lifespan. Valvoline's premium branded product offerings enhance its high-quality reputation and provide customers with solutions that address a wide variety of needs.

In the United States and Canada, Valvoline's products and services are sold to retailers with over 50,000 retail outlets, to installer customers with over 15,000 locations, and through 1,385 franchised and company-owned stores. Valvoline also has a strong international presence with products sold in more than 140 countries. Valvoline serves its customer base through its sales force and technical support organization, allowing Valvoline to leverage its technology portfolio and customer relationships globally, while meeting customer demands locally. This combination of scale and strong local presence is critical to the Company's success.

Valvoline's fiscal year ends on September 30 of each year, and Valvoline has three reportable segments: Quick Lubes, Core North America, and International, with certain corporate and non-operational items included in Unallocated and Other to reconcile to consolidated results. Refer to Item 1 included in Part I of this Annual Report on Form 10-K for a description of Valvoline's reportable segments.

FISCAL 2019 OVERVIEW

The following were the significant events for fiscal 2019, each of which is discussed more fully in this Annual Report on Form 10-K:

- Quick Lubes growth in sales and earnings was driven by organic same-store sales growth and an overall increase in the number of stores expanding the Quick Lubes footprint in both the U.S. and Canada. For the year, system-wide same-store sales grew 10.1%, a record for full-year system-wide same-store sales growth, and represented the 13th consecutive year of same-store sales increases. This growth was driven by a balanced contribution from transaction growth and average ticket improvement due to effective marketing and customer retention, increased revenue from non-oil-change services, and favorable pricing and premium mix. The Quick Lubes system added 143 net new stores in fiscal 2019. Company-owned store growth was comprised of 28 newly-constructed stores and 29 acquired stores, which included the first company-owned stores outside the U.S. Strong franchise store growth of 86 stores included the Company's acquisition of Oil Changers franchised stores in Canada.
- Overall lower volume in Core North America led to declines in sales and earnings during fiscal 2019. This decline in volume was primarily due to a decrease in branded volume in the retail channel driven by the market challenges that have affected Core North America throughout the year. Installer customer channel volumes were lower primarily due to changes with certain key accounts, as the underlying base business remained steady. Also

impacting Core North America's results were unfavorable costs related to the temporary shutdown of the Company's second largest domestic blending facility and the new revenue recognition guidance that resulted in a decline in the segment's operating income.

- International segment earnings increased modestly on roughly flat volume, with mixed results by region. The EMEA region showed strong volume growth during the year and provided benefits from the recent acquisition in Eastern Europe, which resulted in a bargain purchase gain. The Asia Pacific market had mixed results with improved volumes in many markets driven by channel development efforts that were more than offset by volume pressure in other markets, including China. The Latin American region had lower volumes from the prior year primarily related to the liquidation of the Company's subsidiary in Brazil completed in late fiscal 2018. Benefits from incentives received in fiscal 2019 for operating in a free-trade zone were more than offset by unfavorable currency movements and costs related to the temporary shutdown of the blending facility that also supports the International segment.
- On April 12, 2019, Valvoline amended its 2016 Credit Agreement to provide additional capacity under the revolving facility, lower interest rates, and extend the maturity to 2024. Proceeds from the amendment were used to pay down balances on the 2016 Term Loan, the 2016 Revolver, and the Trade Receivables Facility, and the remaining proceeds, including the undrawn amended revolving credit facility, are primarily expected to fund general corporate purposes and working capital needs.
- During fiscal 2019, Valvoline paid \$80 million, \$0.424 per common share, in cash dividends to its shareholders.

BUSINESS STRATEGY

Valvoline's key business and growth strategies include:

- Aggressively growing Quick Lubes through organic service center expansion and opportunistic acquisitions, while enhancing retail service capabilities through a consistent and preferred customer experience delivered by hands-on experts;
- Strengthening and maintaining the foundation in Core North America by leveraging investments in technology and marketing to drive speed, efficiency and value across the business and customer interactions, while increasing penetration of Valvoline's full product portfolio;
- Accelerating International market share growth through continued development of and investment in key emerging and high value markets;
- Broadening capabilities to serve future transport vehicles by developing relationships with OEM and leveraging innovation in the development of future products and light services in direct and adjacent markets; and
- Accelerating the shift to a services-driven business by leveraging customer relationships and experiences to develop new capabilities globally.

Results for Fiscal 2018 compared to Fiscal 2017

For comparisons of Valvoline's consolidated and segment results of operations and consolidated cash flows for the fiscal years ended September 30, 2018 to September 30, 2017, refer to Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations of the Annual Report on Form 10-K for the fiscal year ended September 30, 2018, filed with the SEC on November 21, 2018.

Use of Non-GAAP Measures

To aid in the understanding of Valvoline's ongoing business performance, certain items within this document are presented on an adjusted, non-GAAP basis. These non-GAAP measures are not defined within U.S. GAAP and do not purport to be alternatives to net income/loss or cash flows from operating activities as measures of operating performance or cash flows. The following are the non-GAAP measures management has included and how management defines them:

- EBITDA, which management defines as net income/loss, plus income tax expense/benefit, net interest and other financing expenses, and depreciation and amortization;
- Adjusted EBITDA, which management defines as EBITDA adjusted for key items, as further described below, and net pension and other postretirement plan expense/income; and

- Free cash flow, which management defines as operating cash flows less capital expenditures and certain other adjustments as applicable.

These measures are not prepared in accordance with U.S. GAAP and management believes the use of non-GAAP measures assists investors in understanding the ongoing operating performance of Valvoline's business by presenting comparable financial results between periods. The non-GAAP information provided is used by Valvoline's management and may not be comparable to similar measures disclosed by other companies, because of differing methods used by other companies in calculating EBITDA, Adjusted EBITDA and free cash flow. EBITDA, Adjusted EBITDA, and free cash flow provide a supplemental presentation of Valvoline's operating performance. For a reconciliation of non-GAAP measures, refer to the "Results of Operations" and "Financial Position, Liquidity and Capital Resources" sections below.

Due to depreciable assets associated with the nature of the Company's operations and interest costs related to Valvoline's capital structure, management believes EBITDA is an important supplemental measure to evaluate the Company's operating results between periods on a comparable basis.

Management also believes Adjusted EBITDA provides investors with a meaningful supplemental presentation of Valvoline's operating performance. Adjusted EBITDA excludes the impact of the following:

- Key items - Key items consist of income or expenses associated with certain unusual, infrequent or non-operational income or expenses not directly attributable to the underlying business, which management believes impacts the comparability of operational results between periods. Key items may consist of adjustments related to: the impairment of an equity investment; legacy businesses, including the separation from Ashland and associated impacts of related indemnities; significant acquisitions or divestitures; restructuring-related matters; and other matters that are non-operational or unusual in nature. Key items are considered by management to be outside the comparable operational performance of the business and are also often related to legacy matters or market-driven events that are not directly related to the underlying business and do not have an immediate, corresponding impact on the Company's ongoing performance. Details with respect to the composition of key items recognized during the respective periods presented herein are set forth below in the "EBITDA and Adjusted EBITDA" section of "Results of Operations" that follows.
- Net pension and other postretirement plan expense/income - Net pension and other postretirement plan expense/income includes several elements impacted by changes in plan assets and obligations that are primarily driven by changes in the debt and equity markets, as well as those that are predominantly legacy in nature and related to prior service to the Company from employees (e.g., retirees, former employees, current employees with frozen benefits). These elements include (i) interest cost, (ii) expected return on plan assets, (iii) actuarial gains/losses, and (iv) amortization of prior service cost/credit. Significant factors that can contribute to changes in these elements include changes in discount rates used to remeasure pension and other postretirement obligations on an annual basis or upon a qualifying remeasurement, differences between actual and expected returns on plan assets, and other changes in actuarial assumptions, such as the life expectancy of plan participants. Accordingly, management considers that these elements are more reflective of changes in current conditions in global financial markets (in particular, interest rates) and are outside the operational performance of the business and are also primarily legacy amounts that are not directly related to the underlying business and do not have an immediate, corresponding impact on the compensation and benefits provided to eligible employees for current service. Adjusted EBITDA will continue to include pension and other postretirement service costs related to current employee service as well as the costs of other benefits provided to employees for current service.

Management uses free cash flow as an additional non-GAAP metric of cash flow generation. By including capital expenditures and certain other adjustments, as applicable, management is able to provide an 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 from operating activities, free cash flow includes the impact of capital expenditures, providing a more complete picture of cash generation. Free cash flow has certain limitations, including that it does not reflect adjustments for certain non-discretionary cash flows, such as mandatory debt repayments. The amount of mandatory versus discretionary expenditures can vary significantly between periods.

Valvoline's results of operations are presented based on Valvoline's management structure and internal accounting practices. The structure and practices are specific to Valvoline; therefore, Valvoline's financial results, EBITDA, Adjusted EBITDA and free cash flow are not necessarily comparable with similar information for other comparable companies. EBITDA, Adjusted EBITDA and free cash flow each have limitations as analytical tools and should not be considered in isolation from, or as an alternative to, or more meaningful than, net income and cash flows from operating activities as determined in accordance with U.S. GAAP. Because of these limitations, net income and cash flows from operating

activities should primarily be relied upon as determined in accordance with U.S. GAAP, and EBITDA, Adjusted EBITDA, and free cash flow should only be used as supplements. In evaluating EBITDA, Adjusted EBITDA, and free cash flow, one should be aware that in the future Valvoline may incur expenses/income similar to those for which adjustments are made in calculating EBITDA, Adjusted EBITDA, and free cash flow. Valvoline's presentation of EBITDA, Adjusted EBITDA, and free cash flow should not be construed as a basis to infer that Valvoline's future results will be unaffected by unusual or nonrecurring items.

Key Business Measures

Valvoline tracks its operating performance and manages its business using certain key business measures, including system-wide and franchised same-store sales and lubricant volume from unconsolidated joint ventures, which management believes are important to understanding Valvoline's operating performance.

Same-store sales is defined as sales by Quick Lubes service center stores (company-owned, franchised or the combination of both for system-wide same-store sales), with new stores excluded from the metric until the completion of their first full fiscal year in operation because this period is generally required for new store sales levels to normalize. Valvoline does not recognize sales from franchised stores as Quick Lubes operating segment revenue. Quick Lubes revenue is limited to sales at company-owned stores, sales of lubricants and other products to franchisees, and royalties and other fees from franchised stores. Although Valvoline does not record franchise sales as revenue in its Consolidated Statements of Comprehensive Income, management believes system-wide and franchised same-store sales information is useful to assess the operating performance of an average Quick Lubes store.

Management uses lubricant volume from unconsolidated joint ventures to measure the operating performance of the International operating segment. Valvoline does not record lubricant sales from unconsolidated joint venture as International operating segment revenue. International revenue is limited to sales by consolidated affiliates. Although Valvoline does not record sales by unconsolidated joint ventures as revenue in its Consolidated Statements of Comprehensive Income, management believes lubricant volume including and from unconsolidated joint ventures is useful to assess operating performance of investments in joint ventures.

Accordingly, system-wide and franchised same store sales and lubricant volume, including unconsolidated joint ventures should be considered as supplements to, not substitutes for, Valvoline's sales, as determined in accordance with U.S. GAAP.

RESULTS OF OPERATIONS

Consolidated review

The following table summarizes the results of the Company's operations for the years ended September 30:

(In millions)	2019		2018		Variance	
	Amount	% of Sales	Amount	% of Sales	Amount	% Change
Sales	\$ 2,390	100.0 %	\$ 2,285	100.0 %	\$ 105	4.6 %
Gross profit	\$ 810	33.9 %	\$ 806	35.3 %	\$ 4	0.5 %
Net operating expenses	\$ 412	17.2 %	\$ 411	18.0 %	\$ 1	0.2 %
Operating income	\$ 398	16.7 %	\$ 395	17.3 %	\$ 3	0.8 %
Net income	\$ 208	8.7 %	\$ 166	7.3 %	\$ 42	25.3 %

Sales

The following table provides a reconciliation of the changes in sales from fiscal 2018 to 2019:

(In millions)	2019 Change
Pricing	\$ 54
Revenue recognition adjustments	50
Volume	4
Product mix	16
Currency exchange	(29)
Acquisitions	10
Change in sales	<u>\$ 105</u>

Key drivers of the increase in sales from the prior year were higher product pricing, favorable product mix, acquisitions, and the impact related to the adoption of new revenue recognition guidance, partially offset by unfavorable currency exchange. The effects of volume improvements in Quick Lubes more than offset declines in Core North America and International, favorably impacting sales during the period. During fiscal 2019, lubricant gallons sold decreased 2% to 178.4 million.

The changes to reportable segment sales and the drivers thereof are discussed in further detail in "Reportable Segment Review" below.

Gross profit

The following table provides a reconciliation of the changes in gross profit from fiscal 2018 to 2019:

(In millions)	2019 Change
Volume and product mix	\$ 15
Revenue recognition adjustments	(9)
Acquisitions	7
Currency exchange	(7)
Price and cost	(2)
Change in gross profit	<u>\$ 4</u>

The increase in gross profit was driven by favorable changes in volume and product mix, as well as the addition of acquired companies. The benefit of volume improvements in Quick Lubes and broad premium product mix increases more than offset the volume declines in Core North America and International, leading to a favorable combined volume and mix impact on gross profit. Offsetting these favorable impacts were decreases in gross profit related to the adoption of new revenue recognition guidance, currency exchange due to the strong U.S. dollar, and costs in excess of price, which

included incremental costs related to the temporary shutdown of the Company's second largest domestic blending facility due to a fire at a nearby third-party petrochemical terminal.

The Valvoline blending facility in Texas that was temporarily shut down near the end of the second fiscal quarter of 2019, due to a nearby third-party fire and resulting chemical releases, sustained no damage, reopened and resumed operations in late April 2019. The Company quickly addressed the shutdown by utilizing its supply chain to shift production and minimize business impacts in order to fulfill customer orders timely. These actions resulted in incremental expenses of \$6 million during fiscal 2019. Management is pursuing insurance recoveries related to the business interruption and does not expect to incur additional incremental costs beyond fiscal 2019.

The decrease in gross profit margin was largely due to certain reclassifications related to the adoption of new revenue recognition guidance and the incremental business interruption expenses related to the temporary shutdown of the blending facility.

The changes to reportable segment gross profit and the drivers thereof are discussed in further detail in "Reportable Segment Review" below.

Net operating expenses

The table below provides details of the components of net operating expenses during the years ended September 30:

(In millions)	2019		2018		Variance	
	Amount	% of Sales	Amount	% of Sales	Amount	% Change
Selling, general and administrative expenses	\$ 449	18.8 %	\$ 430	18.8 %	\$ 19	4.4 %
Net legacy and separation-related expenses	3	0.1 %	14	0.6 %	(11)	(78.6)%
Equity and other income, net	(40)	(1.7)%	(33)	(1.4)%	(7)	21.2 %
Net operating expenses	\$ 412	17.2 %	\$ 411	18.0 %	\$ 1	0.2 %

The increase in selling, general and administrative expenses was largely driven by restructuring and related expenses of \$14 million recognized during fiscal 2019, as well as increases related to acquisitions, marketing and advertising, and compensation-related costs compared to 2018. These increases were partially offset by the favorable impacts of currency exchange and certain reclassifications related to the adoption of new revenue recognition guidance in fiscal 2019.

The decrease in net legacy and separation-related expenses was largely related to the effects of the enactment of U.S. and Kentucky tax reform in fiscal 2018, which drove net increases to the estimated indemnities due to Ashland under the Tax Matters Agreement. Furthermore, the decrease is related to lower legacy multiemployer pension plan partial withdrawal assessment costs recognized in fiscal 2019.

The increase in equity and other income, net was primarily related to the bargain purchase gain recognized in connection with the acquisition of an Eastern European lubricant production company and incentives received for operating in a free-trade zone outside the U.S., partially offset by a decrease in other income related to a gain recognized in fiscal 2018 due to the sale of two Quick Lubes stores.

Net pension and other postretirement plan expense

Net pension and other postretirement plan expense increased \$60 million from the prior year primarily due to a loss on pension and other postretirement plan remeasurement of \$69 million compared to a loss of \$38 million in fiscal 2018. This change was primarily attributed to decreases in discount rates, which was partially offset by higher than expected return on plan assets and favorable changes in mortality assumptions. In addition, pension de-risking actions taken by the Company to shift the U.S. qualified plan's target asset allocation toward more fixed income securities and better match the asset duration to that of the pension plan obligations resulted in a lower expected return on plan assets and a decrease in related recurring non-service income.

Net interest and other financing expenses

Net interest and other financing expense increased \$10 million during fiscal 2019 compared to 2018. The increase was generally attributed to increased borrowing transactions during the current year, including the amendment of the 2016

Credit Agreement, which resulted in additional expenses associated with executing the transaction and higher outstanding debt.

Income tax expense

The following summarizes income tax expense and the effective tax rate during the years ended September 30:

(In millions)	2019	2018
Income tax expense	\$ 57	\$ 166
Effective tax rate percentage	21.5 %	50.0 %

The decrease in income tax expense and the effective tax rate were principally driven by the prior year enactment of U.S. and Kentucky tax reform legislation, which resulted in the full year benefit of lower corporate statutory income tax rates in fiscal 2019 and reduced tax expense of approximately \$78 million primarily related to the prior year remeasurement of net deferred tax assets at the lower corporate statutory income tax rates. In addition, benefits of approximately \$10 million were recognized during fiscal 2019 related to accelerated deductions permitted by the provisions of U.S. tax reform, the expected utilization of tax attributes as a result of the clarification of certain provisions of Kentucky tax reform legislation, and the release of a valuation allowance.

EBITDA and Adjusted EBITDA

The following table reconciles net income to EBITDA and Adjusted EBITDA for the years ended September 30:

(In millions)	2019	2018
Net income	\$ 208	\$ 166
Income tax expense	57	166
Net interest and other financing expenses	73	63
Depreciation and amortization	61	54
EBITDA	399	449
Net pension and other postretirement plan expense	60	—
Net legacy and separation-related expenses	3	14
Restructuring and related expenses	14	—
Business interruption expenses	6	—
Acquisition and divestiture-related (gains) losses	(4)	3
Adjusted EBITDA ^(a)	\$ 478	\$ 466

(a) Net pension and other postretirement plan income includes remeasurement gains and losses and recurring non-service pension and other postretirement net periodic income, which consists of interest cost, expected return on plan assets and amortization of prior service credit. Refer to Note 15 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K for further details.

The increase in Adjusted EBITDA of \$12 million in fiscal 2019 was driven by the performance of the Quick Lubes reportable segment and its system-wide same-store sales growth from an increase in both transactions and average ticket. The strong performance of the Quick Lubes reportable segment more than offset Adjusted EBITDA declines in the Core North America reportable segment. The declines in Core North America were primarily a result of decreased volume, including challenges within the retail customer channel.

Reportable Segment Review

Valvoline's business is managed within the following three reportable segments:

- **Quick Lubes** - services the passenger car and light truck quick lube market through company-owned and independent franchised retail quick lube service center stores and independent Express Care stores that service vehicles with Valvoline products, as well as through investment in a joint venture in China to pilot expansion of retail quick lube service center stores outside of North America.
- **Core North America** - sells engine and automotive maintenance products in the United States and Canada to retailers, installers, and heavy-duty customers to service vehicles and equipment.
- **International** - sells engine and automotive products in more than 140 countries outside of the United States and Canada for the maintenance of consumer and commercial vehicles and equipment.

Valvoline's reportable segments are measured for profitability based on operating income; therefore, Valvoline does not generally allocate items to each reportable segment below operating income, such as net pension and other postretirement plan expense, net interest and other financing expenses or income tax expense. Operating income by segment includes the allocation of shared corporate costs, which are allocated consistently based on each segment's proportional contribution to various financial measures. Valvoline does not allocate certain significant corporate and non-operational matters, including, but not limited to, company-wide restructuring activities and costs or adjustments that relate to former businesses that Valvoline no longer operates. These matters are attributed to Unallocated and other. Results of Valvoline's reportable segments are presented based on how operations are managed internally, including how the results are reviewed by the chief operating decision maker. The structure and practices are specific to Valvoline; therefore, the financial results of its reportable segments are not necessarily comparable with similar information for other comparable companies.

The following table presents sales, operating income and statistical operating information by reportable segment for the years ended September 30:

(In millions)	2019	2018
Sales		
Quick Lubes	\$ 822	\$ 660
Core North America	994	1,035
International	574	590
Consolidated sales	\$ 2,390	\$ 2,285
Operating income		
Quick Lubes	\$ 178	\$ 153
Core North America	152	172
International	85	84
Total operating segments	415	409
Unallocated and other	(17)	(14)
Consolidated operating income	\$ 398	\$ 395
Depreciation and amortization		
Quick Lubes	\$ 36	\$ 30
Core North America	18	18
International	7	6
Consolidated depreciation and amortization	\$ 61	\$ 54
Operating information		
Quick Lubes		
Lubricant sales gallons	28.1	24.4
Premium lubricants (percent of U.S. branded volumes)	65.0 %	62.4 %
Gross profit as a percent of sales ^(a)	39.1 %	40.1 %
Core North America		
Lubricant sales gallons	92.1	98.8
Premium lubricants (percent of U.S. branded volumes)	52.6 %	49.2 %
Gross profit as a percent of sales ^(a)	33.0 %	35.9 %
International		
Lubricant sales gallons ^(b)	58.2	58.7
Lubricant sales gallons, including unconsolidated joint ventures ^(c)	99.0	98.7
Premium lubricants (percent of lubricant volumes)	28.2 %	27.4 %
Gross profit as a percent of sales ^(a)	28.1 %	28.9 %

(a) Gross profit as a percent of sales is defined as sales, less cost of sales, divided by sales.

(b) Excludes volumes from unconsolidated subsidiaries.

(c) Valvoline unconsolidated joint ventures are distinct legal entities and Valvoline does not consolidate the result of operations of its unconsolidated joint ventures.

Quick Lubes

Quick Lubes sales are influenced by the number of service center stores and the business performance of those stores. The following tables provide supplemental information regarding company-owned and franchised stores that Valvoline believes is relevant to an understanding of the Quick Lubes business and its performance.

	Company-owned	
	For the years ended September 30	
	2019	2018
Beginning of period	462	384
Opened	28	17
Acquired	24	3
Conversions between company-owned and franchised	5	58
Closed	—	—
End of period	519	462
	Franchised*	
	For the years ended September 30	
	2019	2018
Beginning of period	780	743
Opened	65	28
Acquired	31	73
Conversions between company-owned and franchised	(5)	(58)
Closed	(5)	(6)
End of period	866	780
Total stores	1,385	1,242

The Quick Lubes system added 143 net new stores in fiscal 2019. Company-owned store growth was comprised of 28 newly-constructed stores and 29 acquired stores, which included the first company-owned stores outside the U.S. in Canada. Franchisee expansion into key markets continued and added 86 stores, including the Company's acquisition of Oil Changers franchised stores in Canada.

	For the years ended September 30	
	2019	2018
Same-store sales growth** - Company-owned	9.7 %	8.7 %
Same-store sales growth** - Franchised*	10.4 %	8.0 %
Same-store sales growth** - Combined*	10.1 %	8.3 %

* Valvoline's franchisees are distinct legal entities and Valvoline does not consolidate the results of operations of its franchisees.

** Valvoline determines same-store sales growth on a fiscal year basis, with new stores excluded from the metric until the completion of their first full fiscal year in operation.

Quick Lubes sales increased \$162 million, or 25%, during fiscal 2019. Volume growth in lubricant gallons and transactions driven by continued benefits from customer acquisition and retention programs increased sales by \$66 million. The combination of executed pricing actions, increases in premium mix, and increases in non-oil-change services led to improved average ticket and increased sales by \$40 million. The impact of the adoption of the new revenue recognition guidance increased sales by \$36 million, and continued investments in acquisitions increased sales by \$20 million.

Gross profit increased \$56 million during fiscal 2019 compared to 2018, primarily due to an increase in both transactions and average ticket. Increases in volumes and mix improvements combined to increase gross profit by \$38 million. Acquisitions increased gross profit by \$10 million, while implemented price increases improved gross profit by \$5 million. Adoption of the new revenue recognition guidance increased gross profit by \$3 million. Gross profit margin decreased

1.0% primarily resulting from the reclassification of certain costs in connection with the adoption of new revenue recognition guidance and dilutive impacts of new store operations, partially offset by mix improvements.

Selling, general and administrative expenses, which includes the allocation of shared costs, increased \$29 million during fiscal 2019. These increases were primarily the result of higher allocation of shared costs and increased operating expenses, including costs associated with new store development teams, marketing and advertising.

Equity and other income for the Quick Lubes segment declined in the current fiscal year as the prior fiscal year included a \$3 million gain related to the sale of two service center stores.

Core North America

Core North America sales decreased \$41 million, or 4%, to \$994 million during fiscal 2019, which was driven largely by volume decreases of \$54 million primarily due to reductions in branded volume in the retail channel. The shift of newly acquired Great Canadian Oil Change product sales to the Quick Lubes reportable segment also negatively impacted Core North America sales by \$13 million. Partially offsetting these declines were favorable pricing and premium product mix of \$14 million and an increase related to the adoption of new revenue recognition guidance of \$14 million.

Gross profit decreased \$43 million during fiscal 2019 compared to 2018. The adoption of new revenue recognition guidance resulted in certain reclassifications and impacted the timing of certain distributor sales, which decreased gross profit by \$12 million. Volume declines, which included the shift of Great Canadian Oil Change to Quick Lubes, impacted gross profit by \$27 million. Also negatively impacting gross profit were costs in excess of pricing of \$7 million, which included \$4 million related to the temporary shutdown of the Company's second largest domestic blending facility due to the fire at a nearby third-party petrochemical terminal. These declines were partially offset by \$3 million of improvements related to increased premium product mix.

Gross profit margin decreased 2.9% compared to the prior year. This decline was primarily the result of incremental business interruption expenses related to the temporary shutdown of the blending facility, the impact related to the adoption of the new revenue recognition guidance and the dilutive impact on margin rate of passing through cost increases.

Selling, general and administrative expenses, which include the allocation of corporate costs, decreased \$21 million during fiscal 2019 compared to 2018. This change is primarily attributable to the combination of lower allocated shared costs and reduced operating expenses of \$13 million, as well as reclassifications related to the adoption of new revenue recognition guidance of \$8 million.

International

International sales decreased \$16 million, or 3%, in fiscal 2019. The decline in sales was largely attributable to unfavorable currency exchange of \$28 million, partially offset by favorable pricing and product mix that contributed approximately \$18 million to sales and increases related to the acquisition of an Eastern European lubricant production company. During fiscal 2019, volumes decreased 1% compared to the prior year and reduced sales by \$8 million. Solid volume growth in certain Asia-Pacific markets and EMEA, which included the benefit of the acquisition in Eastern Europe, were offset by declines in other regions, primarily driven by a slower heavy-duty aftermarket in China.

Gross profit decreased by \$9 million during fiscal 2019 compared to 2018. This decrease was primarily related to unfavorable currency exchange of \$7 million and incremental costs of \$2 million related to the temporary shutdown of the Company's second largest domestic blending facility due to the fire at a nearby third-party petrochemical terminal. Gross profit margin during fiscal 2019 decreased 0.8% primarily related to the incremental business interruption expenses related to the temporary shutdown of the blending facility and the dilutive impact on margin rate of passing through cost increases.

Selling, general and administrative expenses were flat during the year compared to the prior year. Higher operating expenses, including an increase in allocated indirect corporate costs, were offset by decreases in compensation-related costs and favorable currency exchange.

Equity and other income increased by \$9 million in fiscal 2019 primarily due to the \$4 million bargain purchase gain resulting from the acquisition of the Eastern European lubricant production company and incentives received for operating in a free-trade zone. These increases were partially offset by unfavorable currency exchange.

FINANCIAL POSITION, LIQUIDITY AND CAPITAL RESOURCES

Overview

The Company closely manages its liquidity and capital resources. Valvoline's liquidity requirements depend on key variables, including the level of investment needed to support business strategies, the performance of the business, capital expenditures, borrowing arrangements, and working capital management. Capital expenditures, acquisitions, share repurchases, and dividend payments are components of the Company's cash flow and capital management strategy, which to a large extent, can be adjusted in response to economic and other changes in the business environment. The Company has a disciplined approach to capital allocation, which focuses on investing in key priorities that support Valvoline's business and growth strategies and returning capital to shareholders, while funding ongoing operations.

As of September 30, 2019, the Company had \$159 million in cash, cash equivalents, and restricted cash, of which approximately \$99 million was held by Valvoline's non-U.S. subsidiaries. The Company utilizes a variety of strategies to deploy available cash in locations where it is needed. As a result of U.S. tax reform legislation, which provided the opportunity to mobilize cash with lower tax consequences, the Company does not indefinitely reinvest non-U.S. current and undistributed earnings. Withholding taxes are provided for within the income tax provision in the same period such earnings are generated. Certain other outside basis differences restricted by regulations, operational, or investing needs for non-U.S. subsidiaries remain indefinitely reinvested.

Cash flows

Valvoline's cash flows as reflected in the Consolidated Statements of Cash Flows are summarized as follows for the years ended September 30:

(In millions)	2019	2018
Cash provided by (used in):		
Operating activities	\$ 325	\$ 320
Investing activities	(188)	(213)
Financing activities	(71)	(209)
Effect of currency exchange rate changes on cash, cash equivalents, and restricted cash	(3)	(3)
Increase (decrease) in cash, cash equivalents, and restricted cash	<u>\$ 63</u>	<u>\$ (105)</u>

Operating activities

The increase in cash flows provided by operating activities during fiscal 2019 compared to 2018 was primarily due to favorable working capital driven by the timing of payments partially offset by increased interest payments.

Investing activities

The decrease in cash flows used in investing activities for fiscal 2019 compared to 2018 was primarily due to lower cash consideration paid for acquisitions in the current year partially offset by increases in capital expenditures for company-owned quick lube new store openings and the Company's first blending and packaging plant in China. Lower proceeds related to the prior year sale of two Quick Lubes service center locations also contributed to the lower net cash used in investing activities for fiscal 2019 compared to 2018.

Capital expenditures are anticipated to increase to \$160 million to \$170 million in fiscal 2020 due to company store growth and investments related to the Company's first blending and packaging plant in China to meet the country's growing demand for premium lubricants and coolants. Capital expenditures related to this investment were approximately \$18 million in fiscal 2019, and the Company expects an additional \$40 million to \$50 million in fiscal 2020.

Financing activities

The decrease in cash flows used in financing activities in fiscal 2019 compared to 2018 was primarily driven by decreased share repurchase activity of \$325 million and lower payments of \$14 million related to the purchase of the remaining ownership interest in a consolidated subsidiary, which were partially offset by lower net proceeds from borrowings of \$180 million and higher dividend payments of \$22 million due to the increase in the quarterly dividend in fiscal 2019.

Free cash flow and other liquidity information

The following table sets forth free cash flow for the disclosed periods and reconciles cash flows from operating activities to free cash flow. As previously noted, free cash flow has certain limitations, including that it does not reflect adjustments for certain non-discretionary cash flows, such as mandatory debt repayments. Refer to “Use of Non-GAAP Measures” within this Item 7 for additional information regarding this non-GAAP measure.

(In millions)	For the years ended September 30	
	2019	2018
Cash flows provided by operating activities	\$ 325	\$ 320
Additions to property, plant and equipment	(108)	(93)
Free cash flow	<u>\$ 217</u>	<u>\$ 227</u>

At September 30, 2019, working capital (current assets minus current liabilities, excluding long-term debt due within one year) was \$389 million compared to \$344 million in 2018. Liquid assets (cash, cash equivalents, and accounts receivable) were 132% of current liabilities as of September 30, 2019 and 123% as of September 30, 2018. The increase in working capital is primarily related to higher cash and cash equivalents driven primarily by the timing of certain cash payments during the year, in addition to increased inventory.

Debt

On April 12, 2019, Valvoline amended the 2016 Credit Agreement to extend the maturity to 2024, provide additional capacity under the revolving facility, and lower interest rates. The 2019 Term Loan proceeds of \$575 million were used to pay the outstanding principal balance of the 2016 Term Loan of \$255 million, the outstanding 2016 Revolver balance of \$186 million, and \$120 million on the Trade Receivables Facility, in addition to accrued and unpaid interest and fees, as well as expenses related to the amendment. Remaining proceeds from the amendment, including the 2019 Revolver capacity, are expected to fund general corporate purposes and working capital needs.

As of September 30, 2019 and 2018, the Company had long-term debt (including the current portion and debt issuance costs and discounts) of \$1.3 billion of loans and revolving facilities. Approximately 57% of Valvoline’s outstanding borrowings as of September 30, 2019 had fixed rates, with the remainder bearing variable interest rates. As of September 30, 2019, Valvoline had \$634 million of remaining borrowing capacity under its revolving facilities.

Refer to Note 12 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K for additional details regarding the Company’s debt instruments.

Contractual obligations and other commitments

The following table sets forth Valvoline’s obligations and commitments to make future payments under existing contracts at September 30, 2019. Excluded from the table are contractual obligations for which the ultimate settlement of quantities or prices are not fixed and determinable.

(In millions)	Total	Less than 1 Year	1-3 years	3-5 years	More than 5 years
Contractual obligations ^(a)					
Long-term debt	\$ 1,351	\$ 15	\$ 101	\$ 835	\$ 400
Interest payments ^(b)	292	59	115	100	18
Operating lease obligations ^(c)	267	36	61	50	120
Capital lease and financing obligations	84	6	14	14	50
Employee benefit obligations ^(d)	111	15	19	17	60
Purchase commitments	22	12	10	—	—
Total contractual obligations	<u>\$ 2,127</u>	<u>\$ 143</u>	<u>\$ 320</u>	<u>\$ 1,016</u>	<u>\$ 648</u>

(a) Other long-term liabilities of approximately \$130 million are excluded from this table as the uncertainty related to the amount and period of cash settlements prevents the Company from making a reasonably reliable estimate. These other long-term liabilities include the Company’s net obligations to its former parent company, deferred compensation, unrecognized tax benefits, and self-insurance liabilities that primarily related to workers’ compensation claims, among others.

(b) Includes interest expense on both variable and fixed rate debt assuming no prepayments. Variable interest rates have been assumed to remain constant through the end of the term at the rates that existed as of September 30, 2019.

- (c) The operating lease obligations included on this table will be recorded on the balance sheet beginning in fiscal 2020 due to the Company's adoption of the new lease accounting guidance effective for the Company on October 1, 2019.
- (d) Includes estimated funding of pension plans for fiscal 2020, as well as projected benefit payments through fiscal 2029 for Valvoline's unfunded pension plans. Excludes benefit payments from pension plan trust funds.

Pension and other postretirement plan obligations

During fiscal 2019, the Company made cash and non-cash contributions of approximately \$14 million to its U.S. non-qualified and non-U.S. pension plans. Refer to Note 15 of the Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K for additional information relating to the Company's pension and other postretirement plans.

Dividend payments

During the year ended September 30, 2019, the Company paid \$80 million of cash dividends for \$0.424 per common share. On November 14, 2019, the Board of Directors of Valvoline declared a quarterly cash dividend of \$0.113 per share of Valvoline common stock, which is payable on December 16, 2019 to shareholders of record on November 29, 2019. Future declarations of quarterly dividends are subject to approval by the Board of Directors and may be adjusted as business needs or market conditions change.

Restructuring and related expenses

In the second fiscal quarter of 2019, the Company outlined a broad-based restructuring and cost-savings program that is expected to reduce costs, simplify processes and focus the organization's structure and resources on key growth initiatives. Valvoline's restructuring and cost-savings actions continue to progress, and Valvoline expects such actions will be largely implemented by the end of 2019. Part of this program includes employee separation actions, which are also expected to be generally completed by the end of 2019, with the associated termination benefits anticipated to be substantially paid by the end of 2020.

As a result of this restructuring program, Valvoline recognized \$14 million of restructuring and related expenses during the year ended September 30, 2019. The Company expects that it will incur additional restructuring expenses of approximately \$1 million during the first fiscal quarter of 2020. Restructuring expenses include employee severance and termination benefits that will be paid to employees pursuant to the restructuring program. Restructuring-related expenses consist of those costs which are beyond those normally included in restructuring and incremental to the Company's normal operating costs. These restructuring-related costs were expensed as incurred and primarily related to third-party professional service fees incurred in connection with execution of the restructuring program.

Restructuring and related expenses were recorded in Selling, general and administrative expenses within the Company's Consolidated Statements of Comprehensive Income as follows for the year ended September 30:

(In millions)	2019
Restructuring expenses	\$ 12
Restructuring-related expenses	2
Total restructuring and related expenses	<u>\$ 14</u>

Results by segment do not include these restructuring and related expenses, which is consistent with the manner by which management assesses the performance and evaluates the results of each segment. Accordingly, these expenses were included in Unallocated and other.

Valvoline's restructuring actions remain on track and are expected to generate annualized pre-tax savings of approximately \$40 million to \$50 million with modest benefits realized in late fiscal 2019 and full savings expected to be delivered by the end of fiscal 2020. The ongoing annual savings are anticipated to benefit operating expenses, including Cost of sales and Selling, general and administrative expenses within the Consolidated Statements of Comprehensive Income, with a portion expected to be reinvested in the business to provide flexibility to address the ongoing market dynamics in Core North America and to invest in growth opportunities.

Refer to Note 11 of the Notes to Consolidated Financial Statements included in Item 8 of Part II of this Annual Report on Form 10-K for additional details regarding this restructuring program.

Summary

As of September 30, 2019, cash, cash equivalents, and restricted cash totaled \$159 million and total debt was \$1.3 billion. Valvoline's ability to generate positive cash flows from operations is dependent on general economic conditions, the competitive environment in the industry, and is subject to the business and other risk factors described in Item 1A of Part I of this Annual Report on Form 10-K. If the Company is unable to generate sufficient cash flows from operations, or otherwise comply with the terms of its credit facilities, Valvoline may be required to seek additional financing alternatives. The Company's total remaining borrowing capacity was \$634 million as of September 30, 2019, and Valvoline was in compliance with all covenants of its debt obligations as of September 30, 2019.

Management believes that the Company has sufficient liquidity based on its current cash position, cash generated from business operations, and existing financing to meet its required pension and other postretirement plan contributions, debt servicing obligations, tax-related and other contractual commitments, and operating requirements for the next twelve months.

OFF-BALANCE SHEET ARRANGEMENTS

As of September 30, 2019, Valvoline has no contractual obligations that are reasonably likely to have a material effect on the Company's consolidated financial statements that are not fully recorded on the Consolidated Balance Sheets or fully disclosed in the Notes to Consolidated Financial Statements. As part of Valvoline's normal course of business, it is a party to certain financial guarantees and other commitments, and while these arrangements involve elements of performance and credit risk that are not included in the Consolidated Balance Sheets, such risk is not currently considered reasonably likely to have a material effect on the Company's consolidated financial statements. The possibility that Valvoline would have to make actual cash expenditures in connection with these obligations is largely dependent on the performance of the party whose obligations Valvoline guarantees, or the occurrence of future events.

NEW ACCOUNTING PRONOUNCEMENTS

For a discussion and analysis of recently issued and adopted accounting pronouncements and the impact on Valvoline, refer to Note 2 of the Notes to Consolidated Financial Statements in Item 8 of Part II of this Annual Report on Form 10-K.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of Valvoline's 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 matters. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including intangible assets and goodwill), customer incentives, employee benefit obligations and income taxes. 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.

Valuation of goodwill and other intangible assets

Goodwill and other intangible assets are primarily established based on the allocation of purchase consideration to the assets acquired and liabilities assumed based on their fair values as of the acquisition date. Valvoline acquired 60 service center stores and a lubricant production company during fiscal 2019 for an aggregate purchase price of \$78 million. The excess of the fair value of purchase consideration over the fair value of these assets acquired and liabilities assumed is recorded as goodwill or if the fair value of the assets acquired and liabilities assumed exceed the purchase price consideration, a bargain purchase gain is recorded. When determining the fair values of assets acquired and liabilities assumed, management makes significant estimates and assumptions, particularly with respect to intangible assets. Critical estimates in valuing intangible assets include, but are not limited to, expected future cash flows, which includes consideration of future growth rates and margins, customer attrition rates, future changes in technology and brand awareness, and discount rates. Fair value estimates are based on the assumptions management believes a market participant would use in pricing the asset or liability. Identifiable intangible assets are primarily comprised of trademarks and trade names, reacquired franchise rights, and customer relationships.

Goodwill

Goodwill is tested at the reporting unit level for impairment on an annual basis during the fourth quarter as of July 1 or more frequently if certain events occur indicating that the carrying value of goodwill may be impaired. Judgment is involved in determining if an indicator of impairment has occurred. Such indicators may include a decline in expected cash flows, a significant adverse change in legal factors or in the business climate, a decision to sell a business, unanticipated competition, or slower growth rates, among others. Valvoline's reporting units are consistent with its reportable segments

of Quick Lubes (\$301 million in goodwill as of September 30, 2019), Core North America (\$89 million in goodwill as of September 30, 2019), and International (\$40 million in goodwill as of September 30, 2019).

In evaluating goodwill for impairment, Valvoline has the option to first perform a qualitative "step zero" assessment to determine whether further impairment testing is necessary or to perform a quantitative "step one" assessment by comparing the fair value of a reporting unit to its carrying amount, including goodwill. Under the qualitative assessment, an entity is not required to calculate the fair value of a reporting unit unless the entity determines that it is more likely than not that its fair value is less than its carrying amount. Qualitative factors include macroeconomic conditions, industry and market conditions, cost factors, and overall financial performance, among others. The consideration of these factors requires significant judgment and estimates and application of alternative assumptions could produce different results.

Under the step one assessment, if the fair value of a reporting unit is less than its carrying amount, then the amount of the impairment loss, if any, must be measured under "step two" of the impairment analysis. In step two of the analysis, an impairment loss will be recorded equal to the excess of the carrying value of the reporting unit's goodwill over its implied fair value. Fair values of the reporting units are estimated using a weighted methodology considering the output from both the income and market approaches. The income approach incorporates the use of a discounted cash flow ("DCF") analysis. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market shares, sales volumes and prices, costs to produce, tax rates, capital spending, discount rate and working capital changes. Several of these assumptions vary among reporting units, and the cash flow forecasts are generally based on approved strategic operating plans. The market approach is performed using the Guideline Public Companies method which is based on earnings multiple data. The Company also performs a reconciliation between market capitalization and the estimate of the aggregate fair value of the reporting units, including consideration of a control premium.

Although no qualitative factors were present that indicated the existence of a potential impairment, Valvoline elected to perform a quantitative assessment during fiscal 2019 and determined that each reporting unit had a fair value that exceeded its carrying value by 130% and more. In fiscal 2018 and 2017, Valvoline performed qualitative assessments and determined that it was more likely than not that the fair values of Valvoline's reporting units were in excess of carrying amounts.

Valvoline's goodwill impairment assessment could change in future periods if any or all of the following events were to occur with respect to a particular reporting unit: a significant change in projected business results, a divestiture decision, significant changes to certain cash flow assumptions, economic deterioration that is more severe or of a longer duration than anticipated, or other significant economic events.

Other intangible assets

Total other intangible assets were \$74 million, net of \$18 million of accumulated amortization as of September 30, 2019. Other intangible assets are evaluated for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable. Various factors are considered in determining whether a trigger requiring impairment assessment has occurred, such as changes in the expected use of the assets, changes in technology or development of alternative assets, changes in economic conditions, changes in operating performance and changes in expected future cash flows.

If a trigger requiring impairment assessment occurred and the future undiscounted cash flows result in a value that is less than the carrying value, the intangible asset is considered impaired and a loss is recognized based on the amount by which the carrying amount exceeds the estimated fair value. Fair value is determined based on the highest and best use of the assets considered from the perspective of market participants, which may be different than the Company's actual intended use of the assets. Judgment is involved in identifying impairment triggering events, determining asset groups, future undiscounted cash flows and the fair value of asset groups.

There were no significant impairments recognized by the Company during fiscal 2019, 2018 or 2017.

Customer incentives

Valvoline records revenue for the amount that reflects the consideration the Company is expected to be entitled to based on when control of the promised good or service is transferred to the customer. The nature of Valvoline's contracts with customers often give rise to variable consideration that generally decrease the transaction price and consist primarily of promotional rebates and customer pricing discounts based on achieving certain levels of sales activity. Variable consideration is recorded as a reduction of the transaction price at the time of sale and is primarily estimated utilizing the most likely amount method that is expected to be earned as the Company is able to estimate the anticipated discounts

within a sufficiently narrow range of possible outcomes based on its extensive historical experience with certain customers, similar programs and management's judgment with respect to estimating customer participation and performance levels. Variable consideration is reassessed at each reporting date and adjustments are made, when necessary. The cost of these programs recognized as a reduction of sales totaled \$346 million, \$357 million and \$360 million in the Consolidated Statements of Comprehensive Income for the years ended September 30, 2019, 2018 and 2017, respectively. A 10% change in the reserves for customer incentive programs as of September 30, 2019 would have affected net earnings by approximately \$7 million in fiscal 2019.

Employee benefit obligations

Valvoline sponsors defined benefit pension and other postretirement plans in the U.S and in certain countries outside the U.S. The majority of these plans were transferred to and assumed by the Company in the Contribution of certain of Ashland's pension and other postretirement benefit obligations and plan assets in late fiscal 2016. As of September 30, 2019, Valvoline's net unfunded pension and other postretirement plan liabilities included in the Consolidated Balance Sheet totaled \$399 million, and the U.S. plans represented 95% of this total obligation. Total pension and other postretirement net periodic benefit costs included in the Consolidated Statements of Comprehensive Income for the year ended September 30, 2019 were:

(In millions)	2019
Service costs	\$ 2
Non-service pension and other postretirement net periodic income ^(a)	(9)
Loss on pension and other postretirement plans remeasurement ^(b)	69
Total pension and other postretirement net periodic benefit costs	<u>\$ 62</u>

(a) Non-service pension and other postretirement net periodic income includes the expected return on plan assets and amortization of prior service credit, net of interest costs.

(b) Losses on pension and other postretirement plans remeasurement include the change in the actual return on plan assets and net actuarial losses upon remeasurement as of September 30, 2019.

Valvoline recognizes the change in the fair value of plan assets and the net actuarial gains and losses calculated using updated actuarial assumptions as of the measurement date, which for Valvoline is September 30, and when a plan qualifies for an interim remeasurement. The remaining components of pension and other postretirement benefits income are recorded ratably on a quarterly basis. Due to the freeze of U.S. pension benefits effective September 30, 2016, continuing service costs are limited to certain international pension plans, and are reported in the same caption of the Consolidated Statements of Comprehensive Income as the related employee payroll expenses. All components of net periodic benefit income other than service cost are recognized below operating income within Net pension and other postretirement plan expense in the Consolidated Statements of Comprehensive Income. The loss on pension and other postretirement plans remeasurement of \$69 million in fiscal 2019 was primarily attributed to decreases in discount rates, partially offset by higher than expected returns on plan assets and favorable changes in mortality assumptions.

Actuarial assumptions

The Company's pension and other postretirement benefit costs and obligations are dependent on actuarial valuations and various assumptions that attempt to anticipate future events and are used in calculating the expense and liabilities relating to these plans. These assumptions include estimates and judgments the Company makes about interest rates, expected long-term investment return on plan assets, rate of increase in healthcare costs, rates of future compensation increases and mortality. Though management considers current market conditions and other relevant factors in establishing these assumptions, the actuarial assumptions used may differ materially from actual results due to changing market and economic conditions, longer or shorter life spans of participants, and differences between the actual and expected return on plan assets. These differences may result in a significant impact to the amount of pension or other postretirement benefits cost recorded or that may be recorded.

Changes in assumptions or asset values may have a significant effect on the measurement of expense or income. Significant assumptions the Company must review and set annually and at each measurement date related to its pension and other postretirement benefit obligations are:

- Expected long-term return on plan assets — Based on long-term historical actual asset return information, the mix of investments that comprise plan assets and future estimates of long-term investment returns. The Company also deducts various expenses using the fair value of plan assets to estimate expense. The weighted-average long-term expected rate of return on assets assumption was 4.66% for fiscal 2019. In fiscal 2019, the global pension plan assets generated an actual weighted-average return of 15.7%, primarily driven by the market performance of U.S. plan assets based on the Company's investment strategy to hedge plan assets with the

movement in liabilities related to changes in the interest rates. However, the expected return on plan assets is designed to be a long-term assumption, and therefore, actual returns will be subject to year-to-year variances. The U.S. pension plans comprise the most significant portion of plan assets, and for fiscal 2020, the expected rate of return on assets assumption for the U.S. pension plans will be 4.70%. The expected long-term return on plan assets assumption has no impact on the reported net liability or net actuarial gains or losses upon remeasurement, but does impact the recognition of recurring non-service net periodic income recorded ratably on a quarterly basis.

Valvoline's pension plans hold a variety of investments designed to diversify risk. Plan assets are invested in equity securities, government and agency securities, corporate debt, and other non-traditional assets such as hedge funds. The investment goal of the pension plans is to achieve an adequate net investment return to provide for future benefit payments to its participants. U.S. target asset allocation percentages as of September 30, 2019 were 25% equity and 75% fixed income investments. The U.S. pension plans are managed by professional investment managers that operate under investment management contracts that include specific investment guidelines, requiring among other actions, adequate diversification and prudent use of risk management practices such as portfolio constraints relating to established benchmarks. Valvoline's investment strategy and management practices relative to plan assets of non-U.S. plans generally are consistent except in those countries where investment of plan assets is dictated by applicable regulations.

- **Discount rate** — Reflects the rates at which benefits could effectively be settled and is based on current investment yields of high-quality corporate bonds. Consistent with historical practice, the Company uses an actuarially-developed full yield curve approach, the above mean yield curve, to match the timing of cash flows of expected future benefit payments from the plans by applying specific spot rates along the yield curve to determine the assumed discount rate. Valvoline's fiscal 2019 expense, excluding actuarial gains and losses, for both U.S. and non-U.S. pension plans was determined using the spot discount rate as of the beginning of the fiscal year. The service cost and interest cost discount rates for fiscal 2019 pension expense were 2.92% and 4.00%, respectively, and 3.98% and 3.83%, respectively, for other postretirement expense. The weighted-average discount rate at the end of fiscal 2019 was 3.10% for the pension plans and 2.95% for the postretirement health and life plans.
- **Mortality** — Based on the Society of Actuaries PRI-2012 mortality base tables and a mortality improvement scale that follows the 2019 Trustees Report of the Social Security Administration Intermediate Alternative as reflected in the MSS-2019 improvement scale. Valvoline believes the updated mortality improvement scales provide a reasonable assessment of current mortality trends and is an appropriate estimate of future mortality projections.
- **Rate of compensation increase** — This assumption is no longer applicable to the U.S. pension plans due to the benefit accrual freeze as of September 30, 2016. In addition, some of the non-U.S. pension plans are also frozen, while those that remain open relate to areas where local laws require plans to operate within the applicable country. The weighted-average rate of compensation increase assumption for these non-U.S. plans was 3.06% for fiscal 2019.
- **Healthcare cost trend rate** — Because Valvoline's retiree healthcare plans contain various caps that limit Valvoline's contributions and as medical inflation is expected to continue at a rate in excess of these caps, the healthcare cost trend rate has not had a significant impact on Valvoline's postretirement healthcare benefit costs.

The following table illustrates the estimated increases in hypothetical pension and other postretirement expense that would have resulted from a one percentage point change in isolation of any other impacts in each of the following significant assumptions in the years ended September 30:

(In millions)	2019	2018
Increase in pension expense from:		
Decrease in the discount rate	\$ 268	\$ 237
Increase in the salary adjustment rate	\$ 2	\$ 1
Increase in other postretirement expense from:		
Decrease in the discount rate	\$ 5	\$ 5

The U.S. qualified pension plan comprises a substantial portion of Valvoline's total employee benefit plan obligation, and the investing strategy for its plan assets is targeted to hedge approximately 90% of the movement in liabilities related to changes in interest rates.

Income taxes

Valvoline is subject to income taxes in the United States and numerous international jurisdictions. Judgment in forecasting taxable income using historical and projected future operating results is required in determining Valvoline's provision for income taxes and the related assets and liabilities. Each increase of \$3 million to income tax expense would impact the fiscal 2019 effective tax rate by one percentage point.

The provision for income taxes includes current income taxes as well as deferred income taxes. Under U.S. GAAP, deferred tax assets and liabilities are determined based on differences between the financial reporting and tax basis of assets and liabilities and are measured using enacted tax rates and laws that are expected to be in effect when the deferred assets or liabilities are expected to be settled or realized. The effect of changes in tax rates on deferred taxes is recognized in the period in which such changes are enacted.

Valuation allowances are established when necessary on a jurisdictional basis to reduce deferred tax assets to the amounts expected to be realized when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The determination as to whether a deferred tax asset will be realized is based on the evaluation of positive and negative evidence, which includes historical profitability, future market growth, future taxable income, the expected timing of the reversals of existing temporary differences and tax planning strategies. The Company assesses deferred taxes and the adequacy or need for a valuation allowance on a quarterly basis. As of September 30, 2019, the Company had \$180 million of deferred tax assets, including \$2 million in valuation allowances. If the Company is unable to generate sufficient future taxable income, there is a material change in the actual effective tax rates, the time period within which the underlying temporary differences become taxable or deductible, or if the tax laws change unfavorably, then Valvoline could be required to increase the valuation allowance against deferred tax assets, resulting in an increase in income tax expense and the effective tax rate.

As a result of the separation from Ashland, Valvoline agreed to indemnify Ashland for certain income tax matters. As of September 30, 2019, Valvoline's liability for these estimated indemnification obligations is \$66 million. Valvoline generally records a liability when it is probable and reasonably estimable that indemnification will be due to Ashland and makes adjustments through earnings in the period that changes are known. Certain of these estimates require management to forecast its use of tax attributes generated in the pre-Distribution periods, as well as to evaluate the likelihood and potential magnitude of tax positions taken in consolidated Ashland returns in the periods prior to Distribution expected to be sustained upon examination by the taxing authorities.

The Company is subject to ongoing tax examinations and assessments in various jurisdictions, including those in the pre-Distribution periods. At any time, multiple tax years are subject to audit by the various tax authorities and a number of years may elapse before a particular matter, for which a liability has been established, is audited and fully resolved or clarified. In evaluating the exposures associated with various tax filing positions, including its indemnification obligations to Ashland, the Company may record liabilities for such exposures. The Company's liabilities for these matters are currently largely recorded within its indemnification obligation to Ashland. Valvoline generally adjusts its liabilities for unrecognized tax benefits and related indemnification obligations through earnings in the period in which an uncertain tax position is effectively settled, the statute of limitations expires for the relevant taxing authority to examine the tax position or when more information becomes available. Although management believes that the judgments and estimates discussed herein are reasonable, actual results could differ, and may materially increase or decrease the effective tax rate, as well as impact the Company's operating results.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Valvoline is exposed to market risks arising from adverse changes in:

- Currency exchange rates;
- Inflation and changing prices;
- Interest rates; and
- Credit risk.

Currency exchange risk

A significant portion of Valvoline's operations and revenue occur outside the U.S., and in currencies other than the U.S. Dollar, and the Company's results can be significantly impacted by changes in currency exchange rates. Valvoline's currency risk is primarily limited to the Euro, Australian Dollar, Canadian Dollar and Chinese Yuan with respect to sales, profits, and assets and liabilities denominated in currencies other than the U.S. Dollar. Although the Company uses financial instruments to hedge certain currency risks, Valvoline is not fully protected against currency fluctuations and reported results of operations could be affected by changes in currency exchange rates. Valvoline believes its currency risk is limited as 74% of Valvoline's revenue during the year ended September 30, 2019 and 72% during the years ended September 30, 2018 and 2017 are attributed to the sales in the United States. Valvoline does not have material exposures to market risk with respect to investments.

To manage exposures and mitigate the impact of currency fluctuations on the operations of non-U.S. subsidiaries, the Company uses derivatives not designated as hedging instruments consisting primarily of forward contracts to hedge currency denominated balance sheet exposures. For these derivatives, changes in the fair value are recognized in income to offset the gain or loss on the hedged item in the same period as the remeasurement losses and gains of the related foreign currency-denominated exposures. The Company utilizes derivative instruments that are purchased exclusively from highly-rated financial institutions. These contracts are recorded on the Consolidated Balance Sheets as assets or liabilities at fair market value based upon market price quotations. The Company did not transact or have open any hedging contracts with respect to commodities as of and for the year ended September 30, 2019, nor does Valvoline employ derivatives for trading or speculative purposes.

For purposes of analyzing potential risk, sensitivity analysis is used to quantify potential impacts that market rate changes may have on the fair values of the Company's derivative portfolio. The sensitivity analysis represents the hypothetical changes in value of the derivative and does not reflect the related gain or loss on the forecasted underlying exposure. A 10% appreciation or depreciation in the value of the U.S. Dollar against non-U.S. currencies from the prevailing market rates would have resulted in a corresponding increase or decrease of \$11 million as of September 30, 2019 in the fair value of open derivative contracts. The Company expects that any increase or decrease in the fair value of the portfolio would be substantially offset by increases or decreases in the underlying exposures.

The U.S. Dollar was stronger in fiscal 2019 compared to 2018 based on comparable weighted averages for the Company's functional currencies. This had an unfavorable impact of 1.3% on fiscal 2019 revenue versus 2018 revenue. This excludes the effects of derivative activities and other financial measures, and therefore, does not reflect the actual impact of fluctuations in exchange rates on the Company's operating income.

Inflation and changing prices

Valvoline's financial statements are prepared on the historical cost method of accounting in accordance with U.S. GAAP, and as a result, do not reflect changes in the purchasing power of the U.S. Dollar. Monetary assets (such as cash, cash equivalents and accounts receivable) lose purchasing power as a result of inflation, while monetary liabilities (such as accounts payable and indebtedness) gain because they can be settled with dollars of diminished purchasing power. As of September 30, 2019, Valvoline's monetary assets were less than its monetary liabilities, leaving the Company currently less exposed to the effects of future inflation.

Replacement costs for Valvoline's plants and equipment generally would exceed their historical costs. Accordingly, depreciation expense would be greater if it were based on current replacement costs. However, because replacement facilities and assets would reflect technological improvements and changes in business strategies, these would be expected to be more productive than existing assets, mitigating at least part of the risk of changing prices.

Valvoline uses the last-in, first-out (“LIFO”) method to value a portion of its inventories to provide a better matching of revenues with current costs. However, LIFO values such inventories below their replacement costs during inflationary periods.

Interest rate risk

The Company is subject to interest rate risk in relation to variable-rate debt. Approximately 57% of the Company's outstanding borrowings as of September 30, 2019 had fixed rates. The increase in pre-tax interest expense for the year ended September 30, 2019 from a hypothetical 100 basis point increase in variable interest rates would be approximately \$6 million.

In addition, the Company is exposed to market risk relative to the impact of changes in interest rates and investment returns on its pension and other postretirement plans. Declines in the discount rates used in measuring the Company's pension and other postretirement plan obligations result in a higher obligation and decrease the funded status. The pension plans hold a variety of investments designed to diversify risk, protect against declines in interest rates, and achieve an adequate net investment return to provide for future benefit payments to its participants. These investments are subject to volatility that can be caused by fluctuations in general economic conditions. Decreases in the fair value of plan assets and discount rates increase net pension and other postretirement plan expense and can also result in requirements to make contributions to the plans. Pension and other postretirement plans were underfunded by \$399 million at September 30, 2019 as the projected benefit obligation exceeded the fair value of plan assets.

Concentrations of credit risk

The Company is potentially subject to concentrations of credit risk on accounts receivable and financial instruments, such as derivative instruments and cash and cash equivalents. Credit risk includes the risk of nonperformance by counterparties. The maximum potential loss may exceed the amount recognized on the Consolidated Balance Sheet. Exposure to credit risk is managed through credit approvals, credit limits, selecting highly-rated financial institutions as counterparties to transactions and monitoring procedures. To mitigate losses in the event of nonperformance by counterparties in derivative transactions, Valvoline has entered into master netting arrangements that allow settlement with counterparties on a net basis. Valvoline's business often involves large transactions with customers for which the Company does not require collateral. If one or more of those customers were to default in its obligations under applicable contractual arrangements, the Company could be exposed to potentially significant losses. Moreover, a prolonged downturn in the global economy could have an adverse impact on the ability of customers to pay their obligations on a timely basis. The Company believes that the reserves for potential losses are adequate. As of September 30, 2019, there was not a significant concentration of credit risk related to financial instruments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of
Valvoline Inc. and Consolidated Subsidiaries

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Valvoline Inc. and Consolidated Subsidiaries (the Company) as of September 30, 2019 and 2018, the related consolidated statements of comprehensive income, stockholders' deficit and cash flows for each of the three years in the period ended September 30, 2019, and the related notes and financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at September 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of September 30, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated November 22, 2019, expressed an unqualified opinion thereon.

Adoption of Accounting Standards Update (ASU) No. 2014-09

As discussed in Note 2 to the consolidated financial statements, the Company changed its method of accounting for revenue from contracts with customers in 2019 due to the adoption of ASU No. 2014-09, Revenue from Contracts with Customers, as amended.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the account or disclosure to which it relates.

Valuation of Employee Benefit Obligations

Description of the Matter At September 30, 2019, the Company's aggregate defined benefit pension and other postretirement obligations (together, the "Employee Benefit Obligations") were \$2,342 million and exceeded the fair value of pension plan assets of \$1,943 million, resulting in an unfunded net Employee Benefit Obligations of \$399 million. As explained in Note 15 of the consolidated financial statements, the Company recognizes the change in the net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement to reflect the updated actuarial assumptions. The remaining components of pension and other postretirement benefits cost are recorded ratably throughout the year.

Auditing the valuation of the Employee Benefit Obligations was complex due to the judgmental nature of the actuarial assumptions (e.g., discount rate and mortality rate) used in the measurement process. These assumptions have a significant effect on the projected benefit obligations.

How We Addressed the Matter in Our Audit

We tested controls that address the risks of material misstatements related to the measurement and valuation of the Employee Benefit Obligations. For example, we tested controls over management's review of the significant actuarial assumptions and the completeness and accuracy of the data inputs provided to the actuary. Where judgment was exercised by management, our audit procedures included testing controls over management's evaluation of the assumptions used in developing the Employee Benefit Obligations, including reviews of the selected mortality and discount rates with the Company's independent actuary.

To test the Employee Benefit Obligations, our audit procedures included, among others, evaluating the methodology used, the significant actuarial assumptions discussed above and the underlying data used by the Company. We compared the actuarial assumptions used by management to its historical accounting practices and evaluated the change in the Employee Benefit Obligations from the prior year due to the change in service cost, interest cost, actuarial gains and losses, benefit payments, contributions and other activities. In addition, we involved an actuarial specialist to assist with our procedures. For example, the discount rate reflects the rates at which benefits could effectively be settled and is based on current investment yields of high-quality corporate bonds. The Company uses an actuarially-developed full yield curve approach in establishing its discount rate. We evaluated management's methodology for determining the discount rate that reflects the maturity and duration of the benefit payments. As part of this assessment, we tested the underlying securities used to develop the yield curve to evaluate whether they were appropriate for use in a yield curve and whether the provided yield curve reasonably followed from those securities. To evaluate the mortality rate, we assessed whether the information was consistent with publicly available information, and whether any market data adjusted for entity-specific adjustments were applied. We also tested the completeness and accuracy of the underlying data, including the participant data provided to management's actuarial specialists.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2016.

Cincinnati, Ohio
November 22, 2019

Valvoline Inc. and Consolidated Subsidiaries

Consolidated Statements of Comprehensive Income

(In millions, except per share amounts)	Years ended September 30		
	2019	2018	2017
Sales	\$ 2,390	\$ 2,285	\$ 2,084
Cost of sales	1,580	1,479	1,308
Gross profit	810	806	776
Selling, general and administrative expenses	449	430	396
Net legacy and separation-related expenses	3	14	11
Equity and other income, net	(40)	(33)	(25)
Operating income	398	395	394
Net pension and other postretirement plan expense (income)	60	—	(138)
Net interest and other financing expenses	73	63	42
Income before income taxes	265	332	490
Income tax expense	57	166	186
Net income	<u>\$ 208</u>	<u>\$ 166</u>	<u>\$ 304</u>
NET INCOME PER SHARE			
Basic	\$ 1.10	\$ 0.84	\$ 1.49
Diluted	\$ 1.10	\$ 0.84	\$ 1.49
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
Basic	189	197	204
Diluted	189	197	204
COMPREHENSIVE INCOME			
Net income	\$ 208	\$ 166	\$ 304
Other comprehensive (loss) income, net of tax			
Currency translation adjustments	(12)	(10)	7
Amortization of pension and other postretirement plan prior service credit	(9)	(9)	(8)
Other comprehensive loss	(21)	(19)	(1)
Comprehensive income	<u>\$ 187</u>	<u>\$ 147</u>	<u>\$ 303</u>

See Notes to Consolidated Financial Statements.

Valvoline Inc. and Consolidated Subsidiaries

Consolidated Balance Sheets

(In millions, except per share amounts)	As of September 30	
	2019	2018
Assets		
Current assets		
Cash and cash equivalents	\$ 159	\$ 96
Accounts receivable, net	401	409
Inventories, net	194	176
Prepaid expenses and other current assets	43	44
Total current assets	797	725
Noncurrent assets		
Property, plant and equipment, net	498	420
Goodwill and intangibles, net	504	448
Equity method investments	34	31
Deferred income taxes	123	138
Other noncurrent assets	108	92
Total noncurrent assets	1,267	1,129
Total assets	\$ 2,064	\$ 1,854
Liabilities and Stockholders' Deficit		
Current liabilities		
Current portion of long-term debt	\$ 15	\$ 30
Trade and other payables	171	178
Accrued expenses and other liabilities	237	203
Total current liabilities	423	411
Noncurrent liabilities		
Long-term debt	1,327	1,292
Employee benefit obligations	387	333
Other noncurrent liabilities	185	176
Total noncurrent liabilities	1,899	1,801
Commitments and contingencies		
Stockholders' deficit		
Preferred stock, no par value, 40 shares authorized; no shares issued and outstanding	—	—
Common stock, par value \$0.01 per share, 400 shares authorized, 188 shares issued and outstanding at September 30, 2019 and 2018	2	2
Paid-in capital	13	7
Retained deficit	(284)	(399)
Accumulated other comprehensive income	11	32
Total stockholders' deficit	(258)	(358)
Total liabilities and stockholders' deficit	\$ 2,064	\$ 1,854

See Notes to Consolidated Financial Statements.

Valvoline Inc. and Consolidated Subsidiaries

Consolidated Statements of Stockholders' Deficit

(In millions, except per share amounts)	Common stock		Paid-in capital	Retained deficit	Accumulated other comprehensive (loss) income	Ashland's net investment	Total
	Shares	Amount					
Balance at September 30, 2016	205	\$ 2	\$ 710	\$ —	\$ (3)	\$ (1,039)	\$(330)
Net income	—	—	—	304	—	—	304
Contribution of net liabilities from Ashland	—	—	—	(55)	47	(2)	(10)
Net transfers from Ashland	—	—	—	—	—	5	5
Distribution of Ashland's net investment	—	—	(710)	(326)	—	1,036	—
Dividends paid, \$0.196 per common share	—	—	—	(40)	—	—	(40)
Stock-based compensation, net of issuances	—	—	5	—	—	—	5
Repurchase of common stock	(2)	—	—	(50)	—	—	(50)
Currency translation adjustments	—	—	—	—	7	—	7
Amortization of pension and other postretirement prior service credits in income	—	—	—	—	(8)	—	(8)
Balance at September 30, 2017	203	2	5	(167)	43	—	(117)
Net income	—	—	—	166	—	—	166
Dividends paid, \$0.298 per common share	—	—	—	(58)	—	—	(58)
Stock-based compensation, net of issuances	—	—	9	—	—	—	9
Repurchase of common stock	(15)	—	—	(325)	—	—	(325)
Purchase of remaining ownership in subsidiary	—	—	(7)	(7)	—	—	(14)
Reclassification of income tax effects of U.S. tax reform	—	—	—	(8)	8	—	—
Currency translation adjustments	—	—	—	—	(10)	—	(10)
Amortization of pension and other postretirement prior service credits in income	—	—	—	—	(9)	—	(9)
Balance at September 30, 2018	188	2	7	(399)	32	—	(358)
Net income	—	—	—	208	—	—	208
Dividends paid, \$0.424 per common share	—	—	—	(80)	—	—	(80)
Stock-based compensation, net of issuances	—	—	6	—	—	—	6
Cumulative effect of adoption of new revenue standard, net of tax	—	—	—	(13)	—	—	(13)
Currency translation adjustments	—	—	—	—	(12)	—	(12)
Amortization of pension and other postretirement prior service credits in income	—	—	—	—	(9)	—	(9)
Balance at September 30, 2019	188	\$ 2	\$ 13	\$ (284)	\$ 11	\$ —	\$(258)

See Notes to Consolidated Financial Statements.

Valvoline Inc. and Consolidated Subsidiaries

Consolidated Statements of Cash Flows

(In millions)

	Years ended September 30		
	2019	2018	2017
Cash flows from operating activities			
Net income	\$ 208	\$ 166	\$ 304
Adjustments to reconcile to cash flows from operations			
Depreciation and amortization	61	54	42
Deferred income taxes	23	145	117
Equity income from unconsolidated affiliates, net of distributions	(3)	(4)	(4)
Pension contributions	(10)	(16)	(412)
Loss (gain) on pension and other postretirement plan remeasurements	69	38	(68)
Stock-based compensation expense	9	12	9
Other, net	(2)	4	3
Change in assets and liabilities ^(a)			
Accounts receivable	(30)	(38)	(22)
Inventories	(10)	(4)	(35)
Payables and accrued liabilities	37	(2)	—
Other assets and liabilities	(27)	(35)	(64)
Total cash provided by (used in) operating activities	325	320	(130)
Cash flows from investing activities			
Additions to property, plant and equipment	(108)	(93)	(68)
Acquisitions, net of cash acquired	(78)	(125)	(68)
Other investing activities, net	(2)	5	1
Total cash used in investing activities	(188)	(213)	(135)
Cash flows from financing activities			
Net transfers from Ashland	—	—	5
Proceeds from borrowings, net of issuance costs	750	304	470
Repayments on borrowings	(734)	(108)	(90)
Repurchases of common stock	—	(325)	(50)
Purchase of additional ownership in subsidiary	(1)	(15)	—
Cash dividends paid	(80)	(58)	(40)
Other financing activities	(6)	(7)	—
Total cash (used in) provided by financing activities	(71)	(209)	295
Effect of currency exchange rate changes on cash, cash equivalents, and restricted cash	(3)	(3)	(1)
Increase (decrease) in cash, cash equivalents, and restricted cash	63	(105)	29
Cash, cash equivalents, and restricted cash - beginning of year	96	201	172
Cash, cash equivalents, and restricted cash - end of year	<u>\$ 159</u>	<u>\$ 96</u>	<u>\$ 201</u>
Supplemental disclosures			
Interest paid	\$ 67	\$ 53	\$ 35
Income taxes paid	\$ 25	\$ 26	\$ 26

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

See Notes to Consolidated Financial Statements.

NOTE 1 – DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Description of business

Valvoline Inc. (“Valvoline” or the “Company”) is a worldwide marketer and supplier of engine and automotive maintenance products and services. Valvoline is one of the most recognized premium consumer brands in the global automotive lubricant industry, known for its high quality products and superior levels of service. Established in 1866, Valvoline’s heritage spans over 150 years, during which it has developed name recognition across multiple product and service channels.

Prior to its initial public offering (the “IPO”) in September 2016, the Valvoline business operated as a wholly-owned subsidiary of Ashland Global Holdings Inc. (which together with its predecessors and consolidated subsidiaries is referred to herein as “Ashland”). Valvoline was incorporated in May 2016 and in advance of the IPO, the Valvoline business and certain other legacy Ashland assets and liabilities were transferred from Ashland to Valvoline as a reorganization of entities under common Ashland control (the “Contribution”). In connection with the IPO, Ashland retained 83% of the total outstanding shares of Valvoline’s common stock. On May 12, 2017, Ashland distributed its interest in Valvoline to Ashland stockholders through a pro rata dividend on shares of Ashland common stock outstanding at the close of business on the record date of May 5, 2017 (the “Distribution”). Based on the shares of Ashland common stock outstanding on the record date, each share of Ashland common stock received 2.745338 shares of Valvoline common stock in the Distribution. The Distribution marked the completion of Valvoline’s separation from Ashland as Ashland no longer owned any shares of Valvoline common stock and Valvoline was no longer a controlled and consolidated subsidiary of Ashland.

Basis of presentation and consolidation

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and U.S. Securities and Exchange Commission (“SEC”) regulations. The financial statements are presented on a consolidated basis for all periods presented and include the operations of the Company and its majority-owned and controlled subsidiaries. All intercompany transactions and balances within Valvoline have been eliminated in consolidation.

All transactions and balances between Valvoline and Ashland have been reported in the accompanying consolidated financial statements, which reflect the transfer of various assets and liabilities from Ashland on a carryover basis (historical cost). Ashland’s net investment in Valvoline included net income through the completion of the IPO and net cash transfers to and from Ashland through the Distribution. Concurrent with the Distribution, Ashland’s net investment in Valvoline was reduced to zero with a corresponding adjustment to Paid-in capital and Retained deficit.

Certain prior period amounts have been reclassified in the accompanying consolidated financial statements and notes thereto to conform to the current period presentation.

NOTE 2 – SIGNIFICANT ACCOUNTING POLICIES

Valvoline’s significant accounting policies, which conform to U.S. GAAP and are applied on a consistent basis in all years presented, except when otherwise disclosed, are described below.

Use of estimates, risks and uncertainties

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the disclosures of contingent matters. Significant items that are subject to such estimates and assumptions include, but are not limited to, long-lived assets (including intangible assets and goodwill), customer incentives, employee benefit obligations and income taxes. 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.

Cash and cash equivalents

All short-term, highly liquid investments having original maturities of three months or less are considered to be cash equivalents.

Accounts receivable and allowance for doubtful accounts

Valvoline invoices customers once or as performance obligations are satisfied, at which point payment becomes unconditional. As the majority of the Company's performance obligations are satisfied at a point in time and customers typically do not make material payments in advance, nor does Valvoline have a right to consideration in advance of control transfer, the Company had no contract assets or contract liabilities. The Company recognizes a receivable on its Consolidated Balance Sheet when the Company performs a service or transfers a product in advance of receiving consideration, and the Company's right to consideration is unconditional and only the passage of time is required before payment of that consideration is due.

Accounts receivable are recorded at net realizable value, and Valvoline records an allowance for doubtful accounts as a best estimate of the amount of probable credit losses for accounts receivable. Valvoline estimates the allowance for doubtful accounts based on a variety of factors, including the length of time receivables are past due, the financial health of its customers, macroeconomic conditions, past transaction history with the customer, and changes in customer payment terms. If the financial condition of its customers deteriorates or other circumstances occur that result in an impairment of customers' ability to make payments, the Company records additional allowances as needed. The Company writes off uncollectible accounts receivable against the allowance for doubtful accounts when collection efforts have been exhausted and/or any legal action taken by the Company has concluded.

Inventories

Inventories are primarily carried at the lower of cost or net realizable value using the weighted average cost method. In addition, certain lubricants are valued at the lower of cost or market using the last-in, first-out ("LIFO") method to provide matching of revenues with current costs. Costs include materials, labor and manufacturing overhead related to the purchase and production of inventories. The Company regularly reviews inventory quantities on hand and the estimated utilization of inventory. Excess and obsolete reserves are established when inventory is estimated to not be usable based on forecasted usage, product demand and life cycle, as well as utility.

Property, plant and equipment

Property, plant and equipment is recorded at cost and is depreciated using the straight-line method over the estimated useful lives of the assets. Buildings are depreciated principally over 5 to 25 years and machinery and equipment principally over 5 to 30 years. Property, plant and equipment is relieved of the cost and related accumulated depreciation when assets are disposed of or otherwise retired. Gains or losses on the dispositions of property, plant and equipment are included in the Consolidated Statements of Comprehensive Income and generally reported in Equity and other income, net. Property, plant and equipment carrying values are evaluated for recoverability when impairment indicators are present and are conducted at the lowest identifiable level of cash flows. Such indicators could include, among other factors, operating losses, unused capacity, market value declines and technological obsolescence. Recorded values of asset groups of property, plant and equipment that are not expected to be recovered through undiscounted future net cash flows are written down to current fair value, which generally is determined from estimated discounted future net cash flows (assets held for use) or net realizable value (assets held for sale).

Leases

Certain of Valvoline's properties, including retail, office, blending and warehouse locations, in addition to certain equipment, are leased. The initial terms of these leases vary in length and in many cases, include renewal options and require the payment of taxes, insurance and maintenance, in addition to rent. Certain leases contain escalation clauses and rent allowances, which have been reflected in rent expense on a straight-line basis over the lease term, with the difference recognized as deferred rent. Deferred rent was \$5 million and \$3 million as of September 30, 2019 and 2018, respectively.

Capital and financing leases are recorded as assets and an obligation at the present value of the minimum lease payments during the lease term. A financing lease is recorded when Valvoline is deemed the owner of the leased property. Capitalized and financing lease obligations are primarily included in Other noncurrent liabilities with related assets in Property, plant and equipment, net within the Consolidated Balance Sheets. Leasehold improvements are depreciated over the shorter of their estimated useful lives or the period from the date the assets are placed in service to the end of the lease term.

Business combinations

The financial results of the businesses that Valvoline has acquired are included in the Company's consolidated financial results from the respective dates of the acquisitions. The Company allocates the purchase consideration to the identifiable assets acquired and liabilities assumed in the business combination based on their acquisition-date fair values. The excess of the purchase consideration over the amounts assigned to the identifiable assets and liabilities is recognized as goodwill, or if the fair value of the net assets acquired exceeds the purchase consideration, a bargain purchase gain is recorded. Factors giving rise to goodwill generally include synergies that are anticipated as a result of the business combination, including access to new customers and markets. The fair values of identifiable intangible assets acquired in business combinations are generally determined using an income approach, requiring financial forecasts and estimates as well as market participant assumptions.

Goodwill and other intangible assets

Valvoline tests goodwill for impairment annually as of July 1 or when events and circumstances indicate an impairment may have occurred. This annual assessment consists of Valvoline determining each reporting unit's current fair value compared to its current carrying value. Valvoline's reporting units are Quick Lubes, Core North America, and International.

In evaluating goodwill for impairment, Valvoline has the option to first perform a qualitative "step zero" assessment to determine whether further impairment testing is necessary or to perform a quantitative "step one" assessment by comparing the fair value of a reporting unit to its carrying amount, including goodwill. Under the qualitative assessment, an entity is not required to calculate the fair value of a reporting unit unless the entity determines that it is more likely than not that its fair value is less than its carrying amount. Qualitative factors include macroeconomic conditions, industry and market conditions, cost factors, and overall financial performance, among others.

Under the step one assessment, if the fair value of a reporting unit is less than its carrying amount, then the amount of the impairment loss, if any, must be measured under "step two" of the impairment analysis. In step two of the analysis, an impairment loss will be recorded equal to the excess of the carrying value of the reporting unit's goodwill over its implied fair value. Fair values of the reporting units are estimated using a weighted methodology considering the output from both the income and market approaches. The income approach incorporates the use of a discounted cash flow ("DCF") analysis. A number of significant assumptions and estimates are involved in the application of the DCF model to forecast operating cash flows, including markets and market shares, sales volumes and prices, costs to produce, tax rates, capital spending, discount rate, weighted average cost of capital, terminal values and working capital changes. Several of these assumptions vary among reporting units, and the cash flow forecasts are generally based on approved strategic operating plans. The market approach is performed using the Guideline Public Companies method which is based on earnings multiple data. The Company also performs a reconciliation between market capitalization and the estimate of the aggregate fair value of the reporting units, including consideration of a control premium.

Although there were no circumstances indicating a potential impairment, Valvoline elected to perform a quantitative assessment during fiscal 2019 and determined that the fair values of the Company's reporting units were substantially in excess of carrying values and no impairment existed.

Acquired finite-lived intangible assets principally consist of certain trademarks and trade names, reacquired franchise rights and customer relationships. Intangible assets acquired in an asset acquisition are carried at cost, less accumulated amortization. For intangible assets acquired in a business combination, the estimated fair values of the assets acquired are used to establish the carrying values, which are determined using assumptions from the perspective of a market participant and generally an income approach. These intangible assets are amortized on a straight-line basis over their estimated useful lives. Valvoline evaluates finite-lived intangible assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable, and any assets not expected to be recovered through undiscounted future net cash flows are written down to current fair value.

Equity method investments

Investments in companies, including joint ventures, where Valvoline has the ability to exert significant influence over, but not control, operating and financial policies of the investee are accounted for using the equity method of accounting. Judgment regarding the level of influence over each investment includes considering key factors such as the Company's ownership interest, representation on the board of directors, and participation in policy-making decisions. The Company's proportionate share of the net income or loss of these companies is included within Equity and other income, net in the Consolidated Statements of Comprehensive Income.

The Company evaluates equity method investments for impairment whenever events or changes in circumstances indicate that the carrying amount of the investment might not be recoverable. Factors considered by the Company when reviewing an equity method investment for impairment include the length of time and extent to which the fair value of the equity method investment has been less than cost, the investee's financial condition and near-term prospects, and the intent and ability to hold the investment for a period of time sufficient to allow for anticipated recovery. An impairment that is other-than-temporary is recognized in the period identified.

Pension and other postretirement benefit plans

Valvoline sponsors defined benefit pension and other postretirement plans in the U.S and in certain countries outside the U.S. The majority of these plans were transferred to and assumed by the Company in the Contribution of certain of Ashland's pension and other postretirement benefit obligations and plan assets in late fiscal 2016. Valvoline accounts for these obligations as single-employer plans for which Valvoline recognizes the net liabilities and the full amount of any costs or gains.

Valvoline recognizes the funded status of each applicable plan on the Consolidated Balance Sheets whereby each underfunded plan is recognized as a liability. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation. Changes in the fair value of plan assets and net actuarial gains or losses are recognized upon remeasurement, which is at least annually as of September 30, the measurement date, and whenever a remeasurement is triggered. The remaining components of pension and other postretirement benefits expense / income are recorded ratably on a quarterly basis. The fair value of plan assets represents the current market value of assets held by irrevocable trust funds for the sole benefit of participants, and the benefit obligation is the actuarial present value of the benefits expected to be paid upon retirement, death, or other distributable event based on estimates. These valuations reflect the terms of the plans and use participant-specific information such as compensation, age and years of service, as well as certain key assumptions that require significant judgment, including, but not limited to, estimates of discount rates, rate of compensation increases, interest rates and mortality rates. Actuarial gains and losses may be related to actual results that differ from assumptions as well as changes in assumptions, which may occur each year.

Due to the freeze of U.S. pension benefits effective September 30, 2016, continuing service costs are limited to certain international pension plans, and are reported in the same caption of the Consolidated Statements of Comprehensive Income as the related employee payroll expenses. All components of net periodic benefit cost / income other than service cost are recognized below operating income within Net pension and other postretirement plan expense / income in the Consolidated Statements of Comprehensive Income.

Commitments and contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, penalties and other sources are recorded when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Legal costs such as outside counsel fees and expenses are charged to expense in the period incurred and are recorded in Selling, general and administrative expenses in the Consolidated Statements of Comprehensive Income.

Revenue recognition

Revenue is recognized for the amount that reflects the consideration the Company is expected to be entitled to based on when control of the promised good or service is transferred to the customer. Revenue recognition is evaluated through the following five steps: (i) identification of the contract(s) with a customer; (ii) identification of the performance obligation(s) in the contract(s); (iii) determination of the transaction price; (iv) allocation of the transaction price to the performance obligation(s) in the contract(s); and (v) recognition of revenue when or as a performance obligation is satisfied.

Nature of goods and services

Valvoline generates all revenues from contracts with customers, primarily as a result of the sale and service delivery of engine and automotive maintenance products to customers. Valvoline derives its sales from its broad line of products and complementary services through three principal activities managed across its three reportable segments: (i) engine and automotive maintenance products, (ii) company-owned quick-lube operations, and (iii) franchised quick-lube operations. Valvoline's sales are generally to retail, installer, industrial, distributor, franchise, and end consumers to facilitate vehicle and equipment service and maintenance. Approximately 98% of Valvoline's net sales are products and services sold at a point in time through either ship-and-bill performance obligations or company-owned quick-lube operations. The remaining 2% of Valvoline's net sales generally relate to franchise fees.

Below is a summary of the key considerations for Valvoline's material revenue-generating activities:

Engine and automotive maintenance products

Engine and automotive maintenance products primarily include lubricants, antifreeze, chemicals, filters, and other complementary products for use across a wide array of vehicles and engines. The Company's customers typically enter into a sales agreement which outlines a framework of terms and conditions that apply to all current and future purchase orders for the customer submitted under such sales agreement. In these situations, the Company's contract with the customer is the sales agreement combined with the customer purchase order as specific products and quantities are not indicated until a purchase order is submitted. As the Company's contract with the customer is typically for a single purchase order under the supply agreement to be delivered at a point in time, the duration of the contract is almost always one year or less. The Company's products are distinct and separately identifiable on customer purchase orders, with each product sale representing a separate performance obligation that is generally delivered simultaneously. Valvoline is the principal to these contracts as the Company has control of the products prior to transfer to the customer. Accordingly, revenue is recognized on a gross basis.

The Company determines the point in time at which control is transferred and the performance obligation is satisfied by considering when the customer has the ability to direct the use of and obtain substantially all of the remaining benefits of the product, which generally coincides with the transfer of title and risk of loss to the customer and is typically determined based on delivery terms within the underlying contract.

Customer payment terms vary by region and customer and are generally 30 to 60 days after delivery. Valvoline does not provide extended payment terms greater than one year.

Company-owned quick-lube operations

Performance obligations related to company-owned quick-lube operations primarily include the sale of engine and automotive maintenance products and related services. These performance obligations are distinct and are delivered simultaneously at a point in time. Accordingly, revenue from company-owned quick-lube operations is recognized when payment is tendered at the point of sale, which coincides with the completion of product and service delivery and the transfer of control and benefits from the performance obligations to the customer.

Franchised quick-lube operations

The primary performance obligations related to franchised quick-lube operations include product sales as described above and the license of intellectual property, which provides access to the Valvoline brand and proprietary information to operate service center stores over the term of a franchise agreement. Other franchise performance obligations do not result in material revenue. Each performance obligation is distinct, and franchisees generally receive and consume the benefits provided by the Company's performance over the course of the franchise agreement, which typically ranges from 10 to 15 years. Billings and payments occur monthly.

In exchange for the license of Valvoline intellectual property, franchisees generally remit initial fees upon opening a service center store and royalties at a contractual rate of the applicable service center store sales over the term of the franchise agreement. The license provides access to the intellectual property over the term of the franchise agreement and is considered a right-to-access license of symbolic intellectual property as substantially all of its utility is derived from association with the Company's past and ongoing activities. The license granted to operate each franchised service center store is the predominant item to which the royalties relate and represents a distinct performance obligation which is recognized over time as the underlying sales occur, as this is the most appropriate measure of progress toward complete satisfaction of the performance obligation. Franchise revenue included within sales was \$44 million, \$29 million, and \$28 million during fiscal 2019, 2018, and 2017, respectively.

Variable consideration

The Company only offers an assurance-type warranty with regard to the intended functionality of products sold, which does not represent a distinct performance obligation within the context of the contract. Product returns and refunds are generally not material and are not accepted unless the item is defective as manufactured. Estimated product returns are recorded as a reduction in reported revenues at the time of sale based upon historical product return experience and is adjusted for known trends to arrive at the amount of consideration to which Valvoline expects to receive.

The nature of Valvoline's contracts with customers often give rise to variable consideration consisting primarily of promotional rebates and customer pricing discounts based on achieving certain levels of sales activity that generally

decrease the transaction price. The Company determines the transaction price as the amount of consideration it expects to be entitled to in exchange for fulfilling the performance obligations, including the effects of any variable consideration, or amounts payable to the customer when there is a basis to reasonably estimate the amount and it is probable there will not be a significant reversal. Variable consideration is recorded as a reduction of the transaction price at the time of sale and is primarily estimated utilizing the most likely amount method that is expected to be earned as the Company is able to estimate the anticipated discounts within a sufficiently narrow range of possible outcomes based on its extensive historical experience with certain customers, similar programs and management's judgment with respect to estimating customer participation and performance levels. Variable consideration is reassessed at each reporting date and adjustments are made, when necessary.

The reduction of transaction price due to customer incentives was \$346 million, \$357 million, and \$360 million in the Consolidated Statements of Comprehensive Income for the years ended September 30, 2019, 2018, and 2017, respectively. Reserves for these customer programs and incentives were \$72 million and \$57 million as of September 30, 2019 and 2018, respectively, and are recorded within Accrued expenses and other liabilities in the Consolidated Balance Sheets.

Allocation of transaction price

In each contract with multiple performance obligations, Valvoline allocates the transaction price, including variable consideration, to each performance obligation on a relative standalone selling price basis, which is generally determined based on the directly observable data of the Company's standalone sales of the performance obligations in similar circumstances to similar customers. In the absence of directly observable standalone prices, the Company may utilize prices charged by competitors selling similar products or use an expected cost-plus margin approach. The amount allocated to each performance obligation is recognized as revenue as control is transferred to the customer.

Practical expedients and policy elections

- **Sales and use-based taxes** - The Company excludes taxes collected from customers from net sales. These amounts are, however, reflected in accrued expenses until remitted to the appropriate governmental authority.
- **Shipping and handling costs** - Valvoline elected to account for shipping and handling activities that occur after the customer has obtained control as fulfillment activities (i.e., an expense) rather than as a performance obligation. Accordingly, amounts billed for shipping and handling are a component of the transaction price included in net sales, while costs incurred are included in cost of sales. Shipping and handling costs recorded in sales were \$10 million in both fiscal 2019 and 2018 and \$16 million in fiscal 2017.
- **Significant financing component** - Valvoline does not adjust the promised amount of consideration for the effects of a significant financing component as the period between transfer of a promised product or service to a customer and when the customer pays for that product or service is expected to be one year or less.
- **Remaining performance obligations** - The Company elected to omit disclosures of remaining performance obligations for contracts which have an initial expected term of one year or less. In addition, the Company has elected to not disclose remaining performance obligations for its franchise agreements with variable consideration based on service center store sales.
- **Incremental costs of obtaining a contract** - The Company expenses incremental direct costs of obtaining a contract, primarily sales commissions, when incurred due to the short-term nature of individual contracts, which would result in amortization periods of one year or less. These costs are not material and are recorded in Selling, general and administrative expenses within the Consolidated Statements of Comprehensive Income.

Expense recognition

Cost of sales are expensed as incurred and include material and production costs, as well as the costs of inbound and outbound freight, purchasing and receiving, inspection, warehousing, and all other distribution network costs. Selling, general and administrative expenses are expensed as incurred and include sales and marketing costs, research and development costs, advertising, customer support, and administrative costs. Advertising costs were \$73 million in fiscal 2019, \$63 million in fiscal 2018 and \$61 million in fiscal 2017, and research and development costs were \$13 million in fiscal 2019, \$14 million in fiscal 2018 and \$13 million in fiscal 2017.

Stock-based compensation

Stock-based compensation expense is recognized within Selling, general and administrative expense in the Consolidated Statements of Comprehensive Income and is principally based on the grant date fair value of new or modified awards over the requisite vesting period. The Company's outstanding stock-based compensation awards are primarily classified as equity, with certain liability-classified awards based on award terms and conditions. Valvoline accounts for forfeitures when they occur.

Restructuring

The timing of recognition and related measurement of an employee termination benefit liability associated with a non-recurring benefit arrangement depends on whether employees are required to render service beyond a minimum retention period until they are terminated in order to receive the termination benefits. For employees who are not required to render service until they are terminated or provide service beyond the minimum retention period in order to receive the termination benefits, the Company records a liability for the termination benefits at the communication date. If employees are required to render service beyond the minimum retention period until they are terminated in order to receive the termination benefits, the Company measures the liability for termination benefits at the communication date and recognizes the expense and liability ratably over the future service period.

Income taxes

Income tax expense is provided based on income before income taxes. The Company estimates its tax expense based on current tax laws in the statutory jurisdictions in which it operates. These estimates include judgments about the recognition and realization of deferred tax assets and liabilities resulting from the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement carrying amounts and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to be recovered or settled. As changes in tax laws or rates occur, deferred tax assets and liabilities are adjusted in the period changes are enacted through income tax expense. Valvoline records valuation allowances related to its deferred income tax assets when it is more likely than not that some portion or all of the deferred income tax assets will not be realized.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being sustained upon examination by authorities. Interest and penalties related to unrecognized tax benefits are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law and until such time that the related tax benefits are recognized. Interest and penalties were not material to any of the periods presented herein.

Derivatives

Valvoline's derivative instruments consist of currency exchange contracts, which are accounted for as either assets or liabilities in the Consolidated Balance Sheets at fair value and the resulting gains or losses are recognized as adjustments to earnings. Valvoline does not currently have any derivative instruments that are designated and qualify as hedging instruments. The Company classifies its cash flows for these transactions as investing activities in the Consolidated Statements of Cash Flows.

Fair value measurements

Fair value is defined as an exit price, representing an amount that would be received to sell an asset or the amount paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance prioritizes the inputs used to measure fair value into the following three-tier fair value hierarchy for which an instrument's classification within the fair value hierarchy is based upon the lowest level of input that is significant to the instrument's fair value measurement:

- 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 in 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 the Valvoline's 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 may include the Company's own financial data, such as internally developed pricing models, DCF methodologies, as well as instruments for which the fair value determination requires significant management judgment.

Certain investments which measure fair value using the net asset value ("NAV") per share practical expedient are not classified within the fair value hierarchy and are separately disclosed.

Valvoline measures its financial assets and financial liabilities at fair value based on one or more of the following three valuation techniques:

- Market approach: Prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities
- Cost approach: Amount that would be required to replace the service capacity of an asset (replacement cost)
- Income approach: Techniques to convert future amounts to a single present amount based upon market expectations (including present value techniques, option pricing and excess earnings models)

The Company generally uses a market approach, when practicable, in valuing financial instruments. In certain instances, when observable market data is lacking, the Company uses valuation techniques consistent with the income approach whereby future cash flows are converted to a single discounted amount. The Company uses multiple sources of pricing as well as trading and other market data in its process of reporting fair values. The fair values of accounts receivables and accounts payable approximate their carrying values due to the relatively short-term nature of the instruments.

The methods described above may produce a fair value that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement.

Currency translation

Operations outside the United States are measured primarily using the local currency as the functional currency. Upon consolidation, the results of operations of the subsidiaries and affiliates whose functional currency is other than the U.S. dollar are translated into U.S. dollars at the average exchange rates for the year while assets and liabilities are translated at year-end exchange rates. Adjustments to translate assets and liabilities into U.S. dollars are recorded in the stockholders' equity section of the Consolidated Balance Sheets as a component of Accumulated other comprehensive income and are included in net earnings only upon sale or substantial liquidation of the underlying non-U.S. subsidiary or affiliated company.

Earnings per share

Basic earnings per share ("EPS") is calculated by dividing net income by the weighted-average number of common shares outstanding during the reported period. Diluted EPS is calculated similar to basic EPS, except that the weighted-average number of shares outstanding includes the number of shares that would have been outstanding had potentially dilutive common shares been issued. Potentially dilutive securities include stock appreciation rights and nonvested share-based awards. Nonvested market and performance-based share awards are included in the weighted-average diluted shares outstanding each period if established market or performance criteria have been met at the end of the respective periods.

Recent accounting pronouncements

The following standards relevant to Valvoline were either issued or adopted in the current year, or are expected to have a meaningful impact on Valvoline in future periods.

Recently adopted

During fiscal 2019, Valvoline adopted the following:

- In May 2014, the Financial Accounting Standards Board ("FASB") issued accounting guidance, which established a single comprehensive model for entities to use in accounting for revenue from contracts with customers and superseded most industry-specific revenue recognition guidance. This new guidance introduced the five-step model for revenue recognition focused on the transfer of control, as opposed to the transfer of risk and rewards under prior guidance. Valvoline adopted this new revenue recognition guidance on October 1, 2018 using the

modified retrospective method applied to those contracts that were not completed at the date of adoption. Under this method, the new revenue recognition guidance has been applied prospectively from the date of adoption, while prior period financial statements continue to be reported in accordance with the previous guidance. The cumulative effect of the changes at adoption was recognized through an increase to retained deficit of \$13 million, net of tax, related to the timing of certain sales to distributors. Revenue transactions recorded under the new guidance are substantially consistent with the treatment under prior guidance, and the impact of adoption was not material to the consolidated financial statements as of and for the year ended September 30, 2019 and is not expected to be material on an ongoing basis. As part of the adoption, Valvoline modified certain control procedures and processes, none of which had a material effect on the Company's internal control over financial reporting. Refer to Note 3 for additional information regarding Valvoline's adoption of this new guidance.

- In August 2016, the FASB issued new accounting guidance regarding the classification of certain cash receipts and payments in the statement of cash flows. The Company adopted the accounting guidance on October 1, 2018 using a retrospective approach and made an accounting policy election to classify distributions received from equity method investments based on the nature of the activities of the investee that generated the distribution, which is consistent with the Company's previous classification as cash flows from operating activities. The other cash flow classification matters addressed in this guidance were either not relevant or material to Valvoline's current activities. The adoption of this guidance did not have a material impact on the Company's Consolidated Statements of Cash Flows.
- In November 2016, the FASB issued new accounting guidance, which requires amounts generally described as restricted cash and restricted cash equivalents to be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. Valvoline adopted this guidance retrospectively on October 1, 2018. The application of this guidance did not have a material impact on the Consolidated Statements of Cash Flows, nor did it require retrospective adjustment to the prior period financial statements as Valvoline did not have restricted cash or restricted cash equivalents in the prior periods presented. During fiscal 2019, Valvoline held deposits with financial institutions, which was generally restricted and utilized in completing an acquisition. As of September 30, 2019, no significant restricted cash remained in Prepaid expenses and other current assets within the Consolidated Balance Sheet or within the end-of-period balances shown within the Consolidated Statement of Cash Flows for the year ended September 30, 2019.
- In January 2017, the FASB issued new accounting guidance, which clarifies the definition of a business used across several areas of accounting, including the evaluation of whether a transaction should be accounted for as an acquisition (or disposal) of assets or as a business combination. The new guidance clarifies that a business must have at least one substantive process and also narrows the definition of outputs by more closely aligning with how outputs are described in the new revenue recognition standard. Valvoline adopted this guidance on October 1, 2018 with prospective application. The adoption of this guidance did not have a material impact on the Company's consolidated financial statements.
- In May 2017, the FASB issued accounting guidance that amended the scope of modification accounting for share-based payment awards. The new guidance requires modification accounting if the fair value, vesting condition, or the classification of the award is not the same immediately before and after a change to the terms and conditions of the award. Valvoline adopted this guidance prospectively on October 1, 2018, and the Company did have certain modifications of share-based awards in connection with the restructuring activities described in Note 11; however, the award modifications and the adoption of this guidance did not have a material impact on the Company's consolidated financial statements.
- In August 2018, the FASB issued new accounting guidance related to fees paid by a customer in a cloud computing arrangement, which aligns the accounting for implementation costs incurred in a cloud computing arrangement that is a service arrangement with the existing capitalization guidance for implementation costs incurred to develop or obtain internal-use software. Valvoline adopted this guidance prospectively on October 1, 2018 and capitalized approximately \$4 million of cloud computing arrangement implementation costs during fiscal 2019. The adoption of this guidance did not have a material impact on the Company's consolidated financial statements.

Issued but not yet adopted

In February 2016, the FASB issued new accounting guidance, which outlines a comprehensive lease accounting model that requires lessees to recognize a right-of-use asset and a corresponding lease liability on the balance sheet. The lease liability will be measured at the present value of future lease payments, and the right-of-use asset will be measured at the

lease liability amount, adjusted for prepaid lease payments, lease incentives received and the lessee's initial direct costs (e.g., commissions). Lease expense will be recognized similar to current accounting guidance with operating leases resulting in straight-line expense and finance leases resulting in accelerated expense recognition similar to the existing accounting for capital leases. The accounting for lessor arrangements is not significantly changed by the new guidance.

Valvoline elected certain practical expedients permitted by the new guidance, including the package of practical expedients that allows for previous accounting conclusions regarding lease identification and classification to be carried forward for leases which commenced prior to adoption, as well as the practical expedient to not separate lease and non-lease components and account for them as a single lease component. The Company did not elect the hindsight or short-term lease practical expedients.

The Company has substantially completed its assessment and implementation efforts, including the identification and assessment of all forms of its leases, implementing an enterprise-wide lease management system, and evaluating additional changes to business processes and internal controls to ensure the reporting and disclosure requirements of the new guidance are met. This new guidance will be adopted with election of the optional transition approach through recognition of the cumulative effect as an adjustment to retained deficit at adoption on October 1, 2019 without retrospective application to prior period financial statements.

On October 1, 2019, the Company expects to recognize operating lease assets and liabilities largely attributed to the Company's service center store locations, derecognize existing finance lease assets and liabilities related to a build-to-suit arrangement in accordance with the transition requirements, and carry forward existing capital lease assets and liabilities. As a result, the Company expects to recognize total incremental lease assets, inclusive of prepaid lease payments, in the range of \$220 million to \$235 million and lease liabilities in the range of \$210 million to \$225 million, with an immaterial cumulative effect adjustment to Retained deficit expected primarily as a result of the build-to-suit lease transition guidance. The Company does not currently anticipate a material impact on the Consolidated Statements of Comprehensive Income, Cash Flows, or Stockholders' Deficit, nor does the Company expect an impact related to compliance with any of its existing debt covenants. While Valvoline is substantially complete with the process of implementing the new guidance, the Company's efforts will be finalized during the first quarter of 2020 and its estimates are subject to change as adoption is finalized.

In June 2016, the FASB issued updated guidance that introduces a forward-looking approach based on expected losses, rather than incurred losses, to estimate credit losses on certain types of financial instruments including trade and other receivables. The estimate of expected credit losses will require entities to incorporate historical, current, and forecasted information. This guidance also includes expanded disclosure requirements and is effective for Valvoline on October 1, 2020. The Company is evaluating the effect of adopting this new accounting guidance, including changes to related processes, but does not expect adoption will have a material impact on the Company's financial position or results of operations.

The FASB issued other accounting guidance during the period that is not currently applicable or expected to have a material impact on Valvoline's financial statements, and therefore, is not described above.

NOTE 3 - REVENUE RECOGNITION

As described in Note 2, Valvoline adopted new revenue recognition accounting guidance effective October 1, 2018. The new revenue recognition guidance has been applied prospectively from the date of adoption, while prior period financial statements continue to be reported in accordance with the previous guidance.

Impacts on financial statements

The adoption of the new revenue accounting guidance did not have a significant impact on the Company's consolidated financial statements. As a result of the Company's adoption using the modified retrospective adoption approach, the Company recorded an adjustment to its Consolidated Balance Sheet as of October 1, 2018 related to the timing of certain sales to distributors.

The following table reconciles the Consolidated Balance Sheet line items impacted by the cumulative effect of adoption of the new revenue recognition accounting guidance on October 1, 2018:

(In millions)	September 30, 2018 as reported	Adjustments	Balances at October 1, 2018
Accounts receivable, net	\$ 409	\$ (33)	\$ 376
Inventory, net	\$ 176	\$ 14	\$ 190
Deferred income taxes	\$ 138	\$ 6	\$ 144
Retained deficit	\$ 399	\$ 13	\$ 412

Most revenue transactions and activities recorded under the new revenue recognition accounting guidance are substantially consistent with the treatment under prior guidance. The following tables summarize the impact of the new revenue accounting guidance on Valvoline's Consolidated Balance Sheet and Consolidated Statement of Comprehensive Income as of and for the year ended September 30, 2019:

Impact of Changes to Consolidated Balance Sheet

(In millions)	As of September 30, 2019		
	As reported	Adjustments ^(a)	Under prior guidance
Accounts receivable, net	\$ 401	\$ 37	\$ 438
Inventories, net	\$ 194	\$ (15)	\$ 179
Deferred income taxes	\$ 123	\$ (6)	\$ 117
Accrued expenses and other liabilities	\$ 237	\$ (1)	\$ 236
Retained deficit	\$ 284	\$ (15)	\$ 269

(a) Adjustments include the opening retained deficit adjustments as detailed in the table above.

Impact of Changes to Consolidated Statement of Comprehensive Income

(In millions)	Year ended September 30, 2019		
	As reported	Adjustments	Under prior guidance
Sales	\$ 2,390	\$ (50)	\$ 2,340
Cost of sales	1,580	(59)	1,521
Gross profit	\$ 810	\$ 9	\$ 819
Selling, general and administrative expenses	\$ 449	\$ 7	\$ 456
Equity and other income, net	\$ 40	\$ 1	\$ 41
Operating income	\$ 398	\$ 3	\$ 401
Income before income taxes	\$ 265	\$ 3	\$ 268
Income tax expense	\$ 57	\$ 1	\$ 58
Net income	\$ 208	\$ 2	\$ 210
Basic earnings per share	\$ 1.10	\$ 0.01	\$ 1.11
Diluted earnings per share	\$ 1.10	\$ 0.01	\$ 1.11

Disaggregation of revenue

The following summarizes sales by primary customer channel for the Company's reportable segments:

(In millions)	Year ended September 30, 2019
Quick Lubes	
Company-owned operations	\$ 531
Non-company owned operations	291
Total Quick Lubes	822
Core North America	
Retail	543
Installer and other	451
Total Core North America	994
International	574
Consolidated sales	\$ 2,390

Sales by reportable segment disaggregated by geographic market follows for the year ended September 30, 2019:

(In millions)	Quick Lubes	Core North America	International	Totals
North America ^(a)	\$ 822	\$ 994	\$ —	\$ 1,816
Europe, Middle East and Africa ("EMEA")	—	—	181	181
Asia Pacific	—	—	285	285
Latin America ^(a)	—	—	108	108
Total	\$ 822	\$ 994	\$ 574	\$ 2,390

(a) Valvoline includes the United States and Canada in its North America region. Mexico is included within the Latin America region.

The following disaggregates the Company's sales by timing of revenue recognized:

(In millions)	Year ended September 30, 2019
Sales at a point in time	\$ 2,346
Franchised revenues transferred over time	44
Consolidated sales	\$ 2,390

NOTE 4 – FAIR VALUE MEASUREMENTS

The following table sets forth the Company's financial assets and liabilities that were accounted for at fair value on a recurring basis by level within the fair value hierarchy as of September 30:

(In millions)	Fair value hierarchy	2019	2018
<u>Cash and cash equivalents</u>			
Money market funds	Level 1	\$ —	\$ 5
Time deposits	Level 2	59	22
<u>Prepaid expenses and other current assets</u>			
Currency derivatives	Level 2	—	1
<u>Other noncurrent assets</u>			
Non-qualified trust funds	Level 1	20	25
Total assets at fair value		<u>\$ 79</u>	<u>\$ 53</u>
<u>Accrued expenses and other liabilities</u>			
Currency derivatives	Level 2	\$ —	\$ 1
Total liabilities at fair value		<u>\$ —</u>	<u>\$ 1</u>

Money market funds

Money market funds trade in an active market and are valued using quoted market prices, which are Level 1 inputs.

Time deposits

Time deposits are balances held with financial institutions at face value plus accrued interest, which approximates fair value and are categorized as Level 2. Time deposits with original maturities of three months or less are classified within Cash and cash equivalents and those with original maturities of one year or less are classified within Prepaid expenses and other current assets.

Currency derivatives

The Company uses derivatives not designated as hedging instruments consisting of forward contracts to hedge non-U.S. currency denominated balance sheet exposures and exchange one currency for another for a fixed rate on a future date of one year or less. The Company had outstanding contracts with notional values of \$111 million and \$74 million as of September 30, 2019 and 2018, respectively. The fair value of these outstanding contracts are recorded as assets and liabilities on a gross basis measured using readily observable market inputs to estimate the fair value for similar derivative instruments and are classified as Level 2. Valvoline has entered into master netting arrangements to mitigate losses in the event of nonperformance by counterparties that allow settlement on a net basis, the effect of which was not material to the recorded assets and liabilities as of September 30, 2019 or 2018.

Gains and losses on these instruments are recognized in Selling, general and administrative expenses in the Consolidated Statements of Comprehensive Income as exchange rates change the fair value of these instruments and upon settlement to offset the remeasurement gain or loss on the related foreign currency-denominated exposures in the same period. Gains and losses recognized related to these instruments were not material in any period presented herein.

Non-qualified trust funds

The Company maintains a non-qualified trust to fund benefit payments for certain of its U.S. non-qualified pension plans. This fund is classified as Level 1 as it primarily consists of highly liquid fixed income U.S. government bonds that trade with sufficient frequency and volume to enable pricing information to be obtained on an ongoing basis. Gains and losses related to these investments are immediately recognized within Selling, general and administrative expenses in the Consolidated Statements of Comprehensive Income and were not material in any period presented herein.

Long-term debt

The Company's outstanding fixed rate senior notes consist of 5.500% senior unsecured notes due 2024 with an aggregate principal amount of \$375 million issued in July 2016 (the "2024 Notes") and 4.375% senior unsecured notes

due 2025 with an aggregate principal amount of \$400 million issued in August 2017 (the “2025 Notes” and together with the 2024 Notes, the “Senior Notes”).

The fair values of the Senior Notes shown in the table below are based on recent trading values, which are considered Level 2 inputs within the fair value hierarchy. Long-term debt is included in the Consolidated Balance Sheets at carrying value, rather than fair value, and is therefore excluded from the fair value table above. Carrying values shown in the following table are net of unamortized discounts and issuance costs.

(In millions)	September 30, 2019			September 30, 2018		
	Fair value	Carrying value	Unamortized discount and issuance	Fair value	Carrying value	Unamortized discount and issuance
2024 Notes	\$ 390	\$ 371	\$ (4)	\$ 376	\$ 370	\$ (5)
2025 Notes	407	395	(5)	376	395	(5)
Total	<u>\$ 797</u>	<u>\$ 766</u>	<u>\$ (9)</u>	<u>\$ 752</u>	<u>\$ 765</u>	<u>\$ (10)</u>

Refer to Note 12 for details of other debt instruments that have variable interest rates, and accordingly, their carrying amounts approximate fair value.

Pension plan assets

Pension plan assets are measured at fair value at least annually on September 30. Refer to Note 15 for disclosures regarding the fair value of plan assets, including classification within the fair value hierarchy.

NOTE 5 – ACQUISITIONS AND DIVESTITURES

Acquisitions

Valvoline acquired 60 service center stores and a lubricant production company during fiscal 2019 for an aggregate purchase price of \$78 million. These acquisitions included 31 franchise service center stores in Canada acquired from Oil Changers Inc. on October 31, 2018, five former franchise service centers stores, and 24 service center stores acquired in single and multi-store transactions within the Quick Lubes reportable segment. The Company also acquired an Eastern European lubricant production company, including its manufacturing facility, within the International reportable segment. These acquisitions provide an opportunity to further grow Valvoline's Quick Lubes system within key markets and expand Valvoline's presence in Eastern Europe, including additional investment in the Company's regional European supply chain capabilities.

During fiscal 2018, the Company acquired 136 service center stores for an aggregate purchase price of \$125 million within the Quick Lubes reportable segment. These acquisitions included 56 former franchise service center stores acquired from Henley Bluewater LLC for \$60 million on October 2, 2017 and 73 franchise service center stores acquired from Great Canadian Oil Change Ltd. for \$53 million on July 13, 2018. Fiscal 2018 acquisitions also included four former franchise service center stores and three service center stores acquired in single and multi-store transactions.

The Company acquired 43 service center stores within the Quick Lubes reportable segment during fiscal 2017 for an aggregate purchase price of \$72 million, of which \$4 million was paid in fiscal 2016. These acquisitions included 28 service center stores acquired from Time-It Lube LLC and Time-It Lube of Texas, LP on January 31, 2017 for \$49 million. Acquisitions during fiscal 2017 also included 14 former franchise service center stores and one service center store acquired in single and multi-store transactions.

The Company's acquisitions are accounted for such that the assets acquired and liabilities assumed are recognized at their acquisition date fair values, with any excess of the consideration transferred over the estimated fair values of the identifiable net assets acquired recorded as goodwill, or if the fair value of the net assets acquired exceeds the purchase consideration, a bargain purchase gain is recorded. Goodwill is generally expected to be deductible for income tax purposes and is primarily attributed to the operational synergies and potential growth expected to result in economic benefits in the respective markets of the acquisitions.

A summary follows of the aggregate cash consideration paid and the total assets acquired and liabilities assumed for the years ended September 30:

(In millions)	2019	2018	2017
Inventories	\$ —	\$ 2	\$ 1
Other current assets	—	1	—
Property, plant and equipment	19	2	2
Goodwill ^(a)	50	58	60
Intangible assets ^(b)			
Reacquired franchise rights ^{(a) (c)}	5	26	6
Customer relationships	6	9	2
Trademarks and trade names	1	27	1
Other	2	—	—
Other noncurrent liabilities	(1)	—	—
Net assets acquired	82	125	72
Bargain purchase gain ^(d)	(4)	—	—
Consideration transferred	<u>\$ 78</u>	<u>\$ 125</u>	<u>\$ 72</u>

- (a) During fiscal 2018, the preliminary purchase price allocation for the acquisition of certain former franchise service center stores during fiscal 2017 was adjusted to reduce goodwill and increase reacquired franchise rights by \$6 million.
- (b) Weighted average amortization period of intangible assets acquired in fiscal 2019 is 10 years.
- (c) Prior to the acquisition of former franchise service center stores, Valvoline licensed the right to operate franchised quick lube service centers, including use of the Company's trademarks and trade name. In connection with these acquisitions, Valvoline reacquired those rights and recognized separate definite-lived reacquired franchise rights intangible assets, which are being amortized on a straight-line basis over the weighted average remaining term of approximately 9 years. The effective settlement of these arrangements resulted in no settlement gain or loss as the contractual terms were at market.
- (d) Recorded in Equity and other income, net within the Consolidated Statement of Comprehensive Income.

The fair values above are preliminary for up to one year from the date of acquisition as they are subject to measurement period adjustments as new information is obtained about facts and circumstances that existed as of the acquisition date. The Company does not expect any material changes to the preliminary purchase price allocations summarized above for acquisitions completed during the last twelve months.

The incremental results of operations of acquisitions, which were not material to the Company's consolidated results, have been included in the consolidated financial statements from the date of each acquisition, and accordingly, pro forma disclosure of financial information has not been presented.

Remaining ownership interest in subsidiary

Valvoline historically owned a 70% controlling interest and consolidated the financial results of its subsidiary in Thailand. In December 2017, Valvoline purchased the remaining 30% interest for total consideration of approximately \$16 million, making it a wholly-owned subsidiary of the Company. This interest was not material to the financial statements for presentation and disclosure as a noncontrolling interest, which was eliminated as a result of this purchase through an adjustment to Paid-in capital and Retained deficit.

Dispositions

Valvoline liquidated one of its subsidiaries in fiscal 2019 and recorded a \$1 million gain in Equity and other income, net in the Consolidated Statement of Comprehensive Income. During fiscal 2018, Valvoline completed the liquidation of another subsidiary within the International reportable segment and sold two service center stores to a franchisee within the Quick Lubes reportable segment. These transactions resulted in a net gain of \$2 million, which was recognized in Equity and other income, net in the Consolidated Statement of Comprehensive Income during the year ended September 30, 2018.

NOTE 6 – EQUITY METHOD INVESTMENTS

Valvoline has a strategic relationship with Cummins, Inc. ("Cummins"), a leading supplier of engines and related component products, which includes co-branding products for heavy duty consumers and a 50% interest in joint ventures in India, China, and Argentina. Valvoline also has joint ventures with other partners in Latin America and China. Valvoline's

investments in these unconsolidated affiliates were \$34 million and \$31 million as of September 30, 2019 and 2018, respectively.

Valvoline's stockholders' deficit included \$32 million and \$30 million of undistributed earnings from affiliates accounted for under the equity method as of September 30, 2019 and 2018, respectively. Summarized financial information for Valvoline's equity method investments follows as of and for the years ended September 30:

(In millions)	2019	2018
Financial position		
Current assets	\$ 123	\$ 116
Current liabilities	(77)	(76)
Working capital	46	40
Noncurrent assets	23	23
Noncurrent liabilities	(2)	(1)
Stockholders' equity	<u>\$ 67</u>	<u>\$ 62</u>

(In millions)	2019	2018	2017
Results of operations			
Sales	\$ 309	\$ 313	\$ 289
Income from operations	\$ 59	\$ 62	\$ 53
Net income	\$ 24	\$ 27	\$ 25

The Company's transactions with affiliate companies accounted for under the equity method were as follows for the years ended September 30:

(In millions)	2019	2018	2017
Equity income ^(a)	\$ 12	\$ 14	\$ 12
Distributions received	\$ 9	\$ 10	\$ 8
Royalty income ^(a)	\$ 9	\$ 8	\$ 7
Sales to	\$ 12	\$ 12	\$ 12
Purchases from	\$ 4	\$ 2	\$ —

(a) Equity and royalty income are recognized in Equity and other income, net in the Consolidated Statements of Comprehensive Income and are primarily recorded within the International reportable segment.

Valvoline has outstanding receivable balances with affiliates accounted for under the equity method of \$6 million for the years ended September 30, 2019 and 2018, which are included in Accounts receivable, net within the Consolidated Balance Sheets.

NOTE 7 - ACCOUNTS RECEIVABLE

The following summarizes Valvoline's accounts receivable in the Consolidated Balance Sheets as of September 30:

(In millions)	2019	2018
Trade	\$ 392	\$ 390
Other	15	26
Accounts receivable, gross	407	416
Allowance for doubtful accounts	(6)	(7)
Total accounts receivable, net	<u>\$ 401</u>	<u>\$ 409</u>

Valvoline is party to an agreement to sell certain trade accounts receivable in the form of drafts or bills of exchange to a financial institution. Each draft constitutes an order to pay Valvoline for obligations of the customer arising from the sale of goods. The intention of the arrangement is to decrease the time accounts receivable is outstanding and increase cash

flows. During the years ended September 30, 2019 and 2018, Valvoline sold \$75 million and \$129 million, respectively, of accounts receivable to the financial institution.

NOTE 8 – INVENTORIES

Inventories are primarily carried at the lower of cost or net realizable value using the weighted average cost method. In addition, certain lubricants with a replacement cost of \$107 million at September 30, 2019 and \$89 million at September 30, 2018 are valued at the lower of cost or market using the LIFO method.

The following summarizes Valvoline's inventories in the Consolidated Balance Sheets as of September 30:

(In millions)	2019	2018
Finished products	\$ 203	\$ 186
Raw materials, supplies and work in process	32	30
Reserve for LIFO cost valuation	(41)	(40)
Total inventories, net	<u>\$ 194</u>	<u>\$ 176</u>

NOTE 9 – PROPERTY, PLANT AND EQUIPMENT

The following table summarizes the various components of property, plant and equipment within the Consolidated Balance Sheets as of September 30:

(In millions)	2019	2018
Land	\$ 58	\$ 51
Buildings ^(a)	348	292
Machinery and equipment	475	442
Construction in progress	72	62
Total property, plant and equipment	<u>953</u>	<u>847</u>
Accumulated depreciation ^(b)	<u>(455)</u>	<u>(427)</u>
Net property, plant and equipment	<u>\$ 498</u>	<u>\$ 420</u>

(a) Includes \$61 million and \$54 million of assets under capitalized and financing leases as of September 30, 2019 and 2018 respectively.

(b) Includes \$11 million and \$7 million for assets under capitalized and financing leases as of September 30, 2019 and 2018, respectively.

Non-cash accruals included in total property, plant and equipment were \$10 million and \$13 million during the years ended September 30, 2019 and 2018, respectively.

The following summarizes property, plant and equipment charges included within the Consolidated Statements of Comprehensive Income.

(In millions)	2019	2018	2017
Depreciation (includes capital and financing leases)	\$ 52	\$ 49	\$ 42

NOTE 10 – GOODWILL AND OTHER INTANGIBLES

Goodwill

The following summarizes the changes in the carrying amount of goodwill for each reportable segment and in total during fiscal 2019 and 2018:

(In millions)	Quick Lubes	Core North America	International	Total
Balance at September 30, 2017	\$ 201	\$ 89	\$ 40	\$ 330
Acquisitions ^(a)	52	—	—	52
Dispositions ^(b)	(1)	—	—	\$ (1)
Balance at September 30, 2018	252	89	40	381
Acquisitions ^(c)	50	—	—	50
Currency translation	(1)	—	—	(1)
Balance at September 30, 2019	<u>\$ 301</u>	<u>\$ 89</u>	<u>\$ 40</u>	<u>\$ 430</u>

(a) Activity associated with the acquisitions of Great Canadian Oil Change, Henley Bluewater, seven additional service center stores, and adjustments related to prior year acquisitions. Refer to Note 5 for further details.

(b) Activity associated with the derecognition of goodwill as a result of the sale and disposition of two quick lube service center stores. Refer to Note 5 for details regarding the disposition.

(c) Activity associated with the acquisitions of Oil Changers and 29 additional service center stores. Refer to Note 5 for further details.

Other intangible assets

Valvoline's purchased intangible assets were specifically identified when acquired, have finite lives, and are reported in Goodwill and intangibles, net on the Consolidated Balance Sheets. The following summarizes the gross carrying amounts and accumulated amortization of the Company's intangible assets as of September 30:

(In millions)	2019			2018		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Definite-lived intangible assets						
Trademarks and trade names	\$ 30	\$ (4)	\$ 26	\$ 29	\$ (2)	\$ 27
Reacquired franchise rights	37	(8)	29	32	(4)	28
Customer relationships	22	(5)	17	14	(3)	11
Other intangible assets	3	(1)	2	1	—	1
Total definite-lived intangible assets	<u>\$ 92</u>	<u>\$ (18)</u>	<u>\$ 74</u>	<u>\$ 76</u>	<u>\$ (9)</u>	<u>\$ 67</u>

The table that follows summarizes amortization expense (actual and estimated) for intangible assets, assuming no additional amortizable intangible assets, for the years ended September 30:

(In millions)	Actual		Estimated			
	2019	2020	2021	2022	2023	2024
Amortization expense	\$ 9	\$ 9	\$ 9	\$ 8	\$ 8	\$ 7

NOTE 11 - RESTRUCTURING ACTIVITIES

In the second fiscal quarter of 2019, Valvoline outlined a broad-based restructuring and cost-savings program that is expected to reduce costs, simplify processes and focus the organization's structure and resources on key growth initiatives. Part of this program includes employee separation actions, which were generally completed during fiscal 2019, with the associated termination benefits anticipated to be substantially paid by the end of 2020.

During the year ended September 30, 2019, Valvoline recognized \$12 million of expense for employee termination benefits, which includes severance and other benefits provided to employees pursuant to the restructuring program. These expenses were recognized in Selling, general and administrative expenses within the Consolidated Statements of Comprehensive Income. The Company expects that it will incur additional employee termination expenses of approximately \$1 million during the first fiscal quarter of 2020.

The results by segment, as disclosed in Note 21, do not include these restructuring expenses, which is consistent with the manner by which management assesses the performance and evaluates the results of each segment. Accordingly, these expenses are included in Unallocated and other.

The following table represents the expenses recognized related to employee termination benefits during the year ended September 30, 2019 and the estimated remaining liability, which is included in the Consolidated Balance Sheet primarily within Accrued expenses and other liabilities:

(In millions)	Employee Termination Benefits
Balance at September 30, 2018	\$ —
Expenses recognized during the period	13
Payments	(3)
Changes in estimates ^(a)	(1)
Balance at September 30, 2019	<u>\$ 9</u>

(a) Changes in estimate of previously-recognized expenses primarily due to modifications of employee remaining service periods.

NOTE 12 – DEBT

The following table summarizes Valvoline's debt as of September 30:

(In millions)	2019	2018
2025 Notes	\$ 400	\$ 400
2024 Notes	375	\$ 375
Term Loans	575	270
Revolvers	—	147
Trade Receivables Facility	—	140
Other ^(a)	(8)	(10)
Total debt	<u>\$ 1,342</u>	<u>\$ 1,322</u>
Current portion of long-term debt	15	30
Long-term debt	<u>\$ 1,327</u>	<u>\$ 1,292</u>

(a) As of September 30, 2019 and 2018, other includes \$9 million and \$11 million of debt issuance costs and discounts, respectively and \$1 million of debt primarily acquired through acquisitions.

Senior Notes

During August 2017, Valvoline completed the issuance of 4.375% senior unsecured notes due 2025 with an aggregate principal amount of \$400 million. The net proceeds from the offering of the 2025 Notes were \$394 million (after deducting

initial purchasers' discounts and debt issuance costs), which were used to make a voluntary contribution to the Company's qualified U.S. pension plan.

During July 2016, Valvoline completed the issuance of 5.500% senior unsecured notes due 2024 with an aggregate principal amount of \$375 million. The net proceeds from the offering of the 2024 Notes was \$370 million (after deducting initial purchasers' discounts and debt issuance costs), which were transferred to Valvoline's former parent, Ashland.

The Senior Notes are subject to customary events of default for similar debt securities, which if triggered may accelerate the payment of principal, premium, if any, and accrued but unpaid interest on the notes. Such events of default include non-payment of principal and interest, non-performance of covenants and obligations, default on other material debt, and bankruptcy or insolvency. If a change of control repurchase event occurs, Valvoline may be required to offer to purchase the Senior Notes from the holders thereof. The Senior Notes are not otherwise required to be repaid prior to maturity, although they may be redeemed at the option of Valvoline at any time prior to their maturity in the manner specified in the governing indentures. The Senior Notes are guaranteed by each of Valvoline's subsidiaries that guarantee obligations under the existing senior credit facility described below.

Valvoline completed registered exchange offers for the Senior Notes in December 2017 for which no additional proceeds were received.

Senior Credit Agreement

In fiscal 2016, Valvoline entered into a Senior Credit Agreement (the "2016 Credit Agreement"), which provided an aggregate principal amount of \$1,325 million in senior secured credit facilities, comprised of (i) a five-year \$875 million term loan facility (the "2016 Term Loan") and (ii) a five-year \$450 million revolving credit facility (the "2016 Revolver"), including a \$100 million letter of credit sublimit. As of September 30, 2018, the 2016 Term Loan had an outstanding principal balance of \$270 million, and there was \$147 million outstanding on the 2016 Revolver.

On April 12, 2019, Valvoline amended the 2016 Credit Agreement (the 2016 Credit Agreement, as amended, the "2019 Credit Agreement") to extend the maturity to 2024, provide additional capacity under the revolving facility, and lower interest rates, among other modifications. This 2019 Credit Agreement provides for an aggregate principal amount of \$1,050 million in senior secured credit facilities, comprised of (i) a five-year \$575 million term loan facility (the "2019 Term Loan") and (ii) a five-year \$475 million revolving credit facility (the "2019 Revolver"), including a \$100 million letter of credit sublimit. As a result of the amendment, the Company recognized immaterial expense related to the accelerated amortization of previously capitalized debt issuance costs, which is included in Net interest and other financing expenses in the Consolidated Statements of Comprehensive Income for the year ended September 30, 2019.

Prior to the amendment in fiscal 2019, the Company made payments of \$15 million to the 2016 Term Loan consistent with its payment schedule and had net borrowings of \$39 million under the 2016 Revolver. The 2019 Term Loan proceeds of \$575 million were used to pay the outstanding principal balance of the 2016 Term Loan of \$255 million, the outstanding 2016 Revolver balance of \$186 million, and \$120 million on the Trade Receivables Facility, as defined below, in addition to accrued and unpaid interest and fees, as well as expenses related to the amendment. Remaining proceeds, including the remaining capacity under the 2019 Revolver, are expected to fund general corporate purposes and working capital needs. During the year ended September 30, 2019, the Company borrowed and repaid \$6 million on the 2019 Revolver. As of September 30, 2019, there were no amounts outstanding under the 2019 Revolver, which had total borrowing capacity remaining of \$466 million due to a reduction of \$9 million for letters of credit outstanding.

The outstanding principal balance of the 2019 Term Loan is required to be repaid in quarterly installments of approximately \$7 million beginning June 30, 2020 and approximately \$14 million beginning June 30, 2021, with the balance due at maturity on April 12, 2024, and prepayment due in the amount of the net cash proceeds from certain events. Amounts outstanding under the 2019 Credit Agreement may be prepaid at any time, and from time to time, in whole or part, without premium or penalty. At Valvoline's option, amounts outstanding under the 2019 Credit Agreement bear interest at either LIBOR or an alternate base rate, in each case plus the applicable interest rate margin. The interest rate fluctuates between LIBOR plus 1.375% per annum and LIBOR plus 2.000% per annum (or between the alternate base rate plus 0.375% per annum and the alternate base rate plus 1.000% per annum), based upon Valvoline's corporate credit ratings or its consolidated net leverage ratio, whichever yields the lowest rate.

Valvoline's existing and future subsidiaries (other than certain immaterial subsidiaries, joint ventures, special purpose financing subsidiaries, regulated subsidiaries, non-U.S. subsidiaries and certain other subsidiaries) guarantee the 2019 Credit Agreement, which is also secured by a first-priority security interest in substantially all the personal property assets, and certain real property assets, of Valvoline and the guarantors, including all or a portion of the equity interests of certain

of Valvoline's domestic subsidiaries and first-tier non-U.S. subsidiaries, and in certain cases, a portion of the equity interests of other non-U.S. subsidiaries.

The 2019 Credit Agreement contains usual and customary representations, warranties, events of default, and affirmative and negative covenants, including limitations on liens, additional indebtedness, investments, restricted payments, asset sales, mergers, affiliate transactions and other customary limitations, as well as the maintenance of financial covenants as of the end of each fiscal quarter, including a maximum consolidated net leverage ratio of 4.5 and a minimum consolidated interest coverage ratio of 3.0. As of September 30, 2019, Valvoline was in compliance with all covenants under the 2019 Credit Agreement.

Trade Receivables Facility

On November 29, 2016, Valvoline entered into a \$125 million, one-year revolving trade receivables securitization facility ("Trade Receivables Facility") with certain financial institutions. On November 20, 2017, the Company amended the Trade Receivables Facility to extend the maturity date to November 19, 2020 and increase the maximum funding under the facility to \$175 million based on the availability of eligible receivables and other customary factors and conditions.

Under the Trade Receivables Facility, Valvoline sells and/or transfers a majority of its U.S. trade receivables to a wholly-owned, bankruptcy-remote subsidiary as they are originated, and advances by the lenders to that subsidiary (in the form of cash or letters of credit) are secured by those trade receivables. Accordingly, the Company accounts for borrowings under the Trade Receivables Facility as secured borrowings. The assets of this financing subsidiary are restricted as collateral for the payment of its obligations under the Trade Receivables Facility, and its assets and credit are not available to satisfy the debts and obligations owed to the creditors of the Company. The Company includes the assets, liabilities and results of operations of this financing subsidiary in its consolidated financial statements.

As of September 30, 2019, there were no amounts outstanding under the Trade Receivables Facility, and as of September 30, 2018, there was \$140 million outstanding. During the year ended September 30, 2019, Valvoline borrowed \$84 million and made payments of \$224 million, including the payment made with a portion of the proceeds from the 2019 Term Loan.

Based on the availability of eligible receivables, the total borrowing capacity of the Trade Receivables Facility at September 30, 2019 was \$168 million. The financing subsidiary owned \$259 million and \$275 million of outstanding accounts receivable as of September 30, 2019 and 2018, respectively, and these amounts are included in Accounts receivable, net in the Company's Consolidated Balance Sheets.

The financing subsidiary pays customary fees to the lenders, and advances by a lender under the Trade Receivables Facility accrue interest for which the weighted average interest rates were 3.4% and 2.8% for the years ended September 30, 2019 and 2018, respectively. The Trade Receivables Facility contains various customary affirmative and negative covenants and default and termination provisions, which provide for acceleration of amounts owed under the Trade Receivables Facility in circumstances including, but not limited to, the failure to pay interest or other amounts when due, defaults on certain other indebtedness, certain insolvency events, and breach of representation.

Long-term debt maturities

The future maturities of debt outstanding as of September 30, 2019, excluding debt issuance costs and discounts, are as follows:

(In millions)

Years ending September 30

2020	\$	15
2021		43
2022		58
2023		58
2024		777
Thereafter		400
Total	\$	<u>1,351</u>

NOTE 13 – LEASE COMMITMENTS

Future minimum lease payments for noncancelable operating and capital leases and financing obligations as of September 30, 2019 are as follows for the fiscal years ending September 30:

(In millions)	Operating leases ^(a)	Capital leases and financing obligations
2020	\$ 36	\$ 6
2021	32	7
2022	29	7
2023	27	7
2024	23	7
Thereafter	120	50
Total future minimum lease payments	<u>\$ 267</u>	84
Imputed interest		29
Present value of minimum lease payments		<u>\$ 55</u>

(a) Minimum payments have not been reduced by minimum sublease rental income of approximately \$26 million due under future noncancelable subleases.

The composition of net rent expense for all operating leases, including leases of property and equipment, was as follows for the years ended September 30:

(In millions)	2019	2018	2017
Minimum rentals	\$ 34	\$ 25	\$ 18
Contingent rentals	2	2	2
Sublease rental income	(5)	(2)	(1)
Net rent expense	<u>\$ 31</u>	<u>\$ 25</u>	<u>\$ 19</u>

NOTE 14 – INCOME TAXES

Components of income tax expense

Income tax expense consisted of the following for the years ended September 30:

(In millions)	2019	2018	2017
Current			
Federal ^(a)	\$ 10	\$ (2)	\$ 47
State	5	6	8
Non-U.S.	19	17	14
	<u>34</u>	<u>21</u>	<u>69</u>
Deferred			
Federal	24	136	106
State	—	9	12
Non-U.S.	(1)	—	(1)
	<u>23</u>	<u>145</u>	<u>117</u>
Income tax expense	<u>\$ 57</u>	<u>\$ 166</u>	<u>\$ 186</u>

(a) Benefit from favorable settlement with tax authorities in fiscal 2018.

The following table presents pre-tax income and the principal components of the reconciliation between the effective tax rate and the U.S. federal statutory income tax rate in effect for the years ended September 30:

(In millions)	2019	2018	2017
Income before income taxes			
United States	\$ 212	\$ 282	\$ 433
Non-U.S.	53	50	57
Total income before income taxes	<u>\$ 265</u>	<u>\$ 332</u>	<u>\$ 490</u>
<i>U.S. statutory tax rate</i> ^(a)	21.0 %	24.5 %	35.0 %
Income taxes computed at U.S. statutory tax rate	\$ 56	\$ 81	\$ 171
Increase (decrease) in amount computed resulting from:			
Unrecognized tax benefits	5	—	2
State taxes, net of federal benefit	9	14	21
International rate differential	2	—	(7)
Permanent items	(3)	(3)	(8)
Remeasurement of net deferred taxes	(4)	73	—
Return-to-provision adjustments	(6)	—	1
Deemed repatriation	—	4	—
Change in valuation allowance	(4)	1	(4)
Tax Matters Agreement activity	1	(2)	10
Other	1	(2)	—
Income tax expense	<u>\$ 57</u>	<u>\$ 166</u>	<u>\$ 186</u>
<i>Effective tax rate</i>	<u>21.5 %</u>	<u>50.0 %</u>	<u>38.0 %</u>

(a) As a result of U.S. tax reform legislation which generally became effective January 1, 2018, the federal corporate income tax rate was lowered from 35% to 21%. Based on the effective date of the rate reduction, the Company's federal corporate statutory income tax rate was a blended rate of 24.5% for fiscal 2018.

The decreases in income tax expense and the effective tax rate in fiscal 2019 from the prior year periods were principally driven by the prior year enactment of U.S. and Kentucky tax reform legislation, which resulted in the full year benefit of lower corporate statutory income tax rates in fiscal 2019, benefits from accelerated deductions permitted by the provisions of U.S. tax reform, a benefit related to the expected utilization of tax attributes as a result of the clarification of certain provisions of Kentucky tax reform legislation during fiscal 2019, and reduced tax expense of approximately \$78 million related to the prior year enactment of tax reform legislation. Additionally, a benefit of \$4 million was recognized in fiscal 2019 as a result of the release of a valuation allowance.

Tax reform legislation

U.S. tax reform legislation was signed into law on December 22, 2017, and the Company recorded its provisional estimates of enactment during fiscal 2018. Valvoline's provisional estimates were finalized during the first fiscal quarter of 2019, which resulted in no significant adjustments. In response to U.S. tax reform legislation, many states also enacted state-specific tax reform. In general, these impacts were not material to the Company's financial statements. Valvoline is incorporated in Kentucky, which enacted income tax reform legislation on April 13, 2018. Kentucky tax reform generally became effective in fiscal 2019 and included a number of provisions, notably lowering the corporate income tax rate from a maximum of 6% to 5%.

During the year ended September 30, 2018, enactment of U.S. and Kentucky tax reform legislation resulted in the following:

- A net \$71 million increase in income tax expense primarily related to the remeasurement of net deferred tax assets at the lower enacted corporate tax rates;

- Income tax expense of \$4 million related to the deemed repatriation tax on undistributed non-U.S. earnings and profits and \$2 million for withholding taxes due to the Company's change in indefinite reinvestment assertion regarding its undistributed earnings; and
- Increased pre-tax expense of \$3 million and income tax expense of \$1 million related to the remeasurement of net indemnity liabilities associated with the Tax Matters Agreement primarily due to the reduced federal benefit of state tax deductions, which drove increases in the higher expected utilization of tax attributes payable to Ashland.

As a result of the clarification of specific provisions of Kentucky tax reform legislation in fiscal 2019, a tax benefit of \$5 million and pre-tax expense of \$3 million was recognized related to the higher expected utilization of tax attributes, which included certain legacy tax attributes.

Deferred taxes

Deferred income taxes are provided for income and expense items recognized in different years for tax and financial reporting purposes. A summary of the deferred tax assets and liabilities included in the Consolidated Balance Sheets follows as of September 30:

(In millions)	2019	2018
Deferred tax assets		
Non-U.S. net operating loss carryforwards ^(a)	\$ 2	\$ 2
State net operating loss carryforwards ^(b)	19	19
Employee benefit obligations	98	86
Compensation accruals	21	21
Credit carryforwards ^(c)	19	36
Other ^(d)	22	9
Valuation allowances ^(e)	(2)	(7)
Net deferred tax assets	<u>179</u>	<u>166</u>
Deferred tax liabilities		
Goodwill and other intangibles	9	3
Property, plant and equipment	46	23
Undistributed earnings	2	2
Total deferred tax liabilities	<u>57</u>	<u>28</u>
Total net deferred tax assets	<u>\$ 122</u>	<u>\$ 138</u>

(a) Gross non-U.S. net operating loss carryforwards of \$2 million expire in fiscal years 2020 to 2033, with \$4 million that has no expiration.

(b) Apportioned gross state net operating loss carryforwards of \$233 million expire in fiscal years 2022 through 2037.

(c) Credit carryforwards consist primarily of U.S. tax credits that generally expire in fiscal years 2025 through 2029.

(d) Due to netting of deferred tax assets and liabilities by jurisdiction, a \$1 million liability included in this deferred tax asset balance is included in Other noncurrent liabilities on the Consolidated Balance Sheet as of September 30, 2019.

(e) Valuation allowances primarily relate to non-U.S. net operating loss carryforwards and certain other deferred tax assets that are not expected to be realized or realizable.

Undistributed earnings

Prior to U.S. tax reform, the Company had not provided for U.S. income taxes on undistributed earnings and other outside basis differences of its non-U.S. subsidiaries as it was the Company's intention for these tax basis differences to remain indefinitely reinvested. Valvoline began to record estimated incremental withholding taxes during fiscal 2018 and account for certain of its non-U.S. subsidiaries as being immediately subject to tax, while certain other outside basis differences restricted by regulations, operational or investing needs for non-U.S. subsidiaries remained indefinitely reinvested. If these outside basis differences were no longer to be indefinitely reinvested in the future, the Company may be subject to additional income and withholding taxes, which are not practicable to estimate.

Tax Matters Agreement

The Tax Matters Agreement was entered into on September 22, 2016 between Ashland and Valvoline (the "Tax Matters Agreement") and generally provides that Valvoline is required to indemnify Ashland for the following items:

- Taxes of Valvoline for all taxable periods that begin on or after the day after the date of the Distribution;
- Taxes of Valvoline for the period between the IPO and Distribution that are not attributable to Ashland Group Returns (as defined below);
- Taxes for the pre-IPO period that arise on audit or examination and are directly attributable to the Valvoline business;
- Certain U.S. federal, state or local taxes for the pre-IPO period of Ashland and/or its subsidiaries that arise on audit or examination and are directly attributable to neither the Valvoline business nor the Ashland chemicals business;
- Certain tax attributes inherited from Ashland as the result of the Contribution from Ashland; and
- Taxes and expenses resulting from the failure of the Contribution or Distribution to qualify for their intended tax-free treatment.

For the periods prior to the Distribution, Valvoline was included in Ashland's consolidated U.S. and state income tax returns and in the income tax returns of certain Ashland international subsidiaries (collectively, the "Ashland Group Returns"). For the taxable periods that began on and after the Distribution, Valvoline has not been included in the Ashland Group Returns and files tax returns that include only Valvoline and/or its subsidiaries, as appropriate. Portions of the Tax Matters Agreement obligation relative to the tax attributes transferred in the Contribution will be settled with Ashland five years following the filing of the last taxable period Valvoline was included within the Ashland Group Returns.

Under the Tax Matters Agreement, Valvoline made tax-sharing payments to Ashland, inclusive of tax attributes utilized, generally determined as if Valvoline and each of its relevant subsidiaries included in the Ashland Group Returns filed their own consolidated, combined or separate tax returns for the period from the IPO to the Distribution. Valvoline made \$48 million of net tax-sharing payments to Ashland during fiscal 2017. Valvoline has joint and several liability with Ashland to the U.S. Internal Revenue Service ("IRS") for the consolidated U.S. federal income taxes of the Ashland consolidated group for the taxable periods in which Valvoline was part of the Ashland Group Returns. Valvoline has joint control with Ashland, over any audit or examination related to taxes for which Valvoline is required to indemnify Ashland. Accordingly, these portions of the Tax Matters Agreement will be settled as examinations of the pre-Distribution periods are completed.

Adjustments to the net obligations to Ashland under the Tax Matters Agreement are recorded within Legacy and separation-related expenses, net, with any resulting impacts to Valvoline's stand-alone income tax provision due to taxing authorities recorded in Income tax expense within the Consolidated Statements of Comprehensive Income. Total liabilities related to obligations owed to Ashland under the Tax Matters Agreement are primarily recorded in Other noncurrent liabilities in the Consolidated Balance Sheets and were \$66 million as of September 30, 2019 and 2018.

Based on information available at this time, the Company has established adequate accruals for its obligations under the Tax Matters Agreement. In certain circumstances, the actual amounts ultimately required to satisfy these obligations could significantly exceed those currently reflected in the consolidated financial statements. Such estimates cannot currently be made given the uncertainty with regard to the nature and extent of items that could arise upon examination of the pre-Distribution periods, which include the Contribution and Distribution transactions. For example, if the tax-free nature of the Contribution and/or Distribution transactions is not sustained, if certain reorganization transactions undertaken in connection with the separation and the Distribution are determined to be taxable, or if additional matters arise upon examination of the pre-Distribution periods, Valvoline could have a substantial indemnification obligation to Ashland in excess of those currently provided.

Unrecognized tax benefits

The aggregate changes in the balance of gross unrecognized tax benefits were as follows for the years ended September 30:

(In millions)	2019	2018	2017
Gross unrecognized tax benefits as of October 1	\$ 10	\$ 10	\$ 8
Increases related to tax positions from prior years	5	2	—
Increases related to tax positions taken during the current year	—	1	2
Settlements with tax authorities	—	(2)	—
Lapses of statutes of limitation	(1)	(1)	—
Gross unrecognized tax benefits as of September 30 ^(a)	<u>\$ 14</u>	<u>\$ 10</u>	<u>\$ 10</u>

(a) These unrecognized tax benefits would favorably impact the effective income tax rate if recognized. Accruals for interest and penalties were \$2 million and \$1 million as of September 30, 2019 and 2018, respectively.

The Company's U.S. federal income tax returns remain open to examination from fiscal 2014 forward and certain U.S. state jurisdictions remain open from fiscal 2011 forward. With certain exceptions, years beginning on or after fiscal 2007 generally remain open to examination by certain non-U.S. taxing authorities.

Because Valvoline is routinely under examination by various taxing authorities, it is reasonably possible that the amount of unrecognized tax benefits will change during the next twelve months. An estimate of the amount or range of such change cannot be made at this time. However, the Company does not expect the change, if any, to have a material effect on the Company's consolidated financial statements within the next twelve months. Given the indemnification of Ashland and the years remaining open to examination, a significant portion of the Company's liability for unrecognized tax benefits as of September 30, 2019 and 2018 is included in the Tax Matters Agreement obligation to Ashland summarized above within Other noncurrent liabilities in the Consolidated Balance Sheets.

NOTE 15 – EMPLOYEE BENEFIT PLANS

Pension and other postretirement plans

The Company's U.S. pension plans are closed to new participants and the accrual of pension benefits has been frozen since September 30, 2016. In addition, most international pension plans are closed to new participants while those that remain open relate to areas where local laws require plans to operate within the applicable country.

Valvoline also sponsors healthcare and life insurance plans for certain qualifying retired or disabled employees. These other benefit plans were amended to reduce retiree life and medical benefits effective October 1, 2016 and January 1, 2017, respectively. These plans have limited the annual per capita costs to an amount equivalent to base year per capita costs, plus annual increases of up to 1.5% per year for costs incurred. As a result, health care cost trend rates do not have a significant impact on the Company's future obligations for these plans. The assumed pre-65 health care cost trend rate as of September 30, 2019 was 6.9% and continues to be reduced to 4.2% in 2037 and thereafter.

Components of net periodic benefit costs / income

The following table summarizes the components of pension and other postretirement plans net periodic benefit costs / income and the assumptions used in this determination for the years ended September 30:

(In millions)	Pension benefits			Other postretirement benefits		
	2019	2018	2017	2019	2018	2017
Net periodic benefit costs (income)						
Service cost	\$ 2	\$ 2	\$ 2	\$ —	\$ —	\$ —
Interest cost	81	75	86	2	2	1
Expected return on plan assets	(80)	(103)	(145)	—	—	—
Amortization of prior service credit ^(a)	—	—	—	(12)	(12)	(12)
Actuarial loss (gain)	61	38	(63)	8	—	(5)
Net periodic benefit costs (income)	<u>\$ 64</u>	<u>\$ 12</u>	<u>\$ (120)</u>	<u>\$ (2)</u>	<u>\$ (10)</u>	<u>\$ (16)</u>
Weighted-average plan assumptions ^(b)						
Discount rate for service cost	2.92%	2.94%	2.15%	3.98%	4.05%	2.95 %
Discount rate for interest cost	4.00%	3.23%	2.84%	3.83%	3.11%	2.64 %
Rate of compensation increase	3.06%	3.05%	2.99%	—	—	—
Expected long-term rate of return on plan assets	4.66%	5.17%	6.56%	—	—	—

(a) Other postretirement plan amendments noted above resulted in negative plan amendments that are amortized within this caption during all periods presented.

(b) The plan assumptions are a blended weighted-average rate for Valvoline's U.S. and non-U.S. plans. The U.S. pension plans represented approximately 97% of the total pension projected benefit obligation as of September 30, 2019. Other postretirement benefit plans consist of U.S. and Canada, with the U.S. plan representing approximately 77% of the total other postretirement projected benefit obligation as of September 30, 2019. Non-U.S. plans use assumptions generally consistent with those of U.S. plans.

The following table summarizes the net periodic benefit costs / income and the amortization of prior service credit recognized in accumulated other comprehensive income during the years ended September 30:

(In millions)	Pension benefits		Other postretirement benefits	
	2019	2018	2019	2018
Amortization of prior service credit recognized in accumulated other comprehensive income	\$ —	\$ —	\$ 12	\$ 12
Net periodic benefit costs (income)	64	12	(2)	(10)
Total amount recognized in net periodic benefit costs and accumulated other comprehensive income	<u>\$ 64</u>	<u>\$ 12</u>	<u>\$ 10</u>	<u>\$ 2</u>

Obligations and funded status

The following table summarizes the changes in benefit obligations and the fair value of plan assets, as well as key assumptions used to determine the benefit obligations, and the amounts recognized in the Consolidated Balance Sheets as of September 30, 2019 and 2018 for the Company's pension and other postretirement benefit plans:

(In millions)	Pension benefits		Other postretirement benefits	
	2019	2018	2019	2018
Change in benefit obligations				
Benefit obligations as of October 1	\$ 2,087	\$ 2,381	\$ 51	\$ 57
Service cost	2	2	—	—
Interest cost	81	75	2	2
Benefits paid	(140)	(146)	(6)	(7)
Actuarial loss (gain)	253	(95)	8	—
Currency exchange rate changes	(2)	(3)	—	(1)
Transfers in	6	9	—	—
Settlements	—	(136)	—	—
Benefit obligations as of September 30	<u>\$ 2,287</u>	<u>\$ 2,087</u>	<u>\$ 55</u>	<u>\$ 51</u>
Change in plan assets				
Fair value of plan assets as of October 1	\$ 1,792	\$ 2,081	\$ —	\$ —
Actual return on plan assets	273	(30)	—	—
Employer contributions	14	16	6	7
Benefits paid	(140)	(146)	(6)	(7)
Currency exchange rate changes	(2)	(3)	—	—
Settlements	—	(136)	—	—
Transfers in	6	10	—	—
Fair value of plan assets as of September 30	<u>\$ 1,943</u>	<u>\$ 1,792</u>	<u>\$ —</u>	<u>\$ —</u>
Unfunded status of the plans as of September 30	<u>\$ 344</u>	<u>\$ 295</u>	<u>\$ 55</u>	<u>\$ 51</u>
Amounts recognized in the Consolidated Balance Sheets				
Current benefit liabilities	\$ 9	\$ 10	\$ 6	\$ 6
Noncurrent benefit liabilities	335	285	49	45
Net amount recognized	<u>\$ 344</u>	<u>\$ 295</u>	<u>\$ 55</u>	<u>\$ 51</u>
Amounts recognized in accumulated other comprehensive income (loss)				
Prior service cost (credit)	<u>\$ 1</u>	<u>\$ 2</u>	<u>\$ (45)</u>	<u>\$ (56)</u>
Weighted-average plan assumptions				
Discount rate	3.10%	4.28%	2.95%	4.08%
Rate of compensation increase	3.06%	3.10%	—	—

Valvoline recognizes the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each fiscal year and whenever a plan is determined to qualify for a remeasurement. Such gains and losses are reported within Net pension and other postretirement plan expense in the Consolidated Statements of Comprehensive Income and included a loss of \$69 million and \$38 million for the years ended September 30, 2019 and 2018, respectively.

The fiscal 2019 loss was primarily attributed to decreases in discount rates, which were partially offset by higher than expected returns on plan assets and favorable changes in mortality assumptions. The fiscal 2018 loss was generally

attributed to lower than expected returns on plan assets, which were partially offset by the benefit obligation actuarial gain for increases in discount rates and reduced mortality improvements.

Pension settlement program

During 2018, Valvoline offered the option of receiving a lump sum payment to certain participants with vested qualified U.S. pension plan retirement benefits in lieu of receiving monthly annuity payments. Approximately 2,600 participants elected to receive the settlement, and lump sum payments were made from plan assets to these participants in September 2018 for approximately \$134 million. The benefit obligation settled approximated payments to plan participants and did not generate a material settlement adjustment during fiscal 2018.

Accumulated benefit obligation

The accumulated benefit obligation for all pension plans was \$2.3 billion as of September 30, 2019 and \$2.1 billion as of September 30, 2018. Information for pension plans with a benefit obligation in excess of the fair value of plan assets follows for the Company's plans as of September 30:

(In millions)	2019		2018	
	Benefit obligation	Plan assets	Benefit obligation	Plan assets
Plans with projected benefit obligation in excess of plan assets	\$ 2,242	\$ 1,898	\$ 2,045	\$ 1,749
Plans with accumulated benefit obligation in excess of plan assets	\$ 2,229	\$ 1,889	\$ 2,034	\$ 1,741

Plan assets

The following table summarizes the various investment categories that the pension plan assets are invested in and the applicable fair value hierarchy as described in Note 2 that the financial instruments are classified within these investment categories as of September 30, 2019 and 2018:

(In millions)	September 30, 2019				
	Total fair value	Level 1	Level 2	Level 3	Assets measured at NAV
Cash and cash equivalents	\$ 166	\$ 166	\$ —	\$ —	\$ —
U.S. government securities and futures	162	—	162	—	—
Other government securities	41	—	41	—	—
Corporate debt instruments	1,075	—	1,075	—	—
Insurance contracts	7	—	—	7	—
Private equity and hedge funds	15	—	—	—	15
Common collective trusts	474	—	—	—	474
Other investments	3	—	3	—	—
Total assets at fair value	\$ 1,943	\$ 166	\$ 1,281	\$ 7	\$ 489

September 30, 2018

(In millions)	Total fair value	Level 1	Level 2	Level 3	Assets measured at NAV
Cash and cash equivalents	\$ 100	\$ 100	\$ —	\$ —	\$ —
U.S. government securities and futures ^(a)	74	(3)	77	—	—
Other government securities	92	1	91	—	—
Corporate debt instruments ^(b)	1,056	—	1,056	—	—
Insurance contracts	4	—	—	4	—
Private equity and hedge funds	60	—	—	—	60
Common collective trusts	406	—	—	—	406
Total assets at fair value	\$ 1,792	\$ 98	\$ 1,224	\$ 4	\$ 466

(a) Level 1 investments are in a liability position as of September 30, 2018 and represent exchange-traded futures contracts that are used to manage the interest rate risk in the plan asset portfolio.

Cash and cash equivalents

The carrying value of cash and cash equivalents approximates fair value.

Government securities

Government securities that trade in an active market are valued using quoted market prices, which are Level 1 inputs. Other government securities are valued based on Level 2 inputs, which include yields available on comparable securities of issuers with similar credit ratings. Treasury futures are used to manage interest rate risk and are valued at the closing price reported on the exchange market for exchange-traded futures, which is a Level 1 input.

Corporate debt instruments

Corporate debt instruments are valued based on Level 2 inputs that are observable in the market or may be derived principally from, or corroborated by, recently executed transactions, observable market data such as pricing for similar securities, cash flow models with yield curves, counterparty credit rating, and credit spreads applied to the terms of the debt instrument (maturity and coupon interest rate).

Insurance contracts

Insurance contracts are arrangements with insurance companies that guarantee the payment of the pension entitlements and are valued based on Level 3 inputs, which are neither quoted prices nor observable inputs for pricing. Insurance contracts are valued at cash surrender value, which approximates fair value.

Private equity and hedge funds

Private equity and hedge funds primarily represent alternative investments not traded on an active market which are valued at the NAV per share determined by the manager of the fund based on the fair value of the underlying net assets owned by the fund divided by the number of shares or units outstanding.

Common collective trusts

Common collective trusts are comprised of a diversified portfolio of investments across various asset classes, including U.S. and international equities, fixed-income securities, commodities and currencies. The collective trust funds are valued using a NAV provided by the manager of each fund, which is based on the underlying net assets owned by the fund, divided by the number of shares outstanding.

The following table provides a reconciliation of the beginning and ending balances for Level 3 plan assets:

(In millions)	Total Level 3 assets
Balance at September 30, 2017	\$ 16
Purchases	3
Sales ^(a)	(8)
Actual return on assets held at end of year	1
Actual return on assets sold during year	(8)
Balance at September 30, 2018	4
Purchases	1
Actual return on assets held at end of year	2
Balance at September 30, 2019	<u>\$ 7</u>

(a) Level 3 assets that were liquidated during fiscal 2018 represented real estate investments that were valued using DCF and unobservable inputs, including future rentals, expenses and residual values from a market participant view of the highest and best use of the real estate.

The following table summarizes investments for which fair value is measured using the NAV per share practical expedient as of September 30, 2019:

(In millions)	Fair value at NAV	Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period
Long/short hedge funds	\$ 3	\$ —	None ^(a)	None ^(a)
Relative value hedge funds	4	—	None ^(b)	None ^(b)
Multi-strategy hedge funds	—	—	None ^(b)	None ^(b)
Event driven hedge funds	1	—	None ^(b)	None ^(b)
Common collective trusts	453	—	Daily	Up to 3 days
	13	—	Monthly	5 days
	8	—	N/A ^(c)	N/A ^(c)
Private equity	7	2	None ^(d)	None ^(d)
	<u>\$ 489</u>	<u>\$ 2</u>		

(a) These hedge funds are in the process of liquidation over the next year.

(b) These hedge funds are in the process of liquidation and the timing of such is unknown.

(c) These assets are held in Australia and are investments in funds that include a diversified portfolio across various asset classes. The time period for redemption of these assets is not determinable.

(d) These private equity instruments are estimated to be liquidated over the next 1 to 5 years.

Investments and strategy

In developing an investment strategy for its defined benefit plans, Valvoline considered the following factors: the nature of the plans' liabilities, the allocation of liabilities between active, deferred and retired plan participants, the funded status of the plans, the applicable investment horizon, the respective size of the plans and historical and expected investment returns. Valvoline's U.S. pension plan assets are managed by outside investment managers, which are monitored against investment return benchmarks and Valvoline's established investment strategy. Investment managers are selected based on an analysis of, among other things, their investment process, historical investment results, frequency of management turnover, cost structure and assets under management. Assets are periodically reallocated between investment managers to maintain an appropriate asset mix and diversification of investments and to optimize returns.

The current target asset allocation for the U.S. plans is 75% fixed income securities and 25% equity-based securities. Fixed income securities are liability matching assets that primarily include long duration high grade corporate debt obligations. Equity-based securities are return-seeking assets that include both traditional equities as well as a mix of non-traditional assets such as hedge and commingled funds and private equity. Investment managers may employ a limited use of futures or other derivatives to manage risk within the portfolio through efficient exposure to markets. Valvoline's

pension plans hold a variety of investments designed to diversify risk and achieve an adequate net investment return to provide for future benefit payments to its participants.

Valvoline's investment strategy and management practices relative to plan assets of non-U.S. plans generally are consistent with those for U.S. plans, except in those countries where the investment of plan assets is dictated by applicable regulations. The weighted-average asset allocations for Valvoline's U.S. and non-U.S. plans by asset category follow as of September 30:

	Target	2019	2018
Plan assets allocation			
Equity securities	15-25%	17%	23%
Debt securities	65-85%	81%	76%
Other	0-20%	2%	1%
Total		100%	100%

The basis for determining the expected long-term rate of return is a combination of future return assumptions for the various asset classes in Valvoline's investment portfolio based on active management, historical analysis of previous returns, market indices, and a projection of inflation, net of plan expenses.

Funding and benefit payments

Valvoline contributed \$14 million and \$16 million to its pension plans during fiscal 2019 and 2018, respectively. Contributions during fiscal 2019 included \$4 million of non-cash contributions from the Company's non-qualified trust assets. Valvoline does not plan to contribute to the U.S. qualified pension plan in fiscal 2020, but expects to contribute approximately \$14 million, \$5 million of which is expected to be non-cash, to its U.S. non-qualified and non-U.S. pension plans.

The following benefit payments, which reflect future service expectations, are projected to be paid in each of the next five fiscal years and the five fiscal years thereafter in aggregate:

(In millions)	Pension benefits	Other postretirement benefits
2020	\$ 143	\$ 6
2021	143	5
2022	143	4
2023	142	4
2024	140	3
2025 - 2029	688	15
Total	\$ 1,399	\$ 37

Other plans

Defined contribution and other defined benefit plans

Valvoline's savings plan provides matching contributions subject to a maximum percentage. Expense associated with this plan was \$14 million in each fiscal year 2019, 2018 and 2017.

Valvoline also sponsors various other benefit plans, some of which are required by local laws within certain countries. Total current and noncurrent liabilities associated with these plans were \$1 million and \$3 million, respectively, as of September 30, 2019 and 2018.

Multiemployer pension plans

Valvoline participates in two multiemployer pension plans that provide pension benefits to certain union-represented employees under the terms of collective bargaining agreements. Valvoline assumed responsibility for contributions to

these plans in connection with the separation from Ashland. Contributions to these plans were not material for fiscal 2019, 2018 or 2017.

In April 2018, Valvoline received a demand for payment of a partial withdrawal liability assessment related to the sale of a business by Ashland in fiscal 2011 and the associated reduction in contributions and the number of employees covered by one of the multiemployer pension plans. The Company vigorously contested the assessment and the calculation method utilized by the plan in its determination and settled the matter consistent with its reserve at a cost that is not material to the consolidated financial statements as of and for the periods ended September 30, 2019.

Incentive plans

Reserves for incentive plans were \$25 million and \$19 million as of September 30, 2019 and 2018, respectively.

NOTE 16 – LITIGATION, CLAIMS AND CONTINGENCIES

From time to time, Valvoline is party to lawsuits, claims and other legal proceedings that arise in the ordinary course of business. The Company establishes liabilities for the outcome of such matters where losses are determined to be probable and reasonably estimable. Where appropriate, the Company has recorded liabilities with respect to these matters, which were immaterial for the periods presented as reflected in the consolidated financial statements herein. There are certain claims and legal proceedings pending where loss is not determined to be probable or reasonably estimable, and therefore, accruals have not been made. In addition, Valvoline discloses matters for which management believes a material loss is at least reasonably possible.

In all instances, management has assessed each matter based on current information available and made a judgment concerning its potential outcome, giving due consideration to the amount and nature of the claim and the probability of success. As disclosed herein, the Company believes it has established adequate accruals for liabilities that are probable and reasonably estimable.

Although the ultimate resolution of these matters cannot be predicted with certainty and there can be no assurances that the actual amounts required to satisfy liabilities from these matters will not exceed the amounts reflected in the consolidated financial statements, based on information available at this time, it is the opinion of management that such pending claims or proceedings will not have a material adverse effect on its consolidated financial statements.

NOTE 17 - STOCK-BASED COMPENSATION PLANS

Valvoline has approved incentive plans that authorize 21 million shares to be issued, with approximately 16 million remaining available for issuance as of September 30, 2019. The Valvoline incentive plans authorize the grant of stock options, stock appreciation rights (“SARs”), restricted stock, performance shares and other nonvested stock awards. The Compensation Committee of the Board of Directors administers the Valvoline incentive plans and has the authority to determine the individuals to whom awards will be made, the amount of those awards, and other terms and conditions of the awards.

Certain original grants were modified, including the vesting conditions and the number of awards outstanding, in connection with the restructuring activities described in Note 11. Valvoline estimated its pre- and post-modification fair value and updated its expense over the remaining service period for each modified award, as appropriate, which did not result in material adjustments to expense.

In connection with the Distribution on May 12, 2017, outstanding Ashland share-based awards held by Valvoline employees and directors were converted to equivalent share-based awards of Valvoline based on an exchange ratio of Ashland’s fair market value prior to the Distribution in relation to Valvoline’s fair market value post-Distribution. This conversion modified the number of awards outstanding, as well as certain terms and conditions of the original grants relative to performance and market measures. The conversion was treated as a modification for accounting purposes, and accordingly, Valvoline estimated its pre- and post-modification fair value, which resulted in an increase in the incremental fair value of the awards that was not material and is being expensed ratably over the remaining vesting period for each award.

The following is a summary of stock-based compensation expense recognized by the Company during the years ended September 30:

(In millions)	2019	2018	2017 ^(b)
Stock appreciation rights	\$ 1	\$ 2	\$ 3
Nonvested stock awards	8	9	5
Performance awards	1	1	2
Total stock-based compensation expense, pre-tax ^(a)	10	12	10
Tax benefit	(2)	(3)	(4)
Total stock-based compensation expense, net of tax	\$ 8	\$ 9	\$ 6

(a) Includes approximately \$1 million in each period presented related to certain awards that are cash-settled and liability-classified; therefore, fair value is remeasured at the end of each reporting period until settlement.

(b) Stock-based compensation expense in fiscal 2017 includes \$4 million that was allocated from Ashland prior to the Distribution.

Stock Appreciation Rights

SARs were granted to certain Valvoline employees to provide award holders with the ability to profit from the appreciation in value of a set number of shares of common stock over a period of time by exercising their award and receiving the sum of the increase in shares. SARs were granted at a price equal to the fair market value of the stock on the date of grant and typically vest and become exercisable over a period of one to three years. Unexercised SARs generally lapse ten years after the grant date.

The following table summarizes the activity relative to SARs for the year ended September 30, 2019:

	Number of shares (in thousands)	Weighted average exercise price per share	Weighted average remaining term (in years)	Aggregate intrinsic value (in millions)
SARs outstanding as of September 30, 2018	1,798	\$ 18.54	6.7 years	\$ 6
Granted	240	\$ 20.37		
Exercised	(185)	\$ 17.19		\$ 1
Forfeited	(38)	\$ 20.35		
SARs outstanding as of September 30, 2019	1,815	\$ 18.88	6.2 years	\$ 6
SARs exercisable as of September 30, 2019	1,342	\$ 18.15	5.4 years	\$ 5

The aggregate intrinsic value of SARs exercised (the amount by which the market price of the stock on the date of exercise exceeded the exercise price of the SAR) was \$1 million during fiscal 2019, \$2 million during fiscal 2018, and less than \$1 million during fiscal 2017. As of September 30, 2019, there was \$1 million of total unrecognized compensation cost related to SARs, which is expected to be recognized over a weighted average period of 1.9 years.

Stock-based compensation expense for SARs was computed using the Black-Scholes option-pricing model to estimate the grant date fair value of new or modified awards with the following key assumptions:

	2019	2018	2017
Weighted average grant date fair value per share	\$ 5.36	\$ 5.56	\$ 7.44
Assumptions (weighted average)			
Risk-free interest rate ^(a)	2.9 %	2.2 %	1.7 %
Expected dividend yield	1.5 %	0.9 %	0.9 %
Expected volatility ^(b)	26.8 %	23.3 %	22.8 %
Expected term (in years) ^(c)	5.88	5.88	7.45

(a) Based on the U.S. Treasury yield curve in effect at the time of grant or modification for the expected term of the award. The range of risk-free interest rates used for SARs converted at Distribution in fiscal 2017 was 1.1% to 1.9%.

- (b) Due to the lack of historical data for Valvoline, expected volatility is based on the average of peer companies' historical daily equity volatilities with look-back periods commensurate with the expected term. The range of expected volatility used for SARs converted at Distribution in fiscal 2017 was 21.5% to 24.4%.
- (c) Due to the lack of historical data for Valvoline, the expected term is based on the mid-point between the vesting date and the end of the contractual term.

Nonvested stock awards

Nonvested stock awards in the form of Restricted Stock Awards ("RSAs") and Restricted Stock Units ("RSUs") were granted to certain Valvoline employees and directors. These awards were granted at a price equal to the fair market value of the underlying common stock on the grant date, generally vest over a one to three-year period, and are subject to forfeiture upon termination of service before the vesting period ends. These awards were primarily granted as RSUs that settle in shares upon vesting, while RSAs result in share issuance at grant, which entitle award holders to voting rights that are restricted until vesting. Dividends on nonvested stock awards are generally granted in the form of additional units or shares of nonvested stock awards, which are subject to vesting and forfeiture provisions.

The following table summarizes nonvested share activity for the year ended September 30, 2019:

	Number of shares (in thousands)	Weighted average grant date fair value per share
Unvested shares as of September 30, 2018	1,278	\$ 23.07
Granted	345	\$ 20.41
Vested	(443)	\$ 22.62
Forfeited	(97)	\$ 21.52
Unvested shares as of September 30, 2019	<u>1,083</u>	\$ 21.52

The total grant date fair value of shares vested was \$10 million, \$6 million and less than \$1 million for the years ended September 30, 2019, 2018 and 2017, respectively. The weighted average grant date fair value for nonvested stock awards granted in fiscal 2018 and fiscal 2017 was \$23.17 and \$22.82, respectively. As of September 30, 2019, there was \$5 million of total unrecognized compensation costs related to nonvested stock awards, which is expected to be recognized over a weighted average period of 3.2 years. The aggregate intrinsic value of nonvested stock awards as of September 30, 2019 is \$24 million.

Performance awards

Performance share units were awarded to certain key Valvoline employees that are tied to overall financial performance relative to selected industry peer groups and/or internal targets. Awards are granted annually, with each award typically covering a three-year performance and vesting period. Each performance share unit is convertible to one share of common stock, and the actual number of shares issuable upon vesting is determined based upon performance compared to market and financial performance targets. Nonvested performance share units generally do not entitle employees to vote or to receive any dividends thereon.

The following table summarizes performance award activity for the year ended September 30, 2019:

	Number of shares (in thousands)	Weighted average grant date fair value per share
Unvested shares as of September 30, 2018	327	\$ 22.64
Granted	195	\$ 21.22
Vested	(66)	\$ 30.66
Forfeited	(33)	\$ 21.80
Unvested shares as of September 30, 2019	<u>423</u>	\$ 22.31

As of September 30, 2019, there was \$3 million of unrecognized compensation costs related to nonvested performance share awards, which is expected to be recognized over a weighted average period of approximately 1.8 years. The aggregate intrinsic value of the performance-based nonvested stock awards as of September 30, 2019 is \$9 million.

With regard to the performance conditions, the fair value of new or modified awards is equal to the grant date fair market value of Valvoline's common stock, and compensation cost is recognized over the requisite service period when it is probable that the performance condition will be satisfied. For market conditions, compensation cost is recognized regardless of whether the conditions are satisfied and based on the grant date fair value of new or modified awards using a Monte Carlo simulation valuation model using the following key assumptions:

	2019	2018	2017
Weighted average grant date fair value per share	\$ 21.22	\$ 23.82	\$ 18.44
Assumptions (weighted average)			
Risk-free interest rates ^(a)	2.8 %	1.7 %	1.2 %
Expected dividend yield	1.3 %	1.0 %	1.0 %
Expected volatility ^(b)	26.8 %	24.2 %	21.0 %
Expected term (in years)	3.0	3.0	1.9

- (a) Based on the U.S. Treasury yield curve in effect at the time of grant or modification for the expected term of the award. The range of risk-free interest rates used for performance awards was 1.6% to 1.8% in fiscal 2018 and 0.9% to 1.5% in fiscal 2017 for awards converted at Distribution.
- (b) Due to the lack of historical data for Valvoline, expected volatility is based on the average of peer companies' historical volatilities with look-back periods commensurate with the expected term. The range of expected volatility used for performance awards converted at Distribution in fiscal 2017 was 18.9% to 22.4%.

NOTE 18 - EARNINGS PER SHARE

The following is the summary of basic and diluted EPS for the years ended September 30:

(In millions, except per share data)	2019	2018	2017
Numerator			
Net income	\$ 208	\$ 166	\$ 304
Denominator			
Weighted average shares common shares outstanding	189	197	204
Effect of potentially dilutive securities ^(a)	—	—	—
Weighted average diluted shares outstanding	<u>189</u>	<u>197</u>	<u>204</u>
Earnings per share			
Basic	\$ 1.10	\$ 0.84	\$ 1.49
Diluted	\$ 1.10	\$ 0.84	\$ 1.49

- (a) During the year ended September 30, 2017, share-based awards that were previously denominated in Ashland common stock were converted to Valvoline common stock concurrent with the Distribution. There was not a significant dilutive impact in any year from potential common shares associated with the Company's share-based awards.

NOTE 19 - STOCKHOLDERS' DEFICIT

Stockholder dividends

Since the first fiscal quarter of 2017, the Company has issued a quarterly cash dividend. The Company's dividend activity was as follows during the years ended September 30:

(In millions, except per share amounts)	2019	2018	2017
Cash outlay	\$ 80	\$ 58	\$ 40
Dividend per share	\$ 0.424	\$ 0.298	\$ 0.196

Accumulated other comprehensive income

Changes in accumulated other comprehensive income by component for fiscal years 2019, 2018 and 2017 were as follows:

(In millions)	Unamortized benefit plan credits	Currency translation adjustments	Total
Balance as of September 30, 2016	\$ 52	\$ (55)	\$ (3)
Fiscal 2017 activity, net of tax	(8)	54	46
Balance as of September 30, 2017	44	(1)	43
Fiscal 2018 activity, net of tax	(1)	(10)	(11)
Balance as of September 30, 2018	43	(11)	32
Fiscal 2019 activity, net of tax	(9)	(12)	(21)
Balance as of September 30, 2019	<u>\$ 34</u>	<u>\$ (23)</u>	<u>\$ 11</u>

Amounts reclassified from accumulated other comprehensive income for the years ended September 30 were as follows:

(in millions)	2019	2018	2017
Amortization of pension and other postretirement plan prior service credit ^(a)	\$ (12)	\$ (12)	\$ (12)
(Gain) loss on liquidation of subsidiary ^(b)	(1)	1	—
Tax effect of reclassifications	3	2	4
Net of tax	(10)	(9)	(8)
Reclassification of income tax effects of U.S. tax reform ^(c)	—	8	—
Total amounts reclassified, net of tax	<u>\$ (10)</u>	<u>\$ (1)</u>	<u>\$ (8)</u>

(a) Amortization of unrecognized prior service credits included in net periodic benefit income for pension and other postretirement plans was reported in Net pension and other postretirement plan expense (income) within the Consolidated Statements of Comprehensive Income.

(b) Represents the realization of cumulative translation adjustments in Equity and other income, net within the Consolidated Statements of Comprehensive Income as a result of the liquidation of certain non-U.S. subsidiaries.

(c) Represents the reclassification of stranded income tax effects of U.S. tax reform resulting from the change in the federal corporate tax rate to Retained deficit in the Consolidated Balance Sheet.

The Company generally releases the income tax effects from accumulated other comprehensive income as benefit plan credits are amortized into earnings.

Share repurchases

During fiscal 2017, Valvoline's Board of Directors (the "Board") authorized the repurchase of \$150 million of the Company's common stock for which the shares were repurchased during fiscal 2017 and 2018. In January 2018, the Board authorized the repurchase of up to \$300 million of the Company's common stock through September 30, 2020. As of September 30, 2019, the remaining amount available for repurchase was \$75 million. Upon repurchase, shares were retired and recorded as a reduction in Common stock for par value with the price paid in excess of par value recorded as an increase in Retained deficit. The following table summarizes the Company's share repurchase activity during the years ended September 30:

(In millions)	2019	2018	2017
Total cost	\$ —	\$ 325	\$ 50
Shares repurchased	—	15	2

NOTE 20 – TRANSACTIONS WITH ASHLAND

Payable to Ashland

Valvoline had total net obligations due to Ashland of \$78 million and \$79 million as of September 30, 2019 and 2018, respectively, which were primarily recorded in Other noncurrent liabilities in the Consolidated Balance Sheets. These liabilities generally relate to net obligations due to Ashland under the Tax Matters Agreement as well as reimbursements

payable to Ashland for certain other contractual obligations, including those intended to transfer to Valvoline as part of the Distribution. Refer to Note 14 for additional details regarding the Tax Matters Agreement and related obligations.

Transition Services Agreements

Valvoline entered into a Transition Services Agreement (“TSA”) and Reverse Transition Services Agreement (“RTSA”) as well as certain other arrangements in connection with the separation from Ashland, which provided for certain continued corporate support services provided by Valvoline and Ashland to one another following the IPO. Valvoline began to set up its own corporate functions in connection with the IPO, and Ashland provided various corporate support services for Valvoline pursuant to the TSA, including certain accounting, human resources, information technology, office and building, risk, security, tax and treasury services. Pursuant to the RTSA, Valvoline provided Ashland with various corporate support services, including certain human resources, information technology, office and building, security, tax services, and certain regulatory compliance services. The term of these agreements generally expired two years after the IPO, and the charges associated with these services were not material during the years presented herein. The costs were consistent with expenses that Ashland had historically allocated or Valvoline incurred with respect to such services, plus a mark-up of five percent.

Separation from Ashland

Immediately prior to the Distribution, Ashland owned 170 million shares of Valvoline common stock, which represented approximately 83% of the outstanding shares of Valvoline common stock. Effective upon the Distribution, Ashland no longer held any shares of Valvoline common stock. Refer to Note 1 for further information on the separation from Ashland. Also refer to Note 17 for information regarding the conversion of share-based awards from Ashland to Valvoline at Distribution.

NOTE 21 – REPORTABLE SEGMENT INFORMATION

Valvoline manages and reports within the following three segments:

- **Quick Lubes** - services the passenger car and light truck quick lube market through company-owned and independent franchised retail quick lube service center stores and independent Express Care stores that service vehicles with Valvoline products, as well as through investment in a joint venture in China to pilot expansion of retail quick lube service center stores outside of North America.
- **Core North America** - sells engine and automotive maintenance products in the United States and Canada to retailers, installers, and heavy-duty customers to service vehicles and equipment.
- **International** - sells engine and automotive products in more than 140 countries outside of the United States and Canada for the maintenance of consumer and commercial vehicles and equipment.

These segments represent components of the Company for which separate financial information is available that is utilized on a regular basis by the chief operating decision maker in assessing segment performance and in allocating the Company’s resources. Sales and operating income are the primary U.S. GAAP measures evaluated in assessing each reportable segment’s financial performance. Operating income by segment includes the allocation of shared corporate costs, which are allocated consistently based on each segment’s proportional contribution to various financial measures. Intersegment sales are not material, and assets are not allocated and included in the assessment of segment performance; consequently, these items are not disclosed by segment herein.

To maintain operating focus on business performance, certain corporate and non-operational items, including restructuring and related expenses, as well as adjustments related to legacy businesses that no longer are attributed to Valvoline, are excluded from the segment operating results utilized by the chief operating decision maker in evaluating segment performance and are separately delineated within Unallocated and other to reconcile to total reported Operating income as shown in the table below.

Valvoline did not have a single customer that represented 10% or more of consolidated net sales in fiscal 2019, 2018 or 2017.

Reportable segment results

The following table presents sales, operating income, and depreciation and amortization by reportable segment for the years ended September 30:

(In millions)	2019	2018	2017
Sales			
Quick Lubes	\$ 822	\$ 660	\$ 541
Core North America	994	1,035	1,004
International	574	590	539
Consolidated sales	<u>\$ 2,390</u>	<u>\$ 2,285</u>	<u>\$ 2,084</u>
Operating income			
Quick Lubes	\$ 178	\$ 153	\$ 130
Core North America	152	172	199
International	85	84	76
Total operating segments	<u>415</u>	<u>409</u>	<u>405</u>
Unallocated and other ^(a)	(17)	(14)	(11)
Consolidated operating income	<u>\$ 398</u>	<u>\$ 395</u>	<u>\$ 394</u>
Depreciation and amortization			
Quick Lubes	\$ 36	\$ 30	\$ 22
Core North America	18	18	15
International	7	6	5
Consolidated depreciation and amortization	<u>\$ 61</u>	<u>\$ 54</u>	<u>\$ 42</u>

(a) Unallocated and other includes Legacy and separation-related expenses, net and restructuring and related expenses.

Entity-wide disclosures

The following table summarizes sales by category for each reportable segment for the years ended September 30:

	Sales by category								
	Quick Lubes			Core North America			International		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
Lubricants	84%	85%	84%	86%	85%	86%	88%	89%	89%
Antifreeze	1%	1%	1%	9%	8%	7%	5%	5%	6%
Filters	8%	8%	8%	1%	3%	3%	1%	3%	1%
Chemicals and other	2%	2%	2%	4%	4%	4%	6%	3%	4%
Franchise	5%	4%	5%	—	—	—	—	—	—
Total	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

Sales and net property, plant and equipment are attributed to the geographic area or country to which product is delivered and the assets physically reside, respectively. The following table presents sales and net property, plant and equipment by geographic area for Valvoline for the years ended and as of September 30:

(In millions)	Sales from external customers			Property, plant and equipment, net	
	2019	2018	2017	2019	2018
United States	\$ 1,766	\$ 1,652	\$ 1,504	\$ 431	\$ 384
International	624	633	580	67	36
Total	<u>\$ 2,390</u>	<u>\$ 2,285</u>	<u>\$ 2,084</u>	<u>\$ 498</u>	<u>\$ 420</u>

Sales by geography expressed as a percentage of total consolidated sales were as follows:

Sales by geography	For the years ended September 30		
	2019	2018	2017
North America ^(a)	76 %	74 %	74 %
EMEA	8 %	8 %	7 %
Asia Pacific	12 %	13 %	14 %
Latin America ^(a)	4 %	5 %	5 %
Total	<u>100 %</u>	<u>100 %</u>	<u>100 %</u>

(a) Valvoline includes the United States and Canada in its North American region. Mexico is included within the Latin America region.

NOTE 22 – QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

The following table presents quarterly financial information and per share data:

(In millions, except per share amounts)	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	2019	2018	2019	2018	2019	2018	2019	2018
Sales	\$ 557	\$ 545	\$ 591	\$ 569	\$ 613	\$ 577	\$ 629	\$ 594
Gross profit ^(a)	\$ 183	\$ 195	\$ 203	\$ 207	\$ 207	\$ 201	\$ 217	\$ 203
Operating income ^(b)	\$ 87	\$ 88	\$ 96	\$ 100	\$ 102	\$ 102	\$ 113	\$ 105
Income before income taxes ^{(b) (c)}	\$ 72	\$ 84	\$ 80	\$ 94	\$ 85	\$ 97	\$ 28	\$ 57
Net income (loss) ^(d)	\$ 53	\$ (10)	\$ 63	\$ 67	\$ 65	\$ 64	\$ 27	\$ 45
Net income (loss) per common share ^(e)								
Basic	\$ 0.28	\$ (0.05)	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.33	\$ 0.14	\$ 0.23
Diluted	\$ 0.28	\$ (0.05)	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.33	\$ 0.14	\$ 0.23

(a) Gross profit included business interruption expenses recorded in Cost of sales of \$1 million in the second fiscal quarter of 2019 and \$5 million in the third fiscal quarter of 2019.

(b) Operating and pre-tax income included restructuring expenses recorded in Selling, general and administrative expenses of \$8 million in the second quarter of 2019, \$4 million in the third fiscal quarter of 2019 and \$2 million in the fourth fiscal quarter of 2019. Also included in operating and pre-tax income are Legacy and separation-related expenses, net of \$3 million in the second fiscal quarter of 2019, \$9 million in the first fiscal quarter of 2018, \$8 million in the second fiscal quarter of 2018, and \$3 million of income in the third fiscal quarter of 2018. Acquisition and divestiture-related gains and losses also recognized in operating and pre-tax income were a gain of \$4 million in the fourth fiscal quarter of 2019 recorded in Equity and other income, net, and losses of \$2 million and \$1 million in the third and fourth fiscal quarters of 2018, respectively, recorded in Selling, general and administrative expenses.

(c) Income before income taxes includes pension other postretirement plan remeasurement losses of \$69 million and \$38 million in the fourth fiscal quarters of 2019 and 2018, respectively.

(d) Net income includes \$2 million of income tax benefit recognized in the second fiscal quarter of 2019 related to Kentucky tax reform. Net (loss) income for fiscal 2018 includes additional income tax expense related to U.S. and Kentucky tax reform enacted during the year of \$71 million in the first quarter of fiscal 2018, \$2 million in the second fiscal quarter of 2018, \$3 million in the third fiscal quarter of 2018, and \$2 million in the fourth fiscal quarter of 2018.

(e) Net income (loss) per share in each quarter is computed using the weighted average number of shares outstanding during that quarter while net income per share for the full year is computed using the weighted average number of shares outstanding during the year. Thus, the sum of the four quarters' net income (loss) per share will not necessarily equal the full-year net income per share.

NOTE 23 – GUARANTOR FINANCIAL INFORMATION

The Senior Notes are general unsecured senior obligations of Valvoline Inc. and are fully and unconditionally guaranteed on a senior unsecured basis, jointly and severally, by the combined “Guarantor Subsidiaries.” Other subsidiaries (the “Non-Guarantor Subsidiaries”) largely represent the international operations of the Company, which do not guarantee the Senior Notes. Under the terms of the indentures, Valvoline Inc. and the Guarantor Subsidiaries each fully and unconditionally, jointly and severally, guarantee the payment of interest, principal and premium, if any, on each of the notes included in the Senior Notes. Refer to Note 12 for additional information.

The Guarantor Subsidiaries are subject to release in certain circumstances, including (i) the sale of all of the capital stock of the subsidiary, (ii) the designation of the subsidiary as an “Unrestricted Subsidiary” under the indenture governing the Senior Notes; or (iii) the release of the subsidiary as a guarantor from the Company’s 2019 Credit Agreement described further in Note 12.

In connection with the registered exchange offers for the Senior Notes completed in December 2017, the Company is required to comply with Rule 3-10 of SEC Regulation S-X (“Rule 3-10”), and has therefore included the accompanying condensed consolidating financial statements in accordance with Rule 3-10(f) of SEC Regulation S-X.

The following tables should be read in conjunction with the consolidated financial statements herein and present, on a consolidating basis, the statements of comprehensive income; balance sheets; and statements of cash flows for the parent issuer of these Senior Notes, the Guarantor Subsidiaries on a combined basis, the Non-Guarantor Subsidiaries on a combined basis and the eliminations necessary to arrive at the Company’s consolidated results. The principal elimination entries relate to investments in subsidiaries and intercompany balances and transactions. The Company has accounted for its investments in its subsidiaries under the equity method.

In connection with the restructuring steps that occurred immediately prior to Valvoline’s IPO as described in Note 1, certain subsidiaries were created and contributed to Valvoline which formed a new organizational structure to affect the separation from Ashland, which was completed in May 2017. Activity for the parent issuer, Guarantor Subsidiaries and Non-Guarantor Subsidiaries has been presented herein to reflect the guarantee structure in place at September 30, 2017 for all periods presented based upon the historical activity that occurred within Valvoline’s legal structure that existed in each respective period presented.

Condensed Consolidating Statements of Comprehensive Income
For the year ended September 30, 2019

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Sales	\$ —	\$ 1,896	\$ 557	\$ (63)	\$ 2,390
Cost of sales	—	1,241	402	(63)	1,580
Gross profit	—	655	155	—	810
Selling, general and administrative expenses	10	348	91	—	449
Net legacy and separation-related expenses	2	1	—	—	3
Equity and other (income) expenses, net	—	(57)	17	—	(40)
Operating (loss) income	(12)	363	47	—	398
Net pension and other postretirement plan expense	—	57	3	—	60
Net interest and other financing expenses	63	7	3	—	73
(Loss) income before income taxes	(75)	299	41	—	265
Income tax (benefit) expense	(31)	77	11	—	57
Equity in net income of subsidiaries	(252)	(30)	—	282	—
Net income	\$ 208	\$ 252	\$ 30	\$ (282)	\$ 208
Total comprehensive income	\$ 187	\$ 231	\$ 18	\$ (249)	\$ 187

Condensed Consolidating Statements of Comprehensive Income
For the year ended September 30, 2018

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Sales	\$ —	\$ 1,782	\$ 558	\$ (55)	\$ 2,285
Cost of sales	—	1,132	402	(55)	1,479
Gross profit	—	650	156	—	806
Selling, general and administrative expenses	11	327	92	—	430
Net legacy and separation-related expenses	8	6	—	—	14
Equity and other (income) expenses, net	—	(50)	17	—	(33)
Operating (loss) income	(19)	367	47	—	395
Net pension and other postretirement plan expense (income)	—	1	(1)	—	—
Net interest and other financing expenses	53	6	4	—	63
(Loss) income before income taxes	(72)	360	44	—	332
Income tax expense	14	140	12	—	166
Equity in net income of subsidiaries	(252)	(32)	—	284	—
Net income	\$ 166	\$ 252	\$ 32	\$ (284)	\$ 166
Total comprehensive income	\$ 147	\$ 234	\$ 25	\$ (259)	\$ 147

Condensed Consolidating Statements of Comprehensive Income
For the year ended September 30, 2017

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Sales	\$ —	\$ 1,618	\$ 523	\$ (57)	\$ 2,084
Cost of sales	—	986	379	(57)	1,308
Gross profit	—	632	144	—	776
Selling, general and administrative expenses	9	296	91	—	396
Net legacy and separation-related expenses	(15)	26	—	—	11
Equity and other (income) expenses, net	—	(37)	12	—	(25)
Operating income	6	347	41	—	394
Net pension and other postretirement plan income	—	(134)	(4)	—	(138)
Net interest and other financing	36	4	2	—	42
(Loss) income before income taxes	(30)	477	43	—	490
Income tax (benefit) expense	(3)	178	11	—	186
Equity in net income of subsidiaries	(331)	(32)	—	363	—
Net income	\$ 304	\$ 331	\$ 32	\$ (363)	\$ 304
Total comprehensive income	\$ 303	\$ 330	\$ 43	\$ 373	\$ 303

Condensed Consolidating Balance Sheets

As of September 30, 2019

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ —	\$ 59	\$ 100	\$ —	\$ 159
Accounts receivable, net	—	181	338	(118)	401
Inventories, net	—	110	84	—	194
Prepaid expenses and other current assets	—	35	8	—	43
Total current assets	—	385	530	(118)	797
Noncurrent assets					
Property, plant and equipment, net	—	431	67	—	498
Goodwill and intangibles, net	—	423	81	—	504
Equity method investments	—	34	—	—	34
Investment in subsidiaries	1,157	546	—	(1,703)	—
Deferred income taxes	48	61	14	—	123
Other noncurrent assets	3	96	9	—	108
Total noncurrent assets	1,208	1,591	171	(1,703)	1,267
Total assets	\$ 1,208	\$ 1,976	\$ 701	\$ (1,821)	\$ 2,064
Liabilities and Stockholders' Deficit					
Current liabilities					
Current portion of long-term debt	\$ 15	\$ —	\$ —	\$ —	\$ 15
Trade and other payables	80	127	82	(118)	171
Accrued expenses and other liabilities	9	175	53	—	237
Total current liabilities	104	302	135	(118)	423
Noncurrent liabilities					
Long-term debt	1,326	1	—	—	1,327
Employee benefit obligations	—	369	18	—	387
Other noncurrent liabilities	36	147	2	—	185
Total noncurrent liabilities	1,362	517	20	—	1,899
Commitments and contingencies					
Stockholders' (deficit) equity	(258)	1,157	546	(1,703)	(258)
Total liabilities and stockholders' deficit / equity	\$ 1,208	\$ 1,976	\$ 701	\$ (1,821)	\$ 2,064

Condensed Consolidating Balance Sheets

As of September 30, 2018

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ —	\$ 20	\$ 76	\$ —	\$ 96
Accounts receivable, net	—	48	480	(119)	409
Inventories, net	—	95	81	—	176
Prepaid expenses and other current assets	1	38	5	—	44
Total current assets	<u>1</u>	<u>201</u>	<u>642</u>	<u>(119)</u>	<u>725</u>
Noncurrent assets					
Property, plant and equipment, net	—	384	36	—	420
Goodwill and intangibles, net	—	396	52	—	448
Equity method investments	—	31	—	—	31
Investment in subsidiaries	801	509	—	(1,310)	—
Deferred income taxes	62	63	13	—	138
Other noncurrent assets	2	85	5	—	92
Total noncurrent assets	<u>865</u>	<u>1,468</u>	<u>106</u>	<u>(1,310)</u>	<u>1,129</u>
Total assets	<u>\$ 866</u>	<u>\$ 1,669</u>	<u>\$ 748</u>	<u>\$ (1,429)</u>	<u>\$ 1,854</u>
Liabilities and Stockholders' Deficit					
Current liabilities					
Current portion of long-term debt	\$ 30	\$ —	\$ —	\$ —	\$ 30
Trade and other payables	3	241	53	(119)	178
Accrued expenses and other liabilities	7	168	28	—	203
Total current liabilities	<u>40</u>	<u>409</u>	<u>81</u>	<u>(119)</u>	<u>411</u>
Noncurrent liabilities					
Long-term debt	1,151	1	140	—	1,292
Employee benefit obligations	—	317	16	—	333
Other noncurrent liabilities	33	141	2	—	176
Total noncurrent liabilities	<u>1,184</u>	<u>459</u>	<u>158</u>	<u>—</u>	<u>1,801</u>
Commitments and contingencies					
Stockholders' (deficit) equity	<u>(358)</u>	<u>801</u>	<u>509</u>	<u>(1,310)</u>	<u>(358)</u>
Total liabilities and stockholders' deficit / equity	<u>\$ 866</u>	<u>\$ 1,669</u>	<u>\$ 748</u>	<u>\$ (1,429)</u>	<u>\$ 1,854</u>

Condensed Consolidating Statements of Cash Flows

For the year ended September 30, 2019

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows (used in) provided by operating activities	\$ (73)	\$ 166	\$ 232	\$ —	\$ 325
<u>Cash flows from investing activities</u>					
Additions to property, plant and equipment	—	(90)	(18)	—	(108)
Acquisitions, net of cash acquired	—	(34)	(44)	—	(78)
Other investing activities, net	—	—	(2)	—	(2)
Cash flows used in investing activities	—	(124)	(64)	—	(188)
<u>Cash flows from financing activities</u>					
Proceeds from borrowings, net of issuance costs	666	—	84	—	750
Repayments on borrowings	(510)	—	(224)	—	(734)
Purchase of additional ownership in subsidiary	—	—	(1)	—	(1)
Cash dividends paid	(80)	—	—	—	(80)
Other financing activities	(3)	(3)	—	—	(6)
Cash flows provided by (used in) financing activities	73	(3)	(141)	—	(71)
Effect of currency exchange rate changes on cash, cash equivalents, and restricted cash	—	—	(3)	—	(3)
Increase in cash, cash equivalents, and restricted cash	—	39	24	—	63
Cash, cash equivalents, and restricted cash - beginning of year	—	20	76	—	96
Cash, cash equivalents, and restricted cash - end of year	<u>\$ —</u>	<u>\$ 59</u>	<u>\$ 100</u>	<u>\$ —</u>	<u>\$ 159</u>

Condensed Consolidating Statements of Cash Flows
For the year ended September 30, 2018

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows (used in) provided by operating activities	\$ (57)	\$ 390	\$ (13)	\$ —	\$ 320
<u>Cash flows from investing activities</u>					
Additions to property, plant and equipment	—	(88)	(5)	—	(93)
Acquisitions, net of cash acquired	—	(72)	(53)	—	(125)
Other investing activities, net	—	5	—	—	5
Return of advance from subsidiary	312	—	—	(312)	—
Cash flows provided by (used in) investing activities	312	(155)	(58)	(312)	(213)
<u>Cash flows from financing activities</u>					
Proceeds from borrowings, net of issuance costs	203	—	101	—	304
Repayments on borrowings	(72)	—	(36)	—	(108)
Repurchases of common stock	(325)	—	—	—	(325)
Purchase of additional ownership in subsidiary	—	—	(15)	—	(15)
Cash dividends paid	(58)	—	—	—	(58)
Other financing activities	(3)	(2)	(2)	—	(7)
Other intercompany activity, net	—	(312)	—	312	—
Cash flows (used in) provided by financing activities	(255)	(314)	48	312	(209)
Effect of currency exchange rate changes on cash, cash equivalents, and restricted cash	—	—	(3)	—	(3)
Decrease in cash, cash equivalents and restricted cash	—	(79)	(26)	—	(105)
Cash, cash equivalents, and restricted cash - beginning of year	—	99	102	—	201
Cash, cash equivalents, and restricted cash - end of year	<u>\$ —</u>	<u>\$ 20</u>	<u>\$ 76</u>	<u>\$ —</u>	<u>\$ 96</u>

Condensed Consolidating Statements of Cash Flows
For the year ended September 30, 2017

(In millions)	Valvoline Inc. (Parent Issuer)	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Eliminations	Consolidated
Cash flows provided by (used in) operating activities	\$ 97	\$ (180)	\$ (47)	\$ —	\$ (130)
<u>Cash flows from investing activities</u>					
Additions to property, plant and equipment	—	(64)	(4)	—	(68)
Acquisitions, net of cash acquired	—	(68)	—	—	(68)
Other investing activities, net	—	1	—	—	1
Advance to subsidiary	(312)	—	—	312	—
Cash flows used in investing activities	(312)	(131)	(4)	312	(135)
<u>Cash flows from financing activities</u>					
Net transfers from Ashland	5	—	—	—	5
Proceeds from borrowings, net of issuance costs	395	—	75	—	470
Repayments on borrowings	(90)	—	—	—	(90)
Repurchases of common stock	(50)	—	—	—	(50)
Cash dividends paid	(40)	—	—	—	(40)
Other intercompany activity, net	(5)	317	—	(312)	—
Cash flows provided by financing activities	215	317	75	(312)	295
Effect of currency exchange rate changes on cash and cash equivalents	—	—	(1)	—	(1)
Increase in cash, cash equivalents, and restricted cash	—	6	23	—	29
Cash, cash equivalents, and restricted cash - beginning of year	—	93	79	—	172
Cash, cash equivalents, and restricted cash - end of year	<u>\$ —</u>	<u>\$ 99</u>	<u>\$ 102</u>	<u>\$ —</u>	<u>\$ 201</u>

NOTE 24 – SUBSEQUENT EVENTS

Dividend declared

On November 14, 2019 the Company's Board of Directors approved a quarterly cash dividend of \$0.113 per share of common stock. The dividend is payable December 16, 2019 to shareholders of record on November 29, 2019.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

Valvoline's Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO"), with the assistance of management, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended ("Exchange Act")), as of the end of the period covered by this Annual Report on Form 10-K (the "Evaluation Date"), and based upon such evaluation, have concluded that as of the Evaluation Date, the Company's disclosure controls and procedures were effective. These controls are designed to ensure that information required to be disclosed in the reports that are filed or submitted under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission ("SEC"), and that such information is accumulated and communicated to Valvoline's management, including the CEO and CFO, to allow timely decisions regarding required disclosure.

Management's report on internal control over financial reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Management assessed the effectiveness of the Company's internal control over financial reporting as of September 30, 2019 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in the 2013 Internal Control - Integrated Framework. Based on this assessment, management concluded that the Company's internal control over financial reporting was effective as of September 30, 2019 based on those criteria. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. Valvoline's independent registered public accounting firm, Ernst & Young LLP, has issued an audit report with respect to the effectiveness of the Company's internal control over financial reporting as of September 30, 2019, which appears herein.

Changes in internal control

During the fourth fiscal quarter ended September 30, 2019, management implemented new internal controls in order to facilitate adoption of the new lease accounting standard on October 1, 2019. There were no other changes in Valvoline's internal control over financial reporting during the fourth fiscal quarter ended September 30, 2019 that materially affected, or are reasonably likely to materially affect, Valvoline's internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of
Valvoline Inc. and Consolidated Subsidiaries

Opinion on Internal Control over Financial Reporting

We have audited Valvoline Inc. and Consolidated Subsidiaries' internal control over financial reporting as of September 30, 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Valvoline Inc. and Consolidated Subsidiaries (the Company) maintained, in all material respects, effective internal control over financial reporting as of September 30, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of September 30, 2019 and 2018, the related consolidated statements of comprehensive income, stockholders' deficit and cash flows for each of the three years in the period ended September 30, 2019, and the related notes and financial statement schedule listed in the Index at Item 15(a) and our report dated November 22, 2019, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Cincinnati, Ohio
November 22, 2019

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

A list of Valvoline's executive officers and related information appears under the caption "Executive Officers of Valvoline" in Part I, Item 1 of this Annual Report on Form 10-K. The other information required by this item will be included under the captions, "Proposal One - Election of Directors," "Corporate Governance - Overview of Governance Principles," "Corporate Governance - Shareholder Recommendations for and Nominations of Directors," "Audit Committee Report," and "Corporate Governance - Delinquent Section 16(a) Reports" in Valvoline's Proxy Statement for its 2020 Annual Meeting of Shareholders ("2020 Proxy Statement"), which will be filed with the SEC within 120 days after September 30, 2019, and is incorporated herein by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item will be included under the captions "Compensation of Directors," "Corporate Governance - Compensation Committee Interlocks and Insider Participation," "Corporate Governance - The Board's Role in Risk Oversight," "Executive Compensation," "Compensation Discussion and Analysis," "Summary Compensation Table," "Grants of Plan-Based Awards for Fiscal 2019," "Outstanding Equity Awards at Fiscal 2019 Year End," "Option Exercises and Stock Vested for Fiscal 2019," "Pension Benefits for Fiscal 2019," "Non-Qualified Deferred Compensation for Fiscal 2019," "Potential Payments Upon Termination or Change in Control for Fiscal 2019 Table," "CEO Pay Ratio," and "Report of the Compensation Committee" in Valvoline's 2020 Proxy Statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this item will be included under the captions "Stock Ownership Information" and "Equity Compensation Plan Information" in Valvoline's 2020 Proxy Statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by this item will be included under the captions "Corporate Governance - Valvoline's Board of Directors - Independence," and "Corporate Governance - Related Person Transaction Policy" in Valvoline's 2020 Proxy Statement and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is set forth under the captions "Audit Committee Matters" and "Proposal Two - Ratification of Independent Registered Public Accounting Firm" in Valvoline's 2020 Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

(a) Documents filed as part of this Report

(1) Financial statements

The consolidated financial statements of Valvoline filed as part of this Annual Report on Form 10-K are included under Part II, Item 8.

Separate financial statements of unconsolidated affiliates are omitted because none of these companies constitute significant subsidiaries using the 20% tests when considered individually. Summarized financial information for all unconsolidated affiliates is disclosed in Note 6 of the Notes to Consolidated Financial Statements.

(2) Financial statement schedule

Financial Statement Schedule II - Valuation and Qualifying Accounts included in this Form 10-K. All other schedules are not required under the related instructions or are not applicable.

(3) Exhibits

See Item 15(b) included in this Annual Report on Form 10-K.

(b) Documents required by Item 601 of Regulation S-K

- 3.1 - Amended and Restated Articles of Incorporation of Valvoline Inc. (incorporated by reference to Exhibit 3.1 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 3.2 - Amended and Restated By-laws of Valvoline Inc. (incorporated by reference to Exhibit 3.2 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 4.1 - Specimen Stock Certificate (incorporated by reference to Exhibit 4.1 to Valvoline's Registration Statement on Form S-1 (File No. 333-211720) filed on September 12, 2016).
- 4.2 - Indenture, dated as of July 20, 2016, among Valvoline Inc. (as successor to Valvoline Finco Two LLC), Ashland Inc., the Subsidiary Guarantors, and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 10.10 to Valvoline's Registration Statement on Form S-1 (File No. 333-211720) filed on September 12, 2016).
- 4.3 - First Supplemental Indenture, dated as of September 26, 2016, among Valvoline Inc., the Subsidiary Guarantors and U.S. Bank National Association, as trustee to the Indenture dated as of July 20, 2016 among Valvoline Inc. (as successor to Valvoline Finco Two LLC), Ashland Inc., the subsidiary guarantor, and U.S. Bank National Association, as trustee (incorporated by reference to Exhibit 4.3 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 4.4 - Indenture, dated as of August 8, 2017, among Valvoline Inc., the Subsidiary Guarantors, and U.S. Bank National Association, as Trustee (incorporated by reference to Exhibit 4.1 to Valvoline's Quarterly Report on Form 10-Q (File No. 001-37884) filed on August 8, 2017).
- 4.5* - Description of Securities.

The following Exhibits 10.1 through 10.21 are contracts or compensatory plans or arrangements or management contracts required to be filed as exhibits pursuant to Items 601(b)(10)(ii)(A) and 601(b)(10)(iii)(A) and (B) of Regulations S-K.

- 10.1 - Valvoline Inc. 2016 Deferred Compensation Plan for Employees (incorporated by reference to Exhibit 10.1 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.2 - Valvoline Inc. 2016 Deferred Compensation Plan for Non-Employee Directors (incorporated by reference to Exhibit 10.6 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.3 - 2016 Valvoline Inc. Incentive Plan, as Amended (incorporated by reference to Exhibit 10.1 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on February 5, 2019).
- 10.4 - Valvoline Inc. Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.1 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on February 5, 2018).

- 10.5 - Form of (Outside Directors) Restricted Stock Award Agreement pursuant to the 2016 Valvoline Inc. Incentive Plan (incorporated by reference to Exhibit 10.3 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.6 - Form of Performance Unit Award Agreement pursuant to the 2016 Valvoline Inc. Incentive Plan (incorporated by reference to Exhibit 10.5 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.7 - Form of Stock Appreciation Right Award Agreement pursuant to the 2016 Valvoline Inc. Incentive Plan (incorporated by reference to Exhibit 10.6 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.8 - Form of Restricted Stock Unit Award Agreement pursuant to the 2016 Valvoline Inc. Incentive Plan (incorporated by reference to Exhibit 10.7 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 10.9 - Form of Restricted Stock Unit Award Agreement (Cash-Settled) pursuant to the 2016 Valvoline Inc. Incentive Plan (incorporated by reference to Exhibit 10.8 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.10 - Valvoline Inc. Nonqualified Defined Contribution Plan (incorporated by reference to Exhibit 10.4 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.11 - Ashland Inc. Nonqualified Excess Benefit Pension Plan (incorporated by reference to Exhibit 10.12 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 10.12 - Amendment to Ashland Inc. Nonqualified Excess Benefit Pension Plan, effective as of September 1, 2016 (incorporated by reference to Exhibit 10.7 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.13 - Amendment to Ashland Inc. Nonqualified Excess Benefit Pension Plan, effective as of September 30, 2016 (incorporated by reference to Exhibit 10.9 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.14 - Ashland Inc. Supplemental Early Retirement Plan for Certain Employees ("Ashland SERP") (incorporated by reference to Exhibit 10.15 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 10.15 - Amendment to Ashland SERP, effective as of January 1, 2015 (incorporated by reference to Exhibit 10.16 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 10.16 - Amendment to Ashland SERP, effective as of September 1, 2016 (incorporated by reference to Exhibit 10.17 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on November 17, 2017).
- 10.17 - Amendment to Ashland SERP, effective as of September 30, 2016 (incorporated by reference to Exhibit 10.8 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.18 - Form of CEO Change in Control Agreement (incorporated by reference to Exhibit 10.1 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.19 - Form of Executive Officer Change in Control Agreement (incorporated by reference to Exhibit 10.2 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.20 - Valvoline Change in Control Severance Plan (incorporated by reference to Exhibit 10.3 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.21 - Valvoline Severance Pay Plan (incorporated by reference to Exhibit 10.4 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on May 15, 2017).
- 10.22 - Credit Agreement dated as of July 11, 2016, among Valvoline Finco One LLC, as Initial Borrower, The Bank of Nova Scotia, as Administrative Agent, Swing Line Lender and an L/C Issuer, Citibank, N.A., as Syndication Agent, and the Lenders from time to time party thereto ("Valvoline Credit Agreement") (incorporated by reference to Exhibit 10.9 to Valvoline's Registration Statement on Form S-1 (File No. 333-211720) filed on September 12, 2016).
- 10.23 - Amendment No. 1, dated as of September 21, 2016, to Valvoline Credit Agreement (incorporated by reference to Exhibit 10.11 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).

- 10.24 - Amendment and Restatement Agreement, dated as of April 12, 2019, among Valvoline Inc. ("Valvoline"), as the Borrower, the subsidiaries of Valvoline party thereto, The Bank of Nova Scotia, as Administrative Agent, and the Lenders party thereto (including Exhibit A - Amended and Restated Credit Agreement, dated as of April 12, 2019, among Valvoline, the Administrative Agent, Citibank N.A., as Syndication Agent, and the other Lenders party thereto) (incorporated by reference to Exhibit 10.1 to Valvoline's Quarterly Report on Form 10-Q (File No. 001-37884) filed on May 2, 2019).
- 10.25 - Transfer and Administration Agreement, dated as of November 29, 2016, among LEX Capital LLC, Valvoline LLC, and each other entity from time to time party hereto as an Originator, as Originators, Valvoline LLC, as initial Master Servicer, PNC Bank, National Association, as the Agent, a Letter of Credit Issuer, a Managing Agent and a Committed Investor, The Bank of Tokyo-Mitsubishi UFJ, Ltd., New York Branch, as a Managing Agent, an Administrator and a Committed Investor, Gotham Funding Corporation, as a Conduit Investor and an Uncommitted Investor, PNC Capital Markets, LLC, as Structuring Agent and the various investor groups, managing agents, letter of credit issuers and Administrators from time to time parties thereto (incorporated by reference to Exhibit 10.1 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on December 2, 2016).
- 10.26 - First Amendment to the Transfer and Administration Agreement, dated as of November 20, 2017, among Valvoline LLC, Lex Capital LLC, the Originators, the Investors, Letter of Credit Issuers, Managing Agents and Administrators party thereto, and PNC Bank National Association, as agent for the Investors (incorporated by reference to Exhibit 10.1 to Valvoline Current Report on Form 10-Q (File No. 001-37884) filed on February 8, 2018).
- 10.27 - Sale Agreement, dated as of November 29, 2016, by and between Valvoline LLC and LEX Capital LLC (incorporated by reference to Exhibit 10.2 to Valvoline Current Report on Form 8-K (File No. 001-37884) filed on December 2, 2016).
- 10.28 - Parent Undertaking, dated as of November 29, 2016, by Valvoline Inc. in favor of PNC Bank National Association and the Secured Parties. (incorporated by reference to Exhibit 10.3 to Valvoline's Current Report on Form 8-K (File No. 001-37884) filed on December 2, 2016).
- 10.29 - Separation Agreement, dated as of September 22, 2016, by and between Ashland Global Holdings Inc. and Valvoline Inc. (incorporated by reference to Exhibit 10.15 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.30 - Transition Services Agreement, dated as of September 22, 2016, by and between Ashland Global Holdings Inc. and Valvoline Inc. (incorporated by reference to Exhibit 10.16 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.31 - Reverse Transition Services Agreement, dated as of September 22, 2016, by and between Valvoline Inc. and Ashland Global Holdings Inc. (incorporated by reference to Exhibit 10.17 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.32 - Tax Matters Agreement, dated as of September 22, 2016, by and between Ashland Global Holdings Inc. and Valvoline Inc. (incorporated by reference to Exhibit 10.18 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.33 - Employee Matters Agreement, dated as of September 22, 2016, by and between Ashland Global Holdings Inc. and Valvoline Inc. (incorporated by reference to Exhibit 10.19 to Valvoline's Annual Report on Form 10-K (File No. 001-37884) filed on December 19, 2016).
- 10.34** - Supplier Terms & Conditions Agreement between Valvoline and Genuine Parts Company (NAPA oil), effective as of January 1, 2016 (incorporated by reference to Exhibit 10.7 to Valvoline's Registration Statement on Form S-1 (File No. 333-211720) filed on August 23, 2016).
- 10.35** - Supplier Terms & Conditions Agreement between Valvoline and Genuine Parts Company (Valvoline Oil), effective as of January 1, 2016 (incorporated by reference to Exhibit 10.8 to Valvoline's Registration Statement on Form S-1 (File No. 333-211720) filed on September 12, 2016).
- 21* - List of Subsidiaries.
- 23.1* - Consent of Ernst & Young LLP.
- 24* - Power of Attorney.
- 31.1* - Certification of Samuel J. Mitchell, Jr., Chief Executive Officer of Valvoline, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2* - Certification of Mary E. Meixelsperger, Chief Financial Officer of Valvoline, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

- 32* - Certification of Samuel J. Mitchell, Jr., Chief Executive Officer of Valvoline, and Mary E. Meixelsperger, Chief Financial Officer of Valvoline, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS - XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
- 101.SCH - XBRL Taxonomy Extension Schema Document.
- 101.CAL - XBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF - XBRL Taxonomy Extension Definition Linkbase Document.
- 101.LAB - XBRL Taxonomy Extension Label Linkbase Document.
- 101.PRE - XBRL Taxonomy Extension Presentation Linkbase Document.
- 104 - Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Confidential treatment previously granted for certain portions which are omitted in the copy of the exhibit electronically filed with the SEC. The omitted information has been filed separately with the SEC pursuant to Valvoline's application for confidential treatment.

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

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

[†] Trademark owned by a third party.

Upon written or oral request, a copy of the above exhibits will be furnished at cost.

VALVOLINE INC.
SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
For the years ended September 30, 2019, 2018 and 2017
(In millions)

(A)	(B)	(C)		(D)	(E)
Description	Balance at beginning of period	Additions		Deductions	Balance at end of period
		Charged to expenses	Charged to other accounts		
Allowance for doubtful accounts					
Year ended September 30, 2019	\$ 7	\$ —	\$ —	\$ (1)	\$ 6
Year ended September 30, 2018	\$ 5	\$ 2	\$ 1	\$ (1)	\$ 7
Year ended September 30, 2017	\$ 5	\$ 1	\$ —	\$ (1)	\$ 5
Inventory excess and obsolete reserves					
Year ended September 30, 2019	\$ 3	\$ —	\$ —	\$ —	\$ 3
Year ended September 30, 2018	\$ 3	\$ —	\$ —	\$ —	\$ 3
Year ended September 30, 2017	\$ 2	\$ 1	\$ —	\$ —	\$ 3
Deferred tax asset valuation allowance					
Year ended September 30, 2019	\$ 7	\$ —	\$ —	\$ (5)	\$ 2
Year ended September 30, 2018	\$ 8	\$ —	\$ —	\$ (1)	\$ 7
Year ended September 30, 2017	\$ 12	\$ —	\$ —	\$ (4)	\$ 8

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

VALVOLINE INC.

(Registrant)

By:

/s/ Mary E. Meixelsperger

Mary E. Meixelsperger

Chief Financial Officer

Date: November 22, 2019

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant, in the capacities indicated, on November 22, 2019.

<u>Signatures</u>	<u>Capacity</u>
<u>/s/ Samuel J. Mitchell, Jr.</u> Samuel J. Mitchell, Jr.	Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Mary E. Meixelsperger</u> Mary E. Meixelsperger	Chief Financial Officer (Principal Financial Officer)
<u>/s/ Michael S. Ryan</u> Michael S. Ryan	Controller and Chief Accounting Officer (Principal Accounting Officer)
<u>*</u> Stephen F. Kirk	Chairman of the Board and Director
<u>*</u> Richard J. Freeland	Director
<u>*</u> Carol H. Kruse	Director
<u>*</u> Stephen E. Macadam	Director
<u>*</u> Vada O. Manager	Director
<u>*</u> Charles M. Sonsteby	Director
<u>*</u> Mary J. Twinem	Director

*By: /s/ Julie M. O'Daniel

Julie M. O'Daniel

Attorney-in-Fact

Date: November 22, 2019

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DRIVEN TO SERVE

Through hands-on service, focused generosity and the continuous pursuit of innovative and sustainable solutions, Valvoline works to build communities that are healthier and have a more promising future.

Read our Corporate Social Responsibility Report, at csr.valvoline.com



Valvoline's South Africa team volunteers with Kids Haven, a Johannesburg organization that provides care, education and security to children who have experienced trauma and deprivation.



Valvoline has a long history with Habitat for Humanity. In 2019, we helped dedicate our 15th Habitat home.

Shareholder Information

Financial Information

Valvoline's annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports, as well as any beneficial ownership reports of officers and directors available at <http://investors.valvoline.com/sec-filings> after they are filed with the Securities and Exchange Commission.

Paper copies are also available upon request and at no charge. Requests for these and other shareholder and security analyst inquiries should be directed to:

Sean T. Cornett
Investor Relations
Valvoline Inc.
100 Valvoline Way
Lexington, KY 40509
+1 (859) 357-3155
scornett@valvoline.com

Ticker Symbol: VV

Fiscal 2019 closing stock prices per common share:

High:	\$22.96	02/05/2019
Low:	\$17.22	05/02/2019
Year-end:	\$22.03	09/30/2019

Annual Meeting

The annual meeting of shareholders will be at Valvoline World Headquarters, 100 Valvoline Way, Lexington, Kentucky, at 8 a.m. ET Thursday, Jan. 30, 2020.

Stock Information

Valvoline Inc. is incorporated under the laws of the Commonwealth of Kentucky. Valvoline common stock is listed on the New York Stock Exchange.

Questions regarding shareholder accounts or dividends should be directed to Valvoline's transfer agent and registrar:

EQ Shareowner Services
1110 Centre Point Curve, Suite 101
Mendota Heights, MN 55120
Mailing Address:
EQ Shareowner Services
P.O. Box 64874
St. Paul, MN 55164-0874
+1 (800) 468-9716 toll-free (U.S.)
+1 (651) 450-4064 (non-U.S.)
www.shareowneronline.com

Dividends

Valvoline's current quarterly cash dividend is \$0.113 per share.

Valvoline offers electronic deposit of dividend checks. For more information, please contact EQ Shareowner Services at:

+1 (800) 468-9716 toll-free (U.S.)
+1 (651) 450-4064 (non-U.S.)

Independent Registered Public Accounting Firm

Ernst & Young LLP
312 Walnut Street
Suite 1900
Cincinnati, OH 45202

Media Inquiries

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