BORGWARNER INC
Form 10-K
February 09, 2017

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington D.C. 20549
Form 10-K
ANNUAL REPORT

(Mark One)
þ Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2016
OR
o 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: 1-12162
BorgWarner Inc.
(Exact name of registrant as specified in its charter)

Delaware	13-3404508
State or other jurisdiction of Incorporation or organization	(I.R.S. Employer Identification No.)

3850 Hamlin Road,
Auburn Hills, Michigan 48326
(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code: (248) 754-9200
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, par value $0.01 per share	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 þ No o
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 o No þ
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 þ No o
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K þ

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer þ Accelerated filer o Non-accelerated filer o Smaller reporting company o
(Do not check if a smaller reporting company)
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes o No þ
The aggregate market value of the voting common stock of the registrant held by stockholders (not including voting common stock held by directors and executive officers of the registrant) on June 30, 2016 (the last business day of the most recently completed second fiscal quarter) was approximately $6.3 billion.

As of February 3, 2017, the registrant had 212,690,967 shares of voting common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the following documents are incorporated herein by reference into the Part of the Form 10-K indicated.

Document	Part of Form 10-K into which incorporated
Portions of the BorgWarner Inc. Proxy Statement for the 2017 Annual Meeting of Stockholders	Part III

BORGWARNER INC.
FORM 10-K
YEAR ENDED DECEMBER 31, 2016
INDEX

CAUTIONARY STATEMENTS FOR FORWARD-LOOKING INFORMATION

Statements contained in this Form 10-K (including Management's Discussion and Analysis of Financial Condition and Results of Operations) may contain forward-looking statements as contemplated by the 1995 Private Securities Litigation Reform Act (the “Act”) that are based on management's current outlook, expectations, estimates and projections. Words such as "anticipates," "believes," "continues," "could," "designed," "effect," "estimates," "evaluates," "expects," "forecasts," "goal," "initiative," "intends," "outlook," "plans," "potential," "project," "pursue," "seek," "should," "target," "when," "would," and variations of such words and similar expressions are intended to identify such forward-looking statements. All statements, other than statements of historical fact contained or incorporated by reference in this Form 10-K, that we expect or anticipate will or may occur in the future regarding our financial position, business strategy and measures to implement that strategy, including changes to operations, competitive strengths, goals, expansion and growth of our business and operations, plans, references to future success and other such matters, are forward-looking statements. Accounting estimates, such as those described under the heading "Critical Accounting Policies" in Item 7 of this Annual Report on Form 10-K, are inherently forward-looking. These statements are based on assumptions and analyses made by us in light of our experience and our perception of historical trends, current conditions and expected future developments, as well as other factors we believe are appropriate in the circumstances. Forward-looking statements are not guarantees of performance and the Company's actual results may differ materially from those expressed, projected or implied in or by the forward-looking statements.

You should not place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report. Forward-looking statements are subject to risks and uncertainties, many of which are difficult to predict and generally beyond our control. Such risks and uncertainties include: fluctuations in domestic or foreign vehicle production; the continued use by original equipment manufacturers of outside suppliers, the ability to achieve anticipated benefits from, and to successfully integrate, acquisitions, fluctuations in demand for vehicles containing our products; changes in general economic conditions; and the other risks noted under Item 1A, “Risk Factors,” and in other reports that we file with the Securities and Exchange Commission. We do not undertake any obligation to update or announce publicly any updates to or revision to any of the forward-looking statements in this Form 10-K to reflect any change in our expectations or any change in events, conditions, circumstances, or assumptions underlying the statements.

This section and the discussions contained in Item 1A, "Risk Factors," and in Item 7, subheading "Critical Accounting Policies" in this report, are intended to provide meaningful cautionary statements for purposes of the safe harbor provisions of the Act. This should not be construed as a complete list of all of the economic, competitive, governmental, technological and other factors that could adversely affect our expected consolidated financial position, results of operations or liquidity. Additional risks and uncertainties not currently known to us or that we currently believe are immaterial also may impair our business, operations, liquidity, financial condition and prospects.

Use of Non-GAAP Financial Measures

In addition to results presented in accordance with accounting principles generally accepted in the United States of America (“GAAP”), this report includes non-GAAP financial measures. The Company believes these non-GAAP financial measures provide additional information that is useful to investors in understanding the underlying performance and trends of the Company. Readers should be aware that non-GAAP financial measures have inherent limitations and should be cautious with respect to the use of such measures. To compensate for these limitations, we use non-GAAP measures as comparative tools, together with GAAP measures, to assist in the evaluation of our operating performance or financial condition. We ensure that these measures are calculated using the appropriate GAAP or regulatory components in their entirety and that they are computed in a manner intended to facilitate consistent period-to-period

3

comparisons. The Company's method of calculating these non-GAAP measures may differ from methods used by other companies. These non-GAAP measures should not be considered in isolation or as a substitute for those financial measures prepared in accordance with GAAP or in-effect regulatory requirements. Where non-GAAP financial measures are used, the most directly comparable GAAP or regulatory financial measure, as well as the reconciliation to the most directly comparable GAAP or regulatory financial measure, can be found in this report.

PART I

ITEM 1. BUSINESS

BorgWarner Inc. and Consolidated Subsidiaries (the "Company") is a Delaware corporation incorporated in 1987. We are a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. Our products help improve vehicle performance, propulsion efficiency, stability and air quality. These products are manufactured and sold worldwide, primarily to original equipment manufacturers ("OEMs") of light vehicles (passenger cars, sport-utility vehicles ("SUVs"), vans and light trucks). The Company's products are also sold to other OEMs of commercial vehicles (medium-duty trucks, heavy-duty trucks and buses) and off-highway vehicles (agricultural and construction machinery and marine applications). We also manufacture and sell our products to certain Tier One vehicle systems suppliers and into the aftermarket for light, commercial and off-highway vehicles. The Company operates manufacturing facilities serving customers in Europe, the Americas and Asia and is an original equipment supplier to every major automotive OEM in the world.

Financial Information About Reporting Segments

Refer to Note 19, "Reporting Segments and Related Information," to the Consolidated Financial Statements in Item 8 of this report for financial information about the Company's reporting segments.

Narrative Description of Reporting Segments

The Company reports its results under two reporting segments: Engine and Drivetrain. Net sales by reporting segment for the years ended December 31, 2016, 2015 and 2014 are as follows:

	Year Ended December 31,		
(millions of dollars)	2016	2015	2014
Engine	$5,590.1	$5,500.0	$5,705.9
Drivetrain	3,523.7	2,556.7	2,631.4
Inter-segment eliminations	(42.8)	(33.5)	(32.2)
Net sales	$9,071.0	$8,023.2	$8,305.1

The sales information presented above excludes the sales by the Company's unconsolidated joint ventures (See sub-heading "Joint Ventures"). Such unconsolidated sales totaled approximately $737 million, $650 million and $694 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Engine

The Engine Segment develops and manufactures products to improve fuel economy, reduce emissions and enhance performance. Increasingly stringent regulation of, and consumer demand for, better fuel economy and emissions performance are driving demand for the Engine Segment's products in gasoline and diesel engines and alternative powertrains. The Engine Segment's technologies include: turbochargers, timing systems, emissions systems, thermal systems, thermostats, diesel cold start and gasoline ignition technology.

Turbochargers provide several benefits including increased power for a given engine size, improved fuel economy and reduced emissions. The Engine Segment has benefited from the growth in turbocharger demand around the world for both diesel and gasoline engines. The Engine Segment provides turbochargers for light, commercial and off-highway applications for diesel and gasoline engine manufacturers in the Americas, Europe and Asia. The Engine Segment also designs and manufactures turbocharger actuators using integrated electronics to precisely control turbocharger speed and pressure ratio.

Sales of turbochargers for light vehicles represented approximately 28%, 31% and 28% of total net sales for the years ended December 31, 2016, 2015 and 2014, respectively. The Engine Segment currently supplies turbochargers to many OEMs including BMW, Daimler, Fiat Chrysler Automobiles ("FCA"), Ford, General Motors, Great Wall, Hyundai, Renault, Volkswagen and Volvo. The Engine Segment also supplies turbochargers to several commercial vehicle and off-highway OEMs including Caterpillar, Daimler, Deutz, John Deere, MAN, Navistar and Weichai.

The Engine Segment's turbocharger technologies include regulated two-stage turbocharging system, known as R2S®, regulated 3-stage turbocharging systems known as R3S™, variable turbine geometry ("VTG") turbochargers for diesel engines and turbochargers for gasoline direct injected engines, all of which may be found in numerous applications around the world. For example, the Engine Segment supplies its award winning VTG turbocharger technology to VW, BMW, FCA, Hyundai, Volvo and Renault. Also, the Engine Segment supplies its award winning R2S® turbocharger technology to Volkswagen for its high-performing 2.0 liter diesel engine and its R3S™ turbocharger system, an industry first, to BMW for its high-powered 3.0 diesel engine. Ford selected the Engine Segment's leading gasoline turbocharger technology for its 1.5 liter, 1.6 liter and 2.0 liter four-cylinder EcoBoost engines, as did Volvo and JLR for its new four-cylinder gasoline engines.

The Engine Segment's timing systems enable precise control of air and exhaust flow through the engine, improving fuel economy and emissions. The Engine Segment's timing systems products include timing chain, variable cam timing (“VCT”), crankshaft and camshaft sprockets, tensioners, guides and snubbers, HY-VO® front-wheel drive (“FWD”) transmission chain and four-wheel drive (“4WD”) chain for light vehicles. The Engine Segment is a leading manufacturer of timing systems to OEMs around the world.

The Engine Segment's engine timing technology includes VCT with mid position lock, which allows a greater range of camshaft positioning thereby enabling greater control over airflow and the opportunity to improve fuel economy, reduce emissions and improve engine performance compared with conventional VCT systems.

The Engine Segment's emissions systems products improve emissions performance and fuel economy. Products include electric air pumps and exhaust gas recirculation ("EGR") modules, EGR coolers, EGR tubes and EGR valves for gasoline and diesel applications, glow plugs and instant starting systems that enhance combustion for diesel engines during cold starts, pressure sensor glow plugs that also monitor the combustion process of a diesel engine and advanced ignition technology for gasoline engines, diesel cold start systems and other gasoline ignition technologies.

On February 28, 2014, the Company acquired 100% of the equity interests in Gustav Wahler GmbH u. Co. KG and its general partner ("Wahler"). Wahler was a producer of EGR valves, EGR tubes and thermostats, and had operations in Germany, Brazil, the U.S., China and Slovakia. The Wahler acquisition is expected to strengthen the Company's strategic position as a producer of complete EGR systems and create additional market opportunities in both passenger and commercial vehicle applications.

The Engine Segment's thermal systems products are designed to optimize engine temperatures and minimize parasitic horsepower losses, which improve engine efficiency, fuel economy and emissions performance. Products include viscous fan drives that sense and respond to multiple cooling requirements, polymer fans and coolant pumps.

The Company sold its spark plug businesses during the third quarter of 2012. The sale of this business will allow the Company to continue to focus on expanding its core products of glow plugs, diesel cold start systems and other gasoline ignition technologies.

Drivetrain

The Drivetrain Segment develops and manufactures mechanical products for automatic transmissions and all-wheel drive ("AWD") vehicles and rotating electrical components for light and commercial vehicle OEMs and the aftermarket. Precise controls, better response times and minimal parasitic losses, all of which improve fuel economy and vehicle performance, are the core design features of the Drivetrain Segment's mechanical product portfolio. The core design features of its rotating electrical components portfolio are meeting the demands of increasing vehicle electrification, improved fuel efficiency, reduced weight, and lowered electrical and mechanical noise. The Drivetrain Segment's mechanical products include friction, mechanical and controls products for automatic transmissions and torque management products for AWD vehicles, and its rotating electrical components include starter motors, alternators and electric motors for hybrid and electric vehicles.

Friction and mechanical products for automatic transmissions include dual clutch modules, friction clutch modules, friction and steel plates, transmission bands, torque converter clutches, one-way clutches and torsional vibration dampers. Controls products for automatic transmissions feature electro-hydraulic solenoids for standard and high pressure hydraulic systems, transmission solenoid modules and dual clutch control modules. The Company's 50%-owned joint venture in Japan, NSK-Warner KK ("NSK-Warner"), is a leading producer of friction plates and one-way clutches in Japan and China.

The Drivetrain Segment has led the globalization of today's dual clutch transmission ("DCT") technology for over 10 years. BorgWarner's award-winning DualTronic® technology enables a conventional, manual gearbox to function as a fully automatic transmission by eliminating the interruption in power flow that occurs when shifting a single clutch manual transmission. The result is a smooth shifting automatic transmission with the fuel efficiency and driving experience of a manual gearbox.

The Drivetrain Segment established its industry-leading position in 2003 with the production launch of its DualTronic® innovations with VW/Audi, followed by program launches with Ford and BMW. In 2007, the Drivetrain Segment launched its first dual-clutch technology application in a Japanese transmission with Nissan. In 2008, the Company entered into a joint venture agreement with China Automobile Development United Investment Company, a company owned by 12 leading Chinese automakers, to produce various DCT modules for the Chinese market. The Company owns 66% of the joint venture. In 2013, the Drivetrain Segment launched its first DCT application in a Chinese transmission with SAIC. The Drivetrain Segment is working on several other DCT programs with OEMs around the world.

The Drivetrain Segment's torque management products include rear-wheel drive (“RWD”)-AWD transfer case systems, FWD-AWD coupling systems and cross-axle coupling systems. The Drivetrain Segment's focus is on developing electronically controlled torque management devices and systems that will benefit fuel economy and vehicle dynamics.

Transfer cases are installed on RWD based light trucks, SUVs, cross-over utility vehicles, and passenger cars. A transfer case attaches to the transmission and distributes torque to the front and rear axles improving vehicle traction and stability in dynamic driving conditions. There are many variants of the Drivetrain Segment's transfer case technology in the market today, including Torque On-Demand (TOD®), chain-driven, gear-driven, Pre-Emptive, Part-Time, 1-speed and 2-speed transfer cases. The Drivetrain Segment's transfer cases are featured on the Ford and Dodge Ram light-duty and heavy-duty trucks.

The Drivetrain Segment is involved in the AWD market for FWD based vehicles with couplings that use electronically-controlled clutches to distribute power to the rear wheels as traction is required. The Drivetrain Segment's latest coupling innovation, the Centrifugal Electro-Hydraulic (“CEH”) Actuator, which is utilized to engage the clutches in the coupling, produces outstanding vehicle stability and traction while promoting better fuel economy with reduced weight. The CEH Actuator is found in the AWD couplings featured in several current FWD-AWD vehicles.

In 2015, the Company acquired Remy International, Inc. (“Remy”), a global market leader in the design, manufacture, remanufacture and distribution of rotating electrical components for light and commercial vehicles, OEMs and the aftermarket. Principal products include starter motors, alternators and hybrid electric motors. The Company’s starter motors and alternators are used in gasoline, diesel, natural gas and alternative fuel engines for light vehicle, commercial vehicle, industrial, construction and agricultural applications. The product technology continues to evolve to meet the demands of increasing vehicle electrical loads, improved fuel efficiency, reduced weight and lowered electrical and mechanical noise. The Company’s hybrid electric motors are used in both light and commercial vehicles including construction, public transit and agricultural applications. These include both pure electric applications as well as hybrid applications, where the electric motors are combined with traditional gasoline or diesel propulsion systems. While the market for these systems is in early stages of development, BorgWarner’s technology and capabilities are ideally suited for this growing product category.

In 2016, the Company sold the Remy light vehicle aftermarket business, which sells remanufactured and new starters, alternators and multi-line products to aftermarket customers, mainly retailers in North America, and warehouse distributors in North America, South America and Europe. The sale of this business allows the Company to focus on the rapidly developing original equipment manufacturer electrification trend in propulsion systems.

The Company sells new starters, alternators and hybrid electric motors to OEMs globally for factory installation on new vehicles, and remanufactured and new starters and alternators to heavy duty aftermarket customers outside of Europe and to OEMs for original equipment service. As a leading remanufacturer, BorgWarner obtains used starters and alternators, commonly referred to as cores, then disassembles, cleans, combines them with new subcomponents and reassembles them into saleable, finished products, which are tested to meet OEM requirements.

In 2011, the Company acquired the Traction Systems division of Haldex Group, a leading provider of innovative AWD products for the global vehicle industry headquartered in Stockholm, Sweden. This acquisition has accelerated BorgWarner's growth in the global AWD market as it continues to shift toward FWD based vehicles. The acquisition adds industry leading AWD technologies for FWD based vehicles, with a strong European customer base, to BorgWarner's portfolio of front- and rear-wheel drive based products and enables BorgWarner to offer global customers a broader range of AWD solutions to meet their vehicle needs.

Joint Ventures

As of December 31, 2016, the Company had seven joint ventures in which it had a less-than-100% ownership interest. Results from the five joint ventures in which the Company is the majority owner are consolidated as part of the Company's results. Results from the two joint ventures in which the Company's effective ownership interest is 50% or less, were reported by the Company using the equity method of accounting.

In August 2016, the Company sold its 60% ownership interest in Divgi-Warner Private Limited to the joint venture partner. This former joint venture was formed in 1995 to develop and manufacture transfer cases and synchronizer rings in India. As a result of the sale, the Company received cash proceeds of approximately $5.4 million, net of capital gains tax and cash divested, which is classified as an investing activity within the Condensed Consolidated Statement of Cash Flows.

Management of the unconsolidated joint ventures is shared with the Company's respective joint venture partners. Certain information concerning the Company's joint ventures is set forth below:

Joint venture	Products	Year organized	Percentage owned by the Company		Location of operation	Joint venture partner	Fiscal 2016 net sales (millions of dollars) (a)
Unconsolidated:							
NSK-Warner	Transmission components	1964	50	%	Japan/China	NSK Ltd.	$ 601.8
Turbo Energy Private Limited (b)	Turbochargers	1987	32.6	%	India	Sundaram Finance Limited; Brakes India Limited	$ 135.2
Consolidated:							
BorgWarner Transmission Systems Korea Ltd. (c)	Transmission components	1987	60	%	Korea	NSK-Warner	$ 292.0
Borg-Warner Shenglong (Ningbo) Co. Ltd.	Fans and fan drives	1999	70	%	China	Ningbo Shenglong Automotive Powertrain Systems Co., Ltd.	$ 33.4
BorgWarner TorqTransfer Systems Beijing Co. Ltd.	Transfer cases	2000	80	%	China	Beijing Automotive Components Stock Co. Ltd.	$ 114.6
SeohanWarner Turbo Systems Ltd.	Turbochargers	2003	71	%	Korea	Korea Flange Company	$ 314.1
BorgWarner United Transmission Systems Co. Ltd.	Transmission components	2009	66	%	China	China Automobile Development United Investment Co., Ltd.	$ 43.2

(a) All sales figures are for the year ended December 31, 2016, except NSK-Warner and Turbo Energy Private Limited. NSK-Warner’s sales are reported for the 12 months ended November 30, 2016. Turbo Energy Private Limited’s sales are reported for the 12 months ended September 30, 2016.

(b) The Company made purchases from Turbo Energy Private Limited totaling $28.9 million, $36.5 million and $36.5 million for the years ended December 31, 2016, 2015 and 2014, respectively.

(c) BorgWarner Inc. owns 50% of NSK-Warner, which has a 40% interest in BorgWarner Transmission Systems Korea Ltd. This gives the Company an additional indirect effective ownership percentage of 20%, resulting in a total effective ownership interest of 80%.

Financial Information About Geographic Areas

During the year ended December 31, 2016, approximately 75% of the Company's consolidated net sales were outside the United States ("U.S."), attributing sales to the location of production rather than the location of the customer.

Refer to Note 19, “Reporting Segments and Related Information,” to the Consolidated Financial Statements in Item 8 of this report for financial information about geographic areas.

Product Lines and Customers

During the year ended December 31, 2016, approximately 81% of the Company's net sales were for light-vehicle applications; approximately 9% were for commercial vehicle applications; approximately 4% were for off-highway vehicle applications; and approximately 6% were to distributors of aftermarket replacement parts.

The Company’s worldwide net sales to the following customers (including their subsidiaries) were approximately as follows:

	Year Ended December 31,		
Customer	2016	2015	2014
Ford	15%	15%	13%
Volkswagen	13%	15%	17%

No other single customer accounted for more than 10% of our consolidated net sales in any of the years presented.

The Company's automotive products are generally sold directly to OEMs, substantially pursuant to negotiated annual contracts, long-term supply agreements or terms and conditions as may be modified by the parties. Deliveries are subject to periodic authorizations based upon OEM production schedules. The Company typically ships its products directly from its plants to the OEMs.

Sales and Marketing

Each of the Company's businesses within its two reporting segments has its own sales function. Account executives for each of our businesses are assigned to serve specific customers for one or more businesses' products. Our account executives spend the majority of their time in direct contact with customers' purchasing and engineering employees and are responsible for servicing existing business and for identifying and obtaining new business. Because of their close relationship with customers, account executives are able to identify and meet customers' needs based upon their knowledge of our products' design and manufacturing capabilities. Upon securing a new order, account executives participate in product launch team activities and serve as a key interface with customers. In addition, sales and marketing employees of our Engine and Drivetrain reporting segments often work together to explore cross-development opportunities where appropriate.

Seasonality

Our operations are directly related to the automotive industry. Consequently, we may experience seasonal fluctuations to the extent automotive vehicle production slows, such as in the summer months when many customer plants typically close for model year changeovers or vacations. Historically, model changeovers or vacations have generally resulted in lower sales volume in the third quarter.

Research and Development

The Company conducts advanced Engine and Drivetrain research at the reporting segment level. This advanced engineering function looks to leverage know-how and expertise across product lines to create new Engine and Drivetrain systems and modules that can be commercialized. This function manages a venture capital fund that was created by the Company as seed money for new innovation and collaboration across businesses.

In addition, each of the Company's businesses within its two reporting segments has its own research and development (“R&D”) organization, including engineers and technicians, engaged in R&D activities at facilities worldwide. The Company also operates testing facilities such as prototype, measurement and calibration, life cycle testing and dynamometer laboratories.

By working closely with the OEMs and anticipating their future product needs, the Company's R&D personnel conceive, design, develop and manufacture new proprietary automotive components and systems. R&D personnel also work to improve current products and production processes. The Company believes its commitment to R&D will allow it to continue to obtain new orders from its OEM customers.

The Company's net R&D expenditures are included in selling, general and administrative expenses of the Consolidated Statements of Operations. Customer reimbursements are netted against gross R&D expenditures as they are considered a recovery of cost. Customer reimbursements for prototypes are recorded net of prototype costs based on customer contracts, typically either when the prototype is shipped or when it is accepted by the customer. Customer reimbursements for engineering services are recorded when performance obligations are satisfied in accordance with the contract and accepted by the customer. Financial risks and rewards transfer upon shipment, acceptance of a prototype component by the customer or upon completion of the performance obligation as stated in the respective customer agreement.

	Year Ended December 31,		
(millions of dollars)	2016	2015	2014
Gross R&D expenditures	$417.8	$386.2	$392.8
Customer reimbursements	(74.6)	(78.8)	(56.6)
Net R&D expenditures	$343.2	$307.4	$336.2

Net R&D expenditures as a percentage of net sales were 3.8%, 3.8% and 4.0% for the years ended December 31, 2016, 2015 and 2014, respectively. The Company has contracts with several customers at the Company's various R&D locations. No such contract exceeded 5% of net R&D expenditures in any of the years presented.

Intellectual Property

The Company has more than 6,500 active domestic and foreign patents and patent applications pending or under preparation, and receives royalties from licensing patent rights to others. While it considers its patents on the whole to be important, the Company does not consider any single patent, any group of related patents or any single license essential to its operations in the aggregate or to the operations of any of the Company's business groups individually. The expiration of the patents individually and in the aggregate is not expected to have a material effect on the Company's financial position or future operating results. The Company owns numerous trademarks, some of which are valuable, but none of which are essential to its business in the aggregate.

The Company owns the “BorgWarner” and “Borg-Warner Automotive” trade names and trademarks, and variations thereof, which are material to the Company's business.

Competition

The Company's reporting segments compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. Many of these competitors are larger and have greater resources than the Company. Technological innovation, application engineering development, quality, price, delivery and program launch support are the primary elements of competition.

The Company’s major competitors by product type follow:

Product Type: Engine	Names of Competitors	
Turbochargers:	Cummins Turbo Technology	IHI
	Honeywell	Mitsubishi Heavy Industries (MHI)
	Bosch Mahle Turbo Systems	
Emissions systems:	Mahle	T.RAD
	Denso	Pierburg
	Bosch	NGK
	Eldor	
Timing devices and chains:	Denso	Schaeffler Group
	Iwis	Tsubaki Group
Thermal systems:	Horton	Usui
	Mahle	Xuelong

Product Type: Drivetrain	Names of Competitors	
Torque transfer:	GKN Driveline	JTEKT
		Magna Powertrain
Rotating electrical machines:	Denso	Valeo
	Bosch	
Transmission systems:	Bosch	FCC
	Dynax	Schaeffler Group

In addition, a number of the Company's major OEM customers manufacture, for their own use and for others, products that compete with the Company's products. Other current OEM customers could elect to manufacture products to meet their own requirements or to compete with the Company. There is no assurance that the Company's business will not be adversely affected by increased competition in the markets in which it operates.

For many of its products, the Company's competitors include suppliers in parts of the world that enjoy economic advantages such as lower labor costs, lower health care costs, lower tax rates and, in some cases, export subsidies and/or raw materials subsidies. Also, see Item 1A, "Risk Factors."

Workforce

As of December 31, 2016, the Company had a salaried and hourly workforce of approximately 27,000 (as compared with approximately 30,000 at December 31, 2015), of which approximately 6,100 were in the U.S. Approximately 17% of the Company's U.S. workforce is unionized. The workforces at certain international facilities are also unionized. The Company believes the present relations with our workforce to be satisfactory.

We have a domestic collective bargaining agreement for one facility in New York, which expires in September 2020.

Raw Materials

The Company uses a variety of raw materials in the production of its automotive products including aluminum, copper, nickel, plastic resins, steel and certain alloy elements. Manufacturing operations for each of the Company's operating segments are dependent upon natural gas, fuel oil and electricity.

The Company uses a variety of tactics in order to limit the impact of supply shortages and inflationary pressures. The Company's global procurement organization works to accelerate cost reductions, purchases from lower cost regions, rationalize the supply base, mitigate risk and collaborate on its buying activities. In addition, the Company uses long-term contracts, cost sharing arrangements, design changes, customer buy programs and limited financial instruments to help control costs. The Company intends to use similar measures in 2017 and beyond. Refer to Note 10, “Financial Instruments,” of the Consolidated Financial Statements in Item 8 of this report for information related to the Company's hedging activities.

For 2017, the Company believes that its supplies of raw materials are adequate and available from multiple sources to support its manufacturing requirements.

Available Information

Through its Internet website (www.borgwarner.com), the Company makes available, free of charge, its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, all amendments to those reports, and other filings with the Securities and Exchange Commission, as soon as reasonably practicable after they are filed or furnished. The Company also makes the following documents available on its Internet website: the Audit Committee Charter; the Compensation Committee Charter; the Corporate Governance Committee Charter; the Company's Corporate Governance Guidelines; the Company's Code of Ethical Conduct; and the Company's Code of Ethics for CEO and Senior Financial Officers. You may also obtain a copy of any of the foregoing documents, free of charge, if you submit a written request to Investor Relations, 3850 Hamlin Road, Auburn Hills, Michigan 48326. The public may read and copy materials filed by the Company with the SEC at the SEC’s Public Reference Room at 100 F Street, NE, Washington, DC, 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at http://www.sec.gov.

Executive Officers of the Company

Set forth below are the names, ages, positions and certain other information concerning the executive officers of the Company as of February 9, 2017.

Name	Age	Position with the Company
James R. Verrier	54	President and Chief Executive Officer
Ronald T. Hundzinski	58	Vice President and Chief Financial Officer
Anthony D. Hensel	58	Vice President and Controller
Tonit Calaway	48	Vice President, Human Resources
Stefan Demmerle	52	Vice President
Brady D. Ericson	45	Vice President
Joseph F. Fadool	50	Vice President
John J. Gasparovic	59	Vice President, General Counsel and Secretary
Robin Kendrick	52	Vice President
Frederic B. Lissalde	49	Vice President
Thomas J. McGill	50	Vice President and Treasurer
Joel Wiegert	43	Vice President

Mr. Verrier has been President, Chief Executive Officer and member of BorgWarner's Board of Directors since January 1, 2013. From March 2012 through December 2012, he was the President and Chief Operating Officer of the Company. From January 2010 to March 2012, he was Vice President of the Company and President and General Manager of BorgWarner Morse TEC Inc.

Mr. Hundzinski has been Vice President and Chief Financial Officer of the Company since March 2012. From August 2011 through March 2012, he was Vice President and Treasurer of the Company.

Mr. Hensel has been Vice President and Controller of the Company since December 2016. From May 2009 through November 2016, he was Vice President of Internal Audit of the Company.

Ms. Calaway has been Vice President and Chief Human Resource Officer of the Company since August 2016. Prior to this role, she was Vice President of Human Resources of Harley-Davidson Inc. and President of The Harley-Davidson Foundation since February 2010 to July 2016.

Dr. Demmerle has been Vice President of the Company and President and General Manager of BorgWarner PDS (USA) Inc. (formerly known as BorgWarner TorqTransfer Systems Inc.) since September 2012 and President and General Manager of BorgWarner PDS (Indiana) Inc. (formerly known as Remy International, Inc.) since December 2015. From July 2010 to September 2012, he was Vice President, Engine Control Electronics at Continental Automotive Systems.

Mr. Ericson has been Chief Strategy Officer of the Company since January 2017. He was Vice President of the Company and President and General Manager of BorgWarner Emissions Systems LLC from March 2014 until December 2016, during which time BorgWarner BERU Systems GmbH was combined with BorgWarner Emissions Systems Inc. He was Vice President of the Company and President and General Manager of BorgWarner BERU Systems GmbH and Emissions Systems Inc. from September 2011 until March 2014.

Mr. Fadool has been Vice President of the Company and President and General Manager of BorgWarner Emissions Systems LLC and BorgWarner Thermal Systems Inc. since January 2017. He was Vice President of the Company and President and General Manager of BorgWarner Ithaca LLC (d/b/a BorgWarner Morse Systems) from July 2015 until December 2016. From May 2012 to July 2015, he was the Vice President of

14

the Company and President and General Manager of BorgWarner Morse TEC Inc. He was Vice President of the Company and President and General Manager of BorgWarner TorqTransfer Systems Inc. from June 2011 until September 2012.

Mr. Gasparovic has been Vice President, General Counsel and Secretary of the Company since January 2007.

Mr. Kendrick has been Vice President of the Company and President and General Manager of BorgWarner Transmissions Systems LLC since September 2011.

Mr. Lissalde has been Vice President of the Company and President and General Manager of BorgWarner Turbo Systems LLC since May 2013. From May 2011 until May 2013 he was Vice President of the Company and President and General Manager of BorgWarner Turbo Systems Passenger Car Products.

Mr. McGill has been Vice President and Treasurer of the Company since May 2012. He was Vice President of Finance of BorgWarner Turbo Systems Inc. from April 2010 until May 2012.

Mr. Wiegert has been President and General Manager of BorgWarner Ithaca LLC (d/b/a BorgWarner Morse Systems) since January 2017. He was President and General Manager of BorgWarner Thermal Systems Inc. from September 2016 until December 2016. From July 2015 to August 2016, he was Vice President and General Manager, Americas, Aftermarket and Global Integration Leader for BorgWarner PDS (USA) Inc. From January 2012 to July 2015, he was Vice President and General Manager, Asia and Americas for BorgWarner Turbo Systems Inc.

Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be considered. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impact our business operations. If any of the following risks occur, our business including its financial performance, financial condition, operating results and cash flows could be adversely affected.

Risks related to our industry

Conditions in the automotive industry may adversely affect our business.

Our financial performance depends on conditions in the global automotive industry. Automotive and truck production and sales are cyclical and sensitive to general economic conditions and other factors including interest rates, consumer credit, and consumer spending and preferences. Economic declines that result in significant reduction in automotive or truck production would have an adverse effect on our sales to OEMs.

We face strong competition.

We compete worldwide with a number of other manufacturers and distributors that produce and sell products similar to ours. Price, quality, delivery, technological innovation, engineering development and program launch support are the primary elements of competition. Our competitors include vertically integrated units of our major OEM customers, as well as a large number of independent domestic and international suppliers. A number of our competitors are larger than us and some competitors have greater financial and other resources than we do. Although OEMs have indicated that they will continue to rely on outside suppliers, a number of our major OEM customers manufacture products for their own uses that directly compete with our products. These OEMs could elect to manufacture such products for their own uses in place of the products we currently supply. The competitive environment has changed dramatically over the past few years as our traditional U.S. OEM customers, faced with intense international competition, have expanded their worldwide sourcing of components. As a result, we have experienced competition from suppliers in other parts of the world that enjoy economic advantages, such as lower labor costs, lower health care costs, lower tax rates and, in some cases, export or raw materials subsidies. Increased competition could adversely affect our business.

Risks related to our business

We are under substantial pressure from OEMs to reduce the prices of our products.

There is substantial and continuing pressure on OEMs to reduce costs, including costs of products we supply. Annual price reductions to OEM customers are a permanent component of our business. To maintain our profit margins, we seek price reductions from our suppliers, improved production processes to increase manufacturing efficiency, updated product designs to reduce costs and we develop new products, the benefits of which support stable or increased prices. Our ability to pass through increased raw material costs to our OEM customers is limited, with cost recovery often less than 100% and often on a delayed basis. Inability to reduce costs in an amount equal to annual price reductions, increases in raw material costs, and increases in employee wages and benefits could have an adverse effect on our business.

We continue to face volatile costs of commodities used in the production of our products.

The Company uses a variety of commodities (including aluminum, copper, nickel, plastic resins, steel, other raw materials and energy) and materials purchased in various forms such as castings, powder metal, forgings, stampings and bar stock. Increasing commodity costs will have an impact on our results. We have sought to alleviate the impact of increasing costs by including a material pass-through provision in our customer contracts wherever possible and by selectively hedging certain commodity exposures. Customers frequently challenge these contractual provisions and rarely pay the full cost of any material increases. The discontinuation or lessening of our ability to pass-through or hedge increasing commodity costs could adversely affect our business.

From time to time, commodity prices may also fall rapidly. When this happens, suppliers may withdraw capacity from the market until prices improve which may cause periodic supply interruptions. The same may be true of our transportation carriers and energy providers. If these supply interruptions occur, it could adversely affect our business.

We use important intellectual property in our business. If we are unable to protect our intellectual property or if a third party makes assertions against us or our customers relating to intellectual property rights, our business could be adversely affected.

We own important intellectual property, including patents, trademarks, copyrights and trade secrets, and are involved in numerous licensing arrangements. Our intellectual property plays an important role in maintaining our competitive position in a number of the markets that we serve. Our competitors may develop

16

technologies that are similar or superior to our proprietary technologies or design around the patents we own or license. Further, as we expand our operations in jurisdictions where the enforcement of intellectual property rights is less robust, the risk of others duplicating our proprietary technologies increases, despite efforts we undertake to protect them. Developments or assertions by or against us relating to intellectual property rights, and any inability to protect or enforce these rights, could adversely affect our business and our competitive position.

We are subject to business continuity risks associated with increasing centralization of our information technology (IT) systems.

To improve efficiency and reduce costs, we have regionally centralized the information systems that support our business processes such as invoicing, payroll and general management operations. If the centralized systems are disrupted or disabled, key business processes could be interrupted, which could adversely affect our business.

A failure of our information technology infrastructure could adversely impact our business and operations.

We rely on the capacity, reliability and security of our IT systems and infrastructure. IT systems are vulnerable to disruptions, including those resulting from natural disasters, cyber-attacks or failures in third-party-provided services. Disruptions and attacks on our IT systems pose a risk to the security of our systems and our ability to protect our networks and the confidentiality, availability and integrity of our third-party data. As a result, such attacks or disruptions could potentially lead to the inappropriate disclosure of confidential information, including our intellectual property, improper use of our systems and networks, manipulation and destruction of data, production downtimes and both internal and external supply shortages. This could cause significant damage to our reputation, affect our relationships with our customers and suppliers, lead to claims against the Company and ultimately adversely affect our business.

Our business success depends on attracting and retaining qualified personnel.

Our ability to sustain and grow our business requires us to hire, retain and develop a highly skilled and diverse management team and workforce worldwide. Any unplanned turnover or inability to attract and retain key employees in numbers sufficient for our needs could adversely affect our business.

Part of our workforce is unionized which could subject us to work stoppages.

As of December 31, 2016, approximately 17% of our U.S. workforce was unionized. We have a domestic collective bargaining agreement for one facility in New York, which expires in September 2020. The workforce at certain of our international facilities is also unionized. A prolonged dispute with our employees could have an adverse effect on our business.

Changes in interest rates and asset returns could increase our pension funding obligations and reduce our profitability.

We have unfunded obligations under certain of our defined benefit pension and other postretirement benefit plans. The valuation of our future payment obligations under the plans and the related plan assets are subject to significant adverse changes if the credit and capital markets cause interest rates and projected rates of return to decline. Such declines could also require us to make significant additional contributions to our pension plans in the future. Additionally, a material deterioration in the funded status of the plans could significantly increase our pension expenses and reduce profitability in the future.

We also sponsor post-employment medical benefit plans in the U.S. that are unfunded. If medical costs continue to increase or actuarial assumptions are modified, this could have adverse effect on our business.

We are subject to extensive environmental regulations.

Our operations are subject to laws governing, among other things, emissions to air, discharges to waters and the generation, handling, storage, transportation, treatment and disposal of waste and other materials. The operation of automotive parts manufacturing plants entails risks in these areas, and we cannot assure that we will not incur material costs or liabilities as a result. Through various acquisitions over the years, we have acquired a number of manufacturing facilities, and we cannot assure that we will not incur material costs and liabilities relating to activities that predate our ownership. In addition, potentially significant expenditures could be required in order to comply with evolving interpretations of existing environmental, health and safety laws and regulations or any new such laws and regulations that may be adopted in the future. Costs associated with failure to comply with such laws and regulations could have an adverse effect on our business.

We have liabilities related to environmental, product warranties, litigation and other claims.

We and certain of our current and former direct and indirect corporate predecessors, subsidiaries and divisions have been identified by the United States Environmental Protection Agency and certain state environmental agencies and private parties as potentially responsible parties at various hazardous waste disposal sites under the Comprehensive Environmental Response, Compensation and Liability Act and equivalent state laws.

We provide product warranties to our customers for some of our products. Under these product warranties, we may be required to bear costs and expenses for the repair or replacement of these products. We cannot assure that costs and expenses associated with these product warranties will not be material, or that those costs will not exceed any amounts accrued for such product warranties in our financial statements.

We are currently, and may in the future become, subject to legal proceedings and commercial or contractual disputes. These claims typically arise in the normal course of business and may include, but not be limited to, commercial or contractual disputes with our customers and suppliers, intellectual property matters, personal injury, product liability, environmental and employment claims. There is a possibility that such claims may have an adverse impact on our business that is greater than we anticipate. While the Company maintains insurance for certain risks, the amount of insurance may not be adequate to cover all insured claims and liabilities. The incurring of significant liabilities for which there is no, or insufficient, insurance coverage could adversely affect our business.

We have faced, and in the future expect to face, substantial numbers of asbestos-related claims. The costs of resolving those claims is inherently uncertain and could have a material adverse effect on our results of operations, financial position, and cash flows.

We have in the past been named in a significant number of lawsuits each year alleging injury related to exposure to asbestos in certain of our historical products. We no longer manufacture, distribute, or sell products that contain asbestos, and we vigorously defend against asbestos-related claims. Over 80 percent of claims asserted against us in recent years have been resolved with no payment to the claimant. Notwithstanding these factors, we project that a substantial number of asbestos-related claims are likely to be asserted against us in the future. We have estimated the indemnity and defense costs relating to the asbestos-related claims that have been asserted against us but not yet resolved, as well as those asbestos-related claims that we estimate are likely to be asserted against us in the future. Our estimate of future asbestos-related claims that may be asserted against us is based on assumptions as to the likely rates of occurrence of asbestos-related disease in the U.S. population in the future and the number of asbestos-related claims asserted as a result. Furthermore, our estimates are based on a number of assumptions derived from our historical experience in resolving asbestos-related claims, including:

- the number and type of future asbestos-related claims that will be asserted against us;
- the number of future asbestos-related claims asserted against us that will result in a payment by us;
- the average payment necessary to resolve such claims; and
- the costs of defending such claims.

If our actual experience, as noted above, in receiving and resolving asbestos-related claims in the future differs significantly from these assumptions, then our expenditures to resolve such claims may be significantly higher or lower than the estimates contained in our financial statements, and, if higher, could have an adverse impact on our results of operations, financial position, or cash flows that is greater than we have estimated. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Other Matters - Contingencies - Asbestos-Related Liability”.

While we have certain insurance coverage available respecting asbestos-related claims asserted against us, most of that insurance coverage is the subject of pending litigation. The insurance that is at issue in the litigation is subject to various uncertainties, including: the assertion of defenses or the development of facts which we are not presently aware, changes in the case law, and future financial viability of remaining insurers. This insurance coverage is additionally subject to claims from other co-insured parties. We currently project that our remaining insurance coverage for current and future asbestos-related claims will cover only a portion of the amounts that we estimate we ultimately may pay to resolve such claims. The resolution of the insurance coverage litigation, and the number and amount of claims on our insurance from co-insured parties, may increase or decrease the amount of insurance coverage available to us for asbestos-related claims from the estimates contained in our financial statements.

Compliance with and changes in laws could be costly and could affect operating results. In addition, government disruptions could negatively impact our ability to conduct our business.

We have operations in multiple countries that can be impacted by expected and unexpected changes in the legal and business environments in which we operate. Compliance related issues in certain countries associated with laws such as the Foreign Corrupt Practices Act and other anti-corruption laws could also adversely affect our business.

Changes that could impact the legal environment include new legislation, new regulations, new policies, investigations and legal proceedings and new interpretations of existing legal rules and regulations, in particular, changes in import and export control laws or exchange control laws, additional restrictions on doing business in countries subject to sanctions, and changes in laws in countries where we operate or

intend to operate. In addition, government disruptions, such as government shutdowns, may delay or halt the granting and renewal of permits, licenses and other items required by us and our customers to conduct our business.

Changes in tax laws or tax rates taken by taxing authorities and tax audits could adversely affect our business.

Changes in tax laws or tax rates, the resolution of tax assessments or audits by various tax authorities, and the inability to fully utilize our tax loss carryforwards and tax credits could adversely affect our operating results. In addition, we may periodically restructure our legal entity organization.

If taxing authorities were to disagree with our tax positions in connection with any such restructurings, our effective tax rate could be materially affected. Our tax filings for various periods are subject to audit by the tax authorities in most jurisdictions where we conduct business. We have received tax assessments from various taxing authorities and are currently at varying stages of appeals and/or litigation regarding these matters. These audits may result in assessment of additional taxes that are resolved with the authorities or through the courts. We believe these assessments may occasionally be based on erroneous and even arbitrary interpretations of local tax law. Resolution of any tax matters involves uncertainties and there are no assurances that the outcomes will be favorable.

Our growth strategy may prove unsuccessful.

We have a stated goal of increasing sales and operating income at a rate greater than global vehicle production by increasing content per vehicle with innovative new components and through select acquisitions.

We may not meet our goal because of any of the following, or other factors: (a) the failure to develop new products that will be purchased by our customers; (b) technology changes rendering our products obsolete; and (c) a reversal of the trend of supplying systems (which allows us to increase content per vehicle) instead of components.

We expect to continue to pursue business ventures, acquisitions, and strategic alliances that leverage our technology capabilities, enhance our customer base, geographic representation, and scale to complement our current businesses and we regularly evaluate potential growth opportunities, some of which could be material. While we believe that such transactions are an integral part of our long-term strategy, there are risks and uncertainties related to these activities. Assessing a potential growth opportunity involves extensive due diligence. However, the amount of information we can obtain about a potential growth opportunity may be limited, and we can give no assurance that past or future business ventures, acquisitions, and strategic alliances will positively affect our financial performance or will perform as planned. We may not be able to successfully assimilate or integrate companies that we have acquired or acquire in the future, including their personnel, financial systems, distribution, operations and general operating procedures. The integration of companies that we have acquired or acquire in the future may be more difficult, time consuming or costly than expected. Revenues following the acquisition of a company may be lower than expected, customer loss and business disruption (including, without limitation, difficulties in maintaining relationships with employees, customers, or suppliers) may be greater than expected and the retention of key employees at the acquired company may not be achieved. We may also encounter challenges in achieving appropriate internal control over financial reporting in connection with the integration of an acquired company. If we fail to assimilate or integrate acquired companies successfully, our business, reputation and operating results could be adversely affected. Likewise, our failure to integrate and manage acquired companies successfully may lead to future impairment of any associated goodwill and intangible asset balances. Failure to execute our growth strategy could adversely affect our business.

We are subject to risks related to our international operations.

We have manufacturing and technical facilities in many regions including Europe, Asia, and the Americas. For 2016, approximately 75% of our consolidated net sales were outside the U.S. Consequently, our results could be affected by changes in trade, monetary and fiscal policies, trade restrictions or prohibitions, import or other charges or taxes, fluctuations in foreign currency exchange rates, limitations on the repatriation of funds, changing economic conditions, unreliable intellectual property protection and legal systems, insufficient infrastructures, social unrest, political instability and disputes, and international terrorism. Compliance with multiple and potentially conflicting laws and regulations of various countries is challenging, burdensome and expensive.

The financial statements of foreign subsidiaries are translated to U.S. dollars using the period-end exchange rate for assets and liabilities and an average exchange rate for each period for revenues, expenses and capital expenditures. The local currency is the functional currency for substantially all of the Company's foreign subsidiaries. Significant foreign currency fluctuations and the associated translation of those foreign currencies could adversely affect our business. Additionally, significant changes in currency exchange rates, particularly the Euro, Korean Won and Chinese Renminbi, could cause fluctuations in the reported results of our businesses’ operations that could negatively affect our results of operations.

Our business in China is subject to aggressive competition and is sensitive to economic, political and market conditions.

Maintaining a strong position in the Chinese market is a key component of our global growth strategy. The automotive supply market in China is highly competitive, with competition from many of the largest global manufacturers and numerous smaller domestic manufacturers. As the Chinese market evolves, we anticipate that market participants will act aggressively to increase or maintain their market share. Increased competition may result in price reductions, reduced margins and our inability to gain or hold market share. In addition, our business in China is sensitive to economic, political and market conditions that drive sales volume in China. If we are unable to maintain our position in the Chinese market or if vehicle sales in China decrease, our business and financial results could be adversely affected.

A downgrade in the ratings of our debt could restrict our ability to access the debt capital markets.

Changes in the ratings that rating agencies assign to our debt may ultimately impact our access to the debt capital markets and the costs we incur to borrow funds. If ratings for our debt fall below investment grade, our access to the debt capital markets could become restricted and our cost of borrowing or the interest rate for any subsequently issued debt would likely increase.

Our revolving credit agreement includes an increase in interest rates if the ratings for our debt are downgraded. The interest costs on our revolving credit agreement are based on a rating grid agreed to in our credit agreement. Further, an increase in the level of our indebtedness and related interest costs may increase our vulnerability to adverse general economic and industry conditions and may affect our ability to obtain additional financing.

We could incur additional restructuring charges as we continue to execute actions in an effort to improve future profitability and competitiveness and may not achieve the anticipated savings and benefits from these actions.

We have and may continue to initiate restructuring actions designed to improve future profitability and competitiveness, enhance treasury management flexibility or create an optimal legal entity structure. We may not realize anticipated savings or benefits from past or future actions in full or in part or within the time periods we expect. We are also subject to the risks of labor unrest, negative publicity and business disruption in connection with our actions. Failure to realize anticipated savings or benefits from our actions could have an adverse effect on our business.

Risks related to our customers

We rely on sales to major customers.

We rely on sales to OEMs around the world of varying credit quality and manufacturing demands. Supply to several of these customers requires significant investment by the Company. We base our growth projections, in part, on commitments made by our customers. These commitments generally renew yearly during a program life cycle. If actual production orders from our customers do not approximate such commitments due to a variety of factors including non-renewal of purchase orders, a customer's financial hardship or other unforeseen reasons, it could adversely affect our business.

Some of our sales are concentrated. Our worldwide sales in 2016 to Ford and Volkswagen constituted approximately 15% and 13% of our 2016 consolidated net sales, respectively.

We are sensitive to the effects of our major customers’ labor relations.

All three of our primary North American customers, Ford, Fiat Chrysler Automobiles and General Motors, have major union contracts with the United Automobile, Aerospace and Agricultural Implement Workers of America. Because of domestic OEMs' dependence on a single union, we are affected by labor difficulties and work stoppages at OEMs' facilities. Similarly, a majority of our global customers' operations outside of North America are also represented by various unions. Any extended work stoppage at one or more of our customers could have an adverse effect on our business.

Risks related to our suppliers

We could be adversely affected by supply shortages of components from our suppliers.

In an effort to manage and reduce the cost of purchased goods and services, we have been rationalizing our supply base. As a result, we are dependent on fewer sources of supply for certain components used in the manufacture of our products. The Company selects suppliers based on total value (including total landed price, quality, delivery, and technology), taking into consideration their production capacities and financial condition. We expect that they will deliver to our stated written expectations.

However, there can be no assurance that capacity limitations, labor unrest, weather emergencies, commercial disputes, government actions, riots, wars, sabotage, cyber attacks, non-conforming parts, acts of terrorism, “Acts of God," or other problems experienced by our suppliers will not result in occasional shortages or delays in their supply of components to us. If we were to experience a significant or prolonged shortage of critical components from any of our suppliers and could not procure the components from other sources, we would be unable to meet the production schedules for some of our key products and could miss customer delivery expectations. This could adversely affect our customer relations and business.

Suppliers' economic distress could result in the disruption of our operations and could adversely affect our business.

Rapidly changing industry conditions such as volatile production volumes; credit tightness; changes in foreign currencies; raw material, commodity, transportation, and energy price escalation; drastic changes in consumer preferences; and other factors could adversely affect our supply chain, and sometimes with little advance notice. These conditions could also result in increased commercial disputes and supply interruption risks. In certain instances, it would be difficult and expensive for us to change suppliers that are critical to our business. On occasion, we must provide financial support to distressed suppliers or take other measures to protect our supply lines. We cannot predict with certainty the potential adverse effects these costs might have on our business.

We are subject to possible insolvency of outsourced service providers.

The Company relies on third party service providers for administration of legal claims, health care benefits, pension benefits, stockholder and bondholder registration and other services. These service providers contribute to the efficient conduct of the Company's business. Insolvency of one or more of these service providers could adversely affect our business.

We are subject to possible insolvency of financial counterparties.

The Company engages in numerous financial transactions and contracts including insurance policies, letters of credit, credit line agreements, financial derivatives, and investment management agreements involving various counterparties. The Company is subject to the risk that one or more of these counterparties may become insolvent and therefore be unable to meet its obligations under such contracts.

Other risks

A variety of other factors could adversely affect our business.

Any of the following could materially and adversely affect our business: the loss of or changes in supply contracts or sourcing strategies of our major customers or suppliers; start-up expenses associated with new vehicle programs or delays or cancellation of such programs; utilization of our manufacturing facilities, which can be dependent on a single product line or customer; inability to recover engineering and tooling costs; market and financial consequences of recalls that may be required on products we supplied; delays or difficulties in new product development; the possible introduction of similar or superior technologies by others; global excess capacity and vehicle platform proliferation; and the impact of fire, flood or other natural disasters.

Item 1B. Unresolved Staff Comments

The Company has received no written comments regarding its periodic or current reports from the staff of the Securities and Exchange Commission that were issued 180 days or more preceding the end of its 2016 fiscal year that remain unresolved.

Item 2. Properties

As of December 31, 2016, the Company had 62 manufacturing, assembly, and technical locations worldwide. In addition to its 16 U.S. locations, the Company had nine locations in China; seven locations in each of Germany and South Korea; four locations in each of India and Mexico; three locations in each of Brazil and Japan; and one location in each of France, Hungary, Ireland, Italy, Poland, Portugal, Spain, Sweden, and the United Kingdom. Individual locations may design or manufacture for both operating segments. The Company also has several sales offices, warehouses and technical centers. The Company's worldwide headquarters are located in a leased facility in Auburn Hills, Michigan. In general, the Company believes its facilities to be suitable and adequate to meet its current and reasonably anticipated needs.

The following is additional information concerning principal manufacturing, assembly, and technical facilities operated by the Company, its subsidiaries, and affiliates.

ENGINE(a)

Americas	Europe	Asia
Asheville, North Carolina	Arcore, Italy	Aoyama, Japan
Auburn Hills, Michigan (d)	Bradford, England	Chennai, India (b)
Cadillac, Michigan	Kirchheimbolanden, Germany	Chungju-City, South Korea
Dixon, Illinois	Ludwigsburg, Germany	Jiangsu, China (b)
El Salto Jalisco, Mexico	Markdorf, Germany	Kakkalur, India
Fletcher, North Carolina	Muggendorf, Germany	Manesar, India
Itatiba, Brazil	Oberboihingen, Germany	Nabari City, Japan
Ithaca, New York	Oroszlany, Hungary (d)	Ningbo, China (b) (c)
Marshall, Michigan	Rzeszow, Poland (d)	Pune, India
Piracicaba, Brazil	Tralee, Ireland	Pyongtaek, South Korea (b) (c)
Ramos, Mexico	Viana de Castelo, Portugal	
	Vigo, Spain	

DRIVETRAIN(a)

Americas	Europe	Asia
Anderson, Indiana (b)	Arnstadt, Germany	Beijing, China (b)
Bellwood, Illinois	Heidelberg, Germany	Dae-Gu, South Korea (b)
Brusque, Brazil (b)	Landskrona, Sweden (b)	Dalian, China (b)
Frankfort, Illinois	Tulle, France	Eumsung, South Korea
Irapuato, Mexico		Fukuroi City, Japan
Laredo, Texas (b)		Jingzhou City, China (b)
Livonia, Michigan		Kyungsangman, South Korea
Melrose Park, Illinois (b)		Ochang, South Korea (b)
Pendleton, Indiana (b)		Shanghai, China (b)
San Luis Potosi, Mexico (b)		Tianjin, China (b)
Seneca, South Carolina		Wuhan, China (b)
Water Valley, Mississippi		

(a) The table excludes joint ventures owned less than 50% and administrative offices.
(b) Indicates leased land rights or a leased facility.
(c) City has 2 locations: a wholly owned subsidiary and a joint venture.
(d) Location serves both segments.

24

Item 3. Legal Proceedings

The Company is subject to a number of claims and judicial and administrative proceedings (some of which involve substantial amounts) arising out of the Company's business or relating to matters for which the Company may have a contractual indemnity obligation. See Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for a discussion of environmental, product liability and other litigation, which is incorporated herein by reference.

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

The Company's common stock is listed for trading on the New York Stock Exchange under the symbol BWA. As of February 3, 2017, there were 1,738 holders of record of Common Stock.

On July 24, 2013 the Company announced the reinstatement of its quarterly dividend. Cash dividends declared and paid per share, adjusted for the stock split in December 2013, were as follows:

	2016	2015	2014	2013	2012
Dividend amount	$0.53	$0.52	$0.51	$0.25	$ —

While the Company currently expects that comparable quarterly cash dividends will continue to be paid in the future, the dividend policy is subject to review and change at the discretion of the Board of Directors.
High and low prices (as reported on the New York Stock Exchange composite tape) for the Company's common stock for each quarter in 2015 and 2016 were:

Quarter Ended	High	Low
March 31, 2015	$63.01	$50.46
June 30, 2015	$62.08	$56.84
September 30, 2015	$57.65	$38.89
December 31, 2015	$45.53	$39.82
March 31, 2016	$42.25	$28.23
June 30, 2016	$39.93	$27.69
September 30, 2016	$36.12	$28.52
December 31, 2016	$41.86	$33.64

The line graph below compares the cumulative total shareholder return on our Common Stock with the cumulative total return of companies on the Standard & Poor's (S&P's) 500 Stock Index, companies within our peer group (as selected by the Company) and companies within Standard Industrial Code (“SIC”) 3714 - Motor Vehicle Parts.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among BorgWarner Inc., the S&P 500 Index,
SIC 3714 Motor Vehicle Parts and a Peer Group

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*$100 invested on 12/31/2011 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

BWA, S&P 500 and Peer Group data are from Capital IQ; SIC Code Index data are from Research Data Group

	December 31,					
	2011	2012	2013	2014	2015	2016
BorgWarner Inc.(1)	$100.00	$112.36	$176.31	$174.80	$138.93	$128.74
S&P 500(2)	100.00	116.00	153.58	174.60	177.01	198.18
SIC Code Index(3)	100.00	122.82	182.71	205.67	207.80	239.48
Peer Group(4)	100.00	124.61	195.73	234.30	208.94	244.27

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(1)BorgWarner Inc.
(2)S&P 500 — Standard & Poor’s 500 Total Return Index
(3)Standard Industrial Code (“SIC”) 3714-Motor Vehicle Parts
(4)Selected Peer Group Companies — Consists of the following companies:
American Axle & Manufacturing Holdings, Inc., Autoliv, Inc., Gentex Corporation, Johnson Controls, Inc., Lear Corporation, Magna International Inc., Meritor, Inc., Modine Manufacturing Company, Tenneco Inc. and Visteon Corporation

Purchase of Equity Securities

In February 2015, the Company's Board of Directors authorized the purchase of up to $1.0 billion of the Company's common stock over three years. The Company's Board of Directors has authorized the purchase of up to 69.6 million shares of the Company's common stock in the aggregate. As of December 31, 2016, the Company had repurchased 67,343,100 shares in the aggregate under the Common Stock Repurchase Program. All shares purchased under this authorization have been and will continue to be repurchased in the open market at prevailing prices and at times and in amounts to be determined by management as market conditions and the Company's capital position warrant. The Company may use Rule 10b5-1 and 10b-18 plans to facilitate share repurchases. Repurchased shares will be deemed common stock held in treasury and may subsequently be reissued for general corporate purposes.

Employee transactions include restricted shares withheld to offset statutory minimum tax withholding that occurs upon vesting of restricted shares. The BorgWarner Inc. Amended and Restated 2004 Stock Incentive Plan and the BorgWarner Inc. 2014 Stock Incentive Plan provide that the withholding obligations be settled by the Company retaining stock that is part of the Award. Withheld shares will be deemed common stock held in treasury and may subsequently be reissued for general corporate purposes.

The following table provides information about the Company's purchases of its equity securities that are registered pursuant to Section 12 of the Exchange Act during the quarter ended December 31, 2016:

Issuer Purchases of Equity Securities

Period	Total number of shares purchased	Average price per share	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares that may yet be purchased under the plans or programs
Month Ended October 31, 2016				
Common Stock Repurchase Program	467,225	$ 35.09	467,225	2,799,337
Employee transactions	213	$ 35.19	—	
Month Ended November 30, 2016				
Common Stock Repurchase Program	471,412	$ 35.00	471,412	2,327,925
Employee transactions	—	$ —	—	
Month Ended December 31, 2016				
Common Stock Repurchase Program	70,935	$ 38.07	70,935	2,256,990
Employee transactions	—	$ —	—	

Equity Compensation Plan Information

As of December 31, 2016, the number of stock options and restricted common stock outstanding under our equity compensation plans, the weighted average exercise price of outstanding stock options and restricted common stock and the number of securities remaining available for issuance were as follows:

	Number of securities to be issued upon exercise of	Weighted average exercise price of outstanding	Number of securities remaining available for future

Plan category	outstanding options, restricted common stock, warrants and rights (a)	options, restricted common stock, warrants and rights (b)	issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	1,902,030	$ 37.49	5,693,856
Equity compensation plans not approved by security holders	—	$ —	—
Total	1,902,030	$ —	5,693,856

27

Item 6. Selected Financial Data

	Year Ended December 31,				
(in millions, except share and per share data)	2016	2015	2014	2013	2012
Operating results					
Net sales	$9,071.0	$8,023.2	$8,305.1	$7,436.6	$7,183.2
Operating income (a)	$225.9	$939.7	$963.7	$855.2	$752.9
Net earnings attributable to BorgWarner Inc. (a)	$118.5	$609.7	$655.8	$624.3	$500.9
Earnings per share — basic (b)	$0.55	$2.72	$2.89	$2.73	$2.22
Earnings per share — diluted (b)	$0.55	$2.70	$2.86	$2.70	$2.09
Net R&D expenditures	$343.2	$307.4	$336.2	$303.2	$265.9
Capital expenditures, including tooling outlays	$500.6	$577.3	$563.0	$417.8	$407.4
Depreciation and amortization	$391.4	$320.2	$330.4	$299.4	$288.6
Number of employees	27,000	30,000	22,000	19,700	19,100
Financial position					
Cash	$443.7	$577.7	$797.8	$939.5	$715.7
Total assets (c)	$8,834.7	$8,825.7	$7,225.2	$6,913.7	$6,397.0
Total debt (c)	$2,219.5	$2,550.3	$1,337.2	$1,219.3	$1,063.4
Common share information					
Cash dividend declared and paid per share (b)	$0.53	$0.52	$0.51	$0.25	$—
Market prices of the Company's common stock (b)					
High	$42.25	$63.01	$67.38	$56.45	$43.73
Low	$27.69	$38.89	$50.24	$35.22	$30.09
Weighted average shares outstanding (thousands) (b)					
Basic	214,374	224,414	227,150	228,600	225,304
Diluted	215,328	225,648	228,924	231,337	242,754

(a) Refer to Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," for discussion of non-comparable items impacting the years ended December 31, 2016, 2015 and 2014.

(b) Amounts have been adjusted for the two-for-one stock split that was effected through a stock dividend on December 16, 2013.

(c) Amounts have been adjusted for the retrospective adoption of the Accounting Standard Update ("ASU") No. 2015-03, "Simplifying the Presentation of Debt Issuance Costs." Refer to Note 1, "Summary of Significant Accounting Policies," to the Consolidated Financial Statements in Item 8 of this report for more information.

Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

INTRODUCTION

BorgWarner Inc. and Consolidated Subsidiaries (the “Company”) is a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. Our products help improve vehicle performance, propulsion efficiency, stability and air quality. These products are manufactured and sold worldwide, primarily to original equipment manufacturers (“OEMs”) of light vehicles (passenger cars, sport-utility vehicles ("SUVs"), vans and light trucks). The Company's products are also sold to other OEMs of commercial vehicles (medium-duty trucks, heavy-duty trucks and buses) and off-highway vehicles (agricultural and construction machinery and marine applications). We also manufacture and sell our products to certain Tier One vehicle systems suppliers and into the aftermarket for light, commercial and off-highway vehicles. The Company operates manufacturing facilities serving customers in Europe, the Americas and Asia and is an original equipment supplier to every major automotive OEM in the world.

The Company's products fall into two reporting segments: Engine and Drivetrain. The Engine segment's products include turbochargers, timing devices and chains, emissions systems and thermal systems. The Drivetrain segment's products include transmission components and systems, AWD torque transfer systems and rotating electrical devices.

RESULTS OF OPERATIONS

A summary of our operating results for the years ended December 31, 2016, 2015 and 2014 is as follows:

	Year Ended December 31,		
(millions of dollars, except per share data)	2016	2015	2014
Net sales	$9,071.0	$8,023.2	$8,305.1
Cost of sales	7,137.9	6,320.1	6,548.7
Gross profit	1,933.1	1,703.1	1,756.4
Selling, general and administrative expenses	817.5	662.0	698.9
Other expense, net	889.7	101.4	93.8
Operating income	225.9	939.7	963.7
Equity in affiliates’ earnings, net of tax	(42.9)	(40.0)	(47.3)
Interest income	(6.3)	(7.5)	(5.5)
Interest expense and finance charges	84.6	60.4	36.4
Earnings before income taxes and noncontrolling interest	190.5	926.8	980.1
Provision for income taxes	30.3	280.4	292.6
Net earnings	160.2	646.4	687.5
Net earnings attributable to the noncontrolling interest, net of tax	41.7	36.7	31.7
Net earnings attributable to BorgWarner Inc.	$118.5	$609.7	$655.8
Earnings per share — diluted	$0.55	$2.70	$2.86

Non-comparable items impacting the Company's earnings per diluted share and net earnings

The Company's earnings per diluted share were $0.55, $2.70 and $2.86 for the years ended December 31, 2016, 2015 and 2014, respectively. The non-comparable items presented below are calculated after tax using the corresponding effective tax rate and the weighted average number of diluted shares for each of the years then ended. The Company believes the following table is useful in highlighting non-comparable items that impacted its earnings per diluted share:

	Year Ended December 31,		
Non-comparable items:	2016	2015	2014
Asbestos-related charge	$(2.05)	$—	$—
Loss on divestiture	(0.48)	—	—
Merger and acquisition expense	(0.11)	(0.08)	—
Restructuring expense	(0.10)	(0.27)	(0.33)
Intangible asset impairment	(0.04)	—	(0.04)
Contract expiration gain	0.02	—	—
Pension settlement loss	—	(0.07)	(0.01)
Gain on previously held equity interest	—	0.05	—
Tax adjustments	0.04	0.04	—
Total impact of non-comparable items per share — diluted	$(2.72)	$(0.33)	$(0.38)

A summary of non-comparable items impacting the Company’s net earnings for the years ended December 31, 2016, 2015 and 2014 is as follows:

Year ended December 31, 2016:

- In the fourth quarter of 2016, the Company determined that its best estimate of the aggregate liability both for asbestos-related claims asserted but not yet resolved and potential asbestos-related claims not yet asserted, including an estimate for defense costs, is $879.3 million as of December 31, 2016. The Company recorded a charge of $703.6 million before tax ($440.6 million after tax) in Other Expense, representing the difference in the total liability from what was previously accrued, consulting fees, less available insurance coverage. Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information.
- In October 2016, the Company sold the Remy light vehicle aftermarket business associated with the 2015 Remy International, Inc. ("Remy") acquisition and recorded a loss on divestiture of $127.1 million. Refer to Note 18, "Recent Transactions," to the Consolidated Financial Statements in Item 8 of this report for more information.
- The Company recorded $23.7 million transition and realignment expenses associated with the Remy acquisition, including certain costs related to the sale of Remy light vehicle aftermarket business.
- The Company incurred restructuring expense of $26.9 million primarily related to continuation of prior year actions in both the Drivetrain and Engine segments. The Drivetrain segment charges represent other expenses and employee termination benefits associated with three labor unions at separate facilities in Western Europe for approximately 450 employees, as well as restructuring of the 2015 Remy acquisition. The Engine segment charges primarily relate to the restructuring of the 2014 Gustav Wahler GmbH u. Co. KG and its general partner ("Wahler") acquisition. These expenses included $10.6 million related to employee termination benefits and $16.3 million of other expenses including $3.1 million related to winding down certain operations in North America. Both the Drivetrain and Engine restructuring actions are designed to improve the future profitability and competitiveness of each segment.
- The Company recorded intangible asset impairment losses of $12.6 million related to Engine segment Etatech’s ECCOS intellectual technology due to the discontinuance of interest from potential customers during the fourth quarter of 2016 that significantly lowered the commercial feasibility of the product line.

- The Company recorded $6.2 million gain associated with the release of certain Remy light vehicle aftermarket liabilities related to the expiration of a customer contract.
- The Company recorded tax benefits of $263.0 million, $22.7 million, $8.6 million, $6.0 million and $4.4 million primarily related to asbestos-related charge, loss on divestiture, other one-time tax adjustments, restructuring expense and intangible asset impairment loss, respectively, as well as a tax expense of $2.2 million related to a gain associated with the release of certain Remy light vehicle aftermarket liabilities due to the expiration of a customer contract.

Year ended December 31, 2015:

- The Company incurred restructuring expense of $65.7 million, associated with both the Drivetrain and Engine segments and a global realignment plan. The Drivetrain segment charges mostly represent expenses associated with severance agreements with three labor unions at separate facilities in Western Europe for approximately 450 employees, as well as restructuring of the 2015 Remy acquisition. The Engine segment charges primarily relate to the restructuring of the 2014 Wahler acquisition. These expenses included $41.5 million related to employee termination benefits and $11.7 million of other expenses. Both the Drivetrain and Engine restructuring actions are designed to improve the future profitability and competitiveness of each segment. Also included in the restructuring amount above is $12.5 million related to a global realignment plan intended to enhance treasury management flexibility by creating a legal entity structure that better aligns with the Company's business strategy.
- The Company incurred a non-cash settlement loss of $25.7 million related to a lump-sum pension de-risking disbursement made to an insurance company to unconditionally and irrevocably guarantee all future payments to certain participants that were receiving payments from the U.S. pension plan.
- The Company recorded $21.8 million for merger and acquisition expenses primarily related to the Remy acquisition. This amount includes $13.0 million related to investment banker fees and $8.8 million related to professional fees.
- The Company recorded a $10.8 million gain on the previously held equity interest in BERU Diesel Start Systems Pvt. Ltd. ("BERU Diesel") as a result of acquiring the remaining 51% of this joint venture.
- The Company recorded tax benefits of $9.9 million, $9.0 million, $3.8 million and $3.7 million primarily related to foreign tax incentives and tax settlements, the pension settlement loss, merger and acquisition expense and restructuring expense, respectively.

Year ended December 31, 2014:

- The Company incurred restructuring expense of $90.8 million, primarily associated with both the Drivetrain and Engine segments. The Drivetrain segment charges primarily represent a continuation of expenses associated with the first quarter 2014 finalization of severance agreements with three labor unions at separate facilities in Western Europe for approximately 350 employees. The Engine segment charges primarily relate to the restructuring of the Wahler acquisition. These expenses included $57.9 million related to employee termination benefits and $20.9 million of other expenses. Additionally, the Company also recorded restructuring charges of $12.0 million related to a global realignment plan intended to enhance treasury management flexibility by creating a legal entity structure that better aligns with the Company's business strategy. Both the Drivetrain and Engine restructuring actions are designed to improve the future profitability and competitiveness of each segment.
- The Company incurred intangible asset impairment losses of $10.3 million related to the Engine segment, primarily driven by the decision to discontinue the use of an unamortized trade name.
- The Company incurred a settlement loss of $3.1 million related to lump-sum payments made to former employees of the Company to discharge its obligation under the U.S pension plan.

- The Company recorded tax benefits of $15.3 million, $0.4 million and $1.1 million related to restructuring expense, intangible asset impairment losses and the pension settlement loss, respectively.

Net Sales

Net sales for the year ended December 31, 2016 totaled $9,071.0 million, a 13.1% increase from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, and the 2015 Remy acquisition, net sales increased 5.2%.

Net sales for the year ended December 31, 2015 totaled $8,023.2 million, a 3.4% decrease from the year ended December 31, 2014. Excluding the impact of weakening foreign currencies, primarily the Euro, the 2014 Wahler acquisition, the 2015 BERU Diesel acquisition and the 2015 Remy acquisition, net sales increased 4.3%.

The following table details our results of operations as a percentage of net sales:

	Year Ended December 31,		
(percentage of net sales)	2016	2015	2014
Net sales	100.0 %	100.0 %	100.0 %
Cost of sales	78.7	78.8	78.9
Gross profit	21.3	21.2	21.1
Selling, general and administrative expenses	9.0	8.3	8.4
Other expense, net	9.8	1.2	1.1
Operating income	2.5	11.7	11.6
Equity in affiliates' earnings, net of tax	(0.5)	(0.5)	(0.6)
Interest income	(0.1)	(0.1)	(0.1)
Interest expense and finance charges	0.9	0.8	0.5
Earnings before income taxes and noncontrolling interest	2.2	11.5	11.8
Provision for income taxes	0.3	3.5	3.5
Net earnings	1.9	8.0	8.3
Net earnings attributable to the noncontrolling interest, net of tax	0.5	0.4	0.4
Net earnings attributable to BorgWarner Inc.	1.4 %	7.6 %	7.9 %

Cost of sales as a percentage of net sales was 78.7%, 78.8% and 78.9% in the years ended December 31, 2016, 2015 and 2014, respectively. The Company's material cost of sales was approximately 55% of net sales in the years ended December 31, 2016, 2015 and 2014. The Company's remaining cost to convert raw material to finished product, which includes direct labor and manufacturing overhead, had continued to improve during the years ended December 31, 2016 and 2015 compared to 2014. Gross profit as a percentage of net sales was 21.3%, 21.2% and 21.1% in the years ended December 31, 2016, 2015 and 2014, respectively. Included in the 2016 gross profit and gross margin is a $6.2 million gain associated with the release of certain Remy light vehicle aftermarket liabilities related to the expiration of a customer contract.

Selling, general and administrative expenses ("SG&A") was $817.5 million, $662.0 million and $698.9 million or 9.0%, 8.3% and 8.4% of net sales for the years ended December 31, 2016, 2015 and 2014, respectively. Excluding the impact of the 2015 acquisition of Remy, SG&A and SG&A as a percentage of net sales were $696.0 million and 8.5% for the year ended December 31, 2016.

Research and development ("R&D") costs, net of customer reimbursements, was $343.2 million, or 3.8% of net sales, in the year ended December 31, 2016, compared to $307.4 million, or 3.8% of net sales, and $336.2 million, or 4.0% of net sales, in the years ended December 31, 2015 and 2014, respectively. We will continue to invest in a number of cross-business R&D programs, as well as a number of other key

programs, all of which are necessary for short- and long-term growth. Our current long-term expectation for R&D spending is approximately 4% of net sales.

Other expense, net was $889.7 million, $101.4 million and $93.8 million for the years ended December 31, 2016, 2015 and 2014, respectively. This line item is primarily comprised of items discussed within the subtitle "Non-comparable items impacting the Company's earnings per diluted share and net earnings" above.

Equity in affiliates' earnings, net of tax was $42.9 million, $40.0 million and $47.3 million in the years ended December 31, 2016, 2015 and 2014, respectively. This line item is driven by the results of our 50%-owned Japanese joint venture, NSK-Warner, and our 32.6%-owned Indian joint venture, Turbo Energy Private Limited (“TEL”). The increase in the year ended December 31, 2016 compared to 2015 and 2014 is primarily driven by higher earnings from NSK-Warner as a result of improved business conditions in Asia. Refer to Note 5, "Balance Sheet Information," to the Consolidated Financial Statements in Item 8 of this report for further discussion of NSK-Warner.

Interest expense and finance charges were $84.6 million, $60.4 million and $36.4 million in the years ended December 31, 2016, 2015 and 2014, respectively. The increase in interest expense for the year ended December 31, 2016 compared with the years ended December 31, 2015 and 2014 was primarily due to the Company's March and November 2015 issuances of senior notes.

Provision for income taxes The provision for income taxes resulted in an effective tax rate of 15.9% for the year ended December 31, 2016, compared with rates of 30.3% and 29.9% for the years ended December 31, 2015 and 2014, respectively.

The effective tax rate of 15.9% for the year ended December 31, 2016 includes tax benefits of $263.0 million, $22.7 million, $8.6 million, $6.0 million and $4.4 million associated with an asbestos-related charge, loss on divestiture, other one-time tax adjustments, restructuring expense and intangible asset impairment loss, respectively, as well as a tax expense of $2.2 million related to a gain associated with the release of certain Remy light vehicle aftermarket liabilities due to the expiration of a customer contract. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2016 was 30.9%.

The effective tax rate of 30.3% for the year ended December 31, 2015 includes tax benefits of $9.0 million, $3.8 million and $3.7 million related to the pension settlement loss, merger and acquisition expense and restructuring expense discussed in Note 3, "Other Expense, Net," to the Consolidated Financial Statements in Item 8 of the report. Additionally, the effective tax rate includes a tax benefit of $9.9 million primarily related to foreign tax incentives and tax settlements. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2015 was 29.8%.

The effective tax rate of 29.9% for the year ended December 31, 2014 includes tax benefits of $15.3 million, $0.4 million and $1.1 million related to restructuring expense, intangible asset impairment losses and the pension settlement loss discussed in Note 3, "Other Expense, Net," to the Consolidated Financial Statements in Item 8 of this report. Excluding the impact of these non-comparable items, the Company's annual effective tax rate associated with ongoing operations for 2014 was 28.5%.

Net earnings attributable to the noncontrolling interest, net of tax of $41.7 million for the year ended December 31, 2016 increased by $5.0 million and $10.0 million compared to the years ended December 31, 2015 and 2014, respectively. The increase during the year ended December 31, 2016 compared to the years ended December 31, 2015 and 2014 was primarily related to higher sales and earnings by the Company's joint ventures.

Results By Reporting Segment

The Company's business is comprised of two reporting segments: Engine and Drivetrain. These segments are strategic business groups, which are managed separately as each represents a specific grouping of related automotive components and systems.

The Company allocates resources to each segment based upon the projected after-tax return on invested capital ("ROIC") of its business initiatives. ROIC is comprised of Adjusted EBIT after deducting notional taxes compared to the projected average capital investment required. Adjusted EBIT is comprised of earnings before interest, income taxes and noncontrolling interest (“EBIT") adjusted for restructuring, goodwill impairment charges, affiliates' earnings and other items not reflective of ongoing operating income or loss.

Adjusted EBIT is the measure of segment income or loss used by the Company. The Company believes Adjusted EBIT is most reflective of the operational profitability or loss of our reporting segments.

The following tables show segment information and Adjusted EBIT for the Company's reporting segments.

Net Sales by Reporting Segment

	Year Ended December 31,		
(millions of dollars)	2016	2015	2014
Engine	$5,590.1	$5,500.0	$5,705.9
Drivetrain	3,523.7	2,556.7	2,631.4
Inter-segment eliminations	(42.8)	(33.5)	(32.2)
Net sales	$9,071.0	$8,023.2	$8,305.1

Adjusted Earnings Before Interest, Income Taxes and Noncontrolling Interest ("Adjusted EBIT")

	Year Ended December 31,		
(millions of dollars)	2016	2015	2014
Engine	$934.1	$900.7	$924.0
Drivetrain	354.5	294.6	303.3
Adjusted EBIT	1,288.6	1,195.3	1,227.3
Asbestos-related charge	703.6	—	—
Loss on divestiture	127.1	—	—
Restructuring expense	26.9	65.7	90.8
Merger and acquisition expense	23.7	21.8	—
Intangible asset impairment	12.6	—	10.3
Contract expiration gain	(6.2)	—	—
Pension settlement loss	—	25.7	3.1
Gain on previously held equity interest	—	(10.8)	—
Corporate, including equity in affiliates' earnings and stock-based compensation	132.1	113.2	112.1
Interest income	(6.3)	(7.5)	(5.5)
Interest expense and finance charges	84.6	60.4	36.4
Earnings before income taxes and noncontrolling interest	190.5	926.8	980.1
Provision for income taxes	30.3	280.4	292.6
Net earnings	160.2	646.4	687.5
Net earnings attributable to the noncontrolling interest, net of tax	41.7	36.7	31.7
Net earnings attributable to BorgWarner Inc.	$118.5	$609.7	$655.8

The Engine segment's net sales for the year ended December 31, 2016 increased $90.1 million, or 1.6%, and segment Adjusted EBIT increased $33.4 million, or 3.7%, from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, primarily the Euro, Chinese Renminbi and Korean Won, net sales increased 3.1% from the year ended December 31, 2015 primarily due to higher sales of light vehicle turbochargers and engine timing systems, including variable cam timing, partially offset by weak aftermarket and commercial vehicle markets around the world. The segment Adjusted EBIT margin was 16.7% for the year ended December 31, 2016, up from 16.4% in the year ended December 31, 2015.

The Engine segment's net sales for the year ended December 31, 2015 decreased $205.9 million, or 3.6%, and segment Adjusted EBIT decreased $23.3 million, or 2.5%, from the year ended December 31, 2014. Excluding the impact of weakening foreign currencies, primarily the Euro, the 2014 Wahler acquisition and the 2015 BERU Diesel acquisition, net sales increased 6.7% from the year ended December 31, 2014 primarily due to higher sales of turbochargers, partially offset by weak commercial vehicle markets around the world. The segment Adjusted EBIT margin was 16.4% for the year ended December 31, 2015, up from 16.2% in the year ended December 31, 2014.

The Drivetrain segment's net sales for the year ended December 31, 2016 increased $967.0 million, or 37.8%, and segment Adjusted EBIT increased $59.9 million, or 20.3%, from the year ended December 31, 2015. Excluding the impact of weakening foreign currencies, primarily the Euro, Chinese Renminbi and Korean Won, and the 2015 Remy acquisition, net sales increased 9.9% from the year ended December 31, 2015 primarily due to higher sales of all-wheel drive systems. The segment Adjusted EBIT margin was 10.1% in the year ended December 31, 2016, compared to 11.5% in the year ended December 31, 2015. The Adjusted EBIT margin decrease was primarily due to the 2015 acquisition of Remy.

The Drivetrain segment's net sales for the year ended December 31, 2015 decreased $74.7 million, or 2.8%, and segment Adjusted EBIT decreased $8.7 million, or 2.9%, from the year ended December 31, 2014. Excluding the impact of weakening foreign currencies, primarily the Euro, and the 2015 Remy acquisition, net sales decreased 0.8% from the year ended December 31, 2014 primarily due to lower sales of transmission components in Europe. The segment Adjusted EBIT margin was 11.5% in the year ended December 31, 2015, compared to 11.5% in the year ended December 31, 2014.

Corporate represents headquarters' expenses not directly attributable to the individual segments and equity in affiliates' earnings. This net expense was $132.1 million, $113.2 million and $112.1 million for the years ended December 31, 2016, 2015 and 2014, respectively. The increase of Corporate expenses in 2016 is primarily due to costs associated with the onboarding and severance of talent, compliance costs and various other corporate investment initiatives.

Outlook

Our overall outlook for 2017 is positive. The Company expects modest global production growth and net new business-related sales growth in 2017 due to rapid adoption of BorgWarner products around the world. This growth is expected to be partially offset by a stronger U.S. dollar, which would reduce the U.S. dollar value of its foreign currency-denominated sales.

The Company maintains a positive long-term outlook for its global business and is committed to new product development and strategic capital investments to enhance its product leadership strategy. The several trends that are driving our long-term growth are expected to continue, including the increased turbocharger adoption in North American and Asia, the increased adoption of automated transmissions in Europe and Asia-Pacific, and the move to variable cam and chain engine timing systems in Europe and Asia-Pacific. Our long-term growth is also expected to benefit from the adoption of product offerings for hybrid and electric vehicles.

LIQUIDITY AND CAPITAL RESOURCES

The Company maintains various liquidity sources including cash and cash equivalents and the unused portion of our multi-currency revolving credit agreement. At December 31, 2016, the Company had $443.7 million of cash, of which $437.1 million of cash was held by our subsidiaries outside of the United States. Cash held by these subsidiaries is used to fund foreign operational activities and future investments, including acquisitions. The vast majority of cash held outside the United States is available for repatriation, however, doing so could result in increased foreign and U.S. federal, state and local income taxes. A deferred tax liability has been recorded for the portion of these funds anticipated to be repatriated to the United States. The Company uses its U.S. liquidity primarily for various corporate purposes, including but not limited to, debt service, share repurchases, dividend distributions and other corporate expenses.

The Company has a $1 billion multi-currency revolving credit facility which includes a feature that allows the Company's borrowings to be increased to $1.25 billion. The facility provides for borrowings through June 30, 2019. The Company has one key financial covenant as part of the credit agreement which is a debt to EBITDA ("Earnings Before Interest, Taxes, Depreciation and Amortization") ratio. The Company was in compliance with the financial covenant at December 31, 2016 and expects to remain compliant in future periods. At December 31, 2016 and December 31, 2015, the Company had no outstanding borrowings under this facility.

The Company's commercial paper program allows the Company to issue short-term, unsecured commercial paper notes up to a maximum aggregate principal amount outstanding of $1 billion. Under this program, the Company may issue notes from time to time and will use the proceeds for general corporate purposes. At December 31, 2016 and 2015, the Company had outstanding borrowings of $50.8 million and $215.0 million, respectively, under this program, which is classified in the Consolidated Balance Sheets in Notes payable and other short-term debt.

The total current combined borrowing capacity under the multi-currency revolving credit facility and commercial paper program cannot exceed $1 billion.

In addition to the credit facility, the Company's universal shelf registration has an unlimited amount of various debt and equity instruments that could be issued.

On February 10, 2016, April 27, 2016 and July 26, 2016, the Company’s Board of Directors declared quarterly cash dividends of $0.13 per share of common stock. On November 9, 2016, the Company's Board of Directors declared quarterly cash dividends of $0.14 per share of common stock. These dividends were paid in the 12 months ended December 31, 2016.

The Company's net debt to net capital ratio was 35.0% at December 31, 2016 versus 35.2% at December 31, 2015.

From a credit quality perspective, the Company has a credit rating of BBB+ from both Standard & Poor's and Fitch Ratings and Baa1 from Moody's. The current outlook from Standard & Poor's and Fitch Ratings is stable. During the first quarter of 2016, Moody's revised its outlook from stable to negative. None of the Company's debt agreements require accelerated repayment in the event of a downgrade in credit ratings.

Capitalization

	December 31,	
(millions of dollars)	2016	2015
Notes payable and short-term debt	$175.9	$441.4
Long-term debt	2,043.6	2,108.9
Total debt	2,219.5	2,550.3
Less: cash	443.7	577.7
Total debt, net of cash	1,775.8	1,972.6
Total equity	3,301.9	3,631.5
Total capitalization	$5,077.7	$5,604.1
Total debt, net of cash, to capital ratio	35.0 %	35.2 %

Balance sheet debt decreased by $330.8 million and cash decreased by $134.0 million compared with December 31, 2015. The $196.8 million decrease in balance sheet debt (net of cash) was primarily due to the repayment of the Company's $150 million 5.75% Senior Notes and other short term borrowings.

Total equity decreased by $329.6 million in the year ended December 31, 2016 as follows:

(millions of dollars)	
Balance, January 1, 2016	$3,631.5
Net earnings	160.2
Purchase of treasury stock	(274.8)
Stock-based compensation	46.2
Business divestiture	(4.8)
Other comprehensive loss	(117.0)
Dividends declared to BorgWarner stockholders	(113.4)
Dividends declared to noncontrolling stockholders	(26.0)
Balance, December 31, 2016	$3,301.9

Operating Activities

Net cash provided by operating activities was $1,035.7 million, $867.9 million and $801.8 million in the years ended December 31, 2016, 2015 and 2014, respectively. The increase for the year ended December 31, 2016 compared with the year ended December 31, 2015 primarily reflects higher net earnings adjusted for non-cash charges to operations and improved working capital resulting from inventory management initiatives and product mix change. The increase for the year ended December 31, 2015 compared with the year ended December 31, 2014 primarily reflects improved working capital, partially offset by lower net earnings adjusted for non-cash charges to operations.

Investing Activities

Net cash used in investing activities was $404.2 million, $1,759.1 million and $665.1 million in the years ended December 31, 2016, 2015 and 2014, respectively. The decrease in the year ended December 31, 2016 compared with the year ended December 31, 2015 is primarily due to lower capital expenditures, including tooling outlays, the 2016 sale of Divgi-Warner and Remy light vehicle aftermarket business and the 2015 acquisition of Remy and BERU Diesel. The increase in the year ended December 31, 2015 compared with the year ended December 31, 2014 is primarily driven by the 2015 acquisitions of Remy and BERU Diesel and higher capital expenditures, partially offset by the 2014 acquisition of Wahler and a gain on the settlement of net investment hedges in 2015. Year over year capital spending decrease of $76.7 million during the year ended December 31, 2016 is due to lower spending on new buildings and building expansions. Year over year capital spending increase of $14.3 million during the year ended December 31, 2015 was primarily due to higher spending levels required to meet increased program launches worldwide.

Financing Activities

Net cash used in financing activities was $733.8 million for the year ended December 31, 2016, net cash provided by financing activities was $736.6 million for the year ended December 31, 2015 and net cash used in financing activities was $201.7 million for the year ended December 31, 2014. The decrease in the year ended December 31, 2016 compared with the year ended December 31, 2015 is primarily driven by lower debt borrowings and higher debt repayments, partially offset by lower treasury stock purchases. The increase in the year ended December 31, 2015 compared with the year ended December 31, 2014 is primarily driven by the $1 billion issuance of senior notes in March 2015 and the €500 million issuance of senior notes in November 2015, partially offset by the decrease in notes payable, treasury stock purchases and dividend payments.

The Company's significant contractual obligation payments at December 31, 2016 are as follows:

(millions of dollars)	Total	2017	2018-2019	2020-2021	After 2021
Other postretirement employee benefits, excluding pensions (a)	$159.7	$14.8	$ 26.3	$ 23.0	$95.6
Defined benefit pension plans (b)	42.1	3.2	7.5	7.8	23.6
Notes payable and long-term debt	2,230.7	175.9	153.2	254.2	1,647.4
Projected interest payments	953.3	83.1	146.5	121.1	602.6
Non-cancelable operating leases	55.1	24.1	14.4	12.8	3.8
Capital spending obligations	85.3	85.3	—	—	—
Income tax payments (c)	244.7	244.7	—	—	—
Total	$3,770.9	$631.1	$ 347.9	$ 418.9	$2,373.0

(a) Other postretirement employee benefits, excluding pensions, include anticipated future payments to cover retiree medical and life insurance benefits. Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s other postretirement employee benefits.

(b) Since the timing and amount of payments for funded defined benefit pension plans are usually not certain for future years such potential payments are not shown in this table. Amount contained in “After 2021” column is for unfunded plans and includes estimated payments through 2026. Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s pension benefits.

(c) Refer to Note 4, "Income Taxes," to the Consolidated Financial Statements in Item 8 of this report for disclosures related to the Company’s income taxes.

We believe that the combination of cash from operations, cash balances, available credit facilities, and the universal shelf registration capacity will be sufficient to satisfy our cash needs for our current level of operations and our planned operations for the foreseeable future. We will continue to balance our needs for internal growth, external growth, debt reduction and cash conservation.

Asbestos-related Liability

During 2016 and 2015, the Company had paid indemnity and related defense costs totaling $45.3 million and $54.7 million, respectively. These gross payments are before tax benefits and any insurance receipts. Indemnity and defense costs are incorporated into the Company's operating cash flows and will continue to be in the future.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding costs and assumptions for asbestos-related liability.

Off Balance Sheet Arrangements

The Company has certain leases that are recorded as operating leases. Types of operating leases include leases on facilities, an airplane, vehicles and certain office equipment. The total expected future cash outlays for non-cancelable operating lease obligations at December 31, 2016 is $55.1 million. Refer to Note 16, "Leases and Commitments," to the Consolidated Financial Statements in Item 8 of this report for more information on operating leases, including future minimum payments.

Pension and Other Postretirement Employee Benefits

The Company's policy is to fund its defined benefit pension plans in accordance with applicable government regulations and to make additional contributions when appropriate. At December 31, 2016, all legal funding requirements had been met. The Company contributed $19.7 million, $19.3 million and $53.4 million to its defined benefit pension plans in the years ended December 31, 2016, 2015 and 2014, respectively. The Company expects to contribute a total of $15 million to $25 million into its defined benefit pension plans during 2017. Of the $15 million to $25 million in projected 2017 contributions, $3.2 million are contractually obligated, while any remaining payments would be discretionary.

The funded status of all pension plans was a net unfunded position of $187.4 million and $178.3 million at December 31, 2016 and 2015, respectively. Of these amounts, $77.5 million and $64.3 million at December 31, 2016 and 2015, respectively, were related to plans in Germany, where there is not a tax deduction allowed under the applicable regulations to fund the plans; hence the common practice is to make contributions as benefit payments become due.

Other postretirement employee benefits primarily consist of postretirement health care benefits for certain employees and retirees of the Company's U.S. operations. The Company funds these benefits as retiree claims are incurred. Other postretirement employee benefits had an unfunded status of $119.9 million and $145.3 million at December 31, 2016 and 2015, respectively.

The Company believes it will be able to fund the requirements of these plans through cash generated from operations or other available sources of financing for the foreseeable future.

Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for more information regarding costs and assumptions for employee retirement benefits.

OTHER MATTERS

Contingencies

In the normal course of business, the Company is party to various commercial and legal claims, actions and complaints, including matters involving warranty claims, intellectual property claims, general liability and various other risks. It is not possible to predict with certainty whether or not the Company will ultimately be successful in any of these commercial and legal matters or, if not, what the impact might be. The

Company's environmental and asbestos liability contingencies are discussed separately below. The Company's management does not expect that an adverse outcome in any of these commercial and legal claims, actions and complaints will have a material adverse effect on the Company's results of operations, financial position or cash flows, although it could be material to the results of operations in a particular quarter.

Litigation

In January 2006, BorgWarner Diversified Transmission Products Inc. ("DTP"), a subsidiary of the Company, filed a declaratory judgment action in United States District Court, Southern District of Indiana (Indianapolis Division) against the United Automobile, Aerospace, and Agricultural Implements Workers of America (“UAW”) Local No. 287 and Gerald Poor, individually and as the representative of a defendant class. DTP sought the Court's affirmation that DTP did not violate the Labor-Management Relations Act or the Employee Retirement Income Security Act (ERISA) by unilaterally amending certain medical plans effective April 1, 2006 and October 1, 2006, prior to the expiration of the then-current collective bargaining agreements. On September 10, 2008, the Court found that DTP's reservation of the right to make such amendments reducing the level of benefits provided to retirees was limited by its collectively bargained health insurance agreement with the UAW, which did not expire until April 24, 2009. Thus, the amendments were untimely. In 2008, the Company recorded a charge of $4.0 million as a result of the Court's decision.

DTP filed a declaratory judgment action in the United States District Court, Southern District of Indiana (Indianapolis Division) against the UAW Local No. 287 and Jim Barrett and others, individually and as representatives of a defendant class, on February 26, 2009 again seeking the Court's affirmation that DTP did not violate the Labor - Management Relations Act or ERISA by modifying the level of benefits provided retirees to make them comparable to other Company retiree benefit plans after April 24, 2009. Certain retirees, on behalf of themselves and others, filed a mirror-image action in the United States District Court, Eastern District of Michigan (Southern Division) on March 11, 2009, for which a class has been certified. During the last quarter of 2009, the action pending in Indiana was dismissed, while the action in Michigan continued. On December 5, 2016, the Court granted the Company’s Motion for Summary Judgment and ordered dismissal of the retirees’ Complaint with prejudice. No appeal was filed on behalf of the retirees and the time to file an appeal has expired.

Environmental

The Company and certain of its current and former direct and indirect corporate predecessors, subsidiaries and divisions have been identified by the United States Environmental Protection Agency and certain state environmental agencies and private parties as potentially responsible parties (“PRPs”) at various hazardous waste disposal sites under the Comprehensive Environmental Response, Compensation and Liability Act (“Superfund”) and equivalent state laws and, as such, may presently be liable for the cost of clean-up and other remedial activities at 27 such sites. Responsibility for clean-up and other remedial activities at a Superfund site is typically shared among PRPs based on an allocation formula.

The Company believes that none of these matters, individually or in the aggregate, will have a material adverse effect on its results of operations, financial position or cash flows. Generally, this is because either the estimates of the maximum potential liability at a site are not material or the liability will be shared with other PRPs, although no assurance can be given with respect to the ultimate outcome of any such matter.

Based on information available to the Company (which in most cases includes: an estimate of allocation of liability among PRPs; the probability that other PRPs, many of whom are large, solvent public companies, will fully pay the cost apportioned to them; currently available information from PRPs and/or federal or state environmental agencies concerning the scope of contamination and estimated remediation and consulting costs; and remediation alternatives), the Company has an accrual for indicated environmental liabilities of $6.3 million and $5.4 million at December 31, 2016 and at December 31, 2015, respectively. The Company expects to pay out substantially all of the amounts accrued for environmental liability over the next five years.

In connection with the sale of Kuhlman Electric Corporation ("Kuhlman Electric"), the Company agreed to indemnify the buyer and Kuhlman Electric for certain environmental liabilities, then unknown to the Company, relating to certain operations of Kuhlman Electric that pre-date the Company's 1999 acquisition of Kuhlman Electric. The Company previously settled or obtained dismissals of various lawsuits that were filed against Kuhlman Electric and others, including the Company, on behalf of plaintiffs alleging personal injury relating to alleged environmental contamination at its Crystal Springs, Mississippi plant. The Company filed a lawsuit against Kuhlman Electric and a related entity challenging the validity of the indemnity and the defendants filed counterclaims (the "Indemnity Action") and a related lawsuit. On September 28, 2015, the parties entered into a confidential settlement agreement that, among other things, released and terminated all of BorgWarner's indemnity obligations. Pursuant to the settlement agreement, the parties voluntarily dismissed the Indemnity Action on September 29, 2015 and the related lawsuit was dismissed on October 13, 2015. The Company continues to pursue insurance coverage actions for reimbursement of amounts it spent under the indemnity. The Company may in the future become subject to further legal proceedings.

Asbestos-related Liability

Like many other industrial companies that have historically operated in the United States, the Company, or parties that the Company is obligated to indemnify, continues to be named as one of many defendants in asbestos-related personal injury actions. We believe that the Company's involvement is limited because these claims generally relate to a few types of automotive products that were manufactured over 30 years ago and contained encapsulated asbestos. The nature of the fibers, the encapsulation of the asbestos, and the manner of the products' use all lead the Company to believe that these products were and are highly unlikely to cause harm. Furthermore, the useful life of nearly all of these products expired many years ago.

As of December 31, 2016 and 2015, the Company had approximately 9,400 and 10,100 pending asbestos-related claims, respectively. The decrease in the number of pending claims is primarily a result of the Company's continued efforts to obtain dismissal of dormant claims. It is probable that additional asbestos-related claims will be asserted against the Company in the future. The Company vigorously defends against these claims, and has been successful in obtaining the dismissal of the majority of the claims asserted against it without any payment. The Company likewise expects that the vast majority of the pending asbestos-related claims in which it has been named (or has an obligation to indemnify a party which has been named), and asbestos-related claims that may be asserted in the future, will result in no payment being made by the Company or its insurers. In 2016, of the approximately 2,800 claims resolved, 352 (13%) resulted in payment being made to a claimant by or on behalf of the Company. In 2015, of the approximately 5,300 claims resolved, 349 (7%) resulted in payment being made to a claimant by or on behalf of the Company. The comparatively large number of claims resolved in 2015 reflected the Company's efforts to dismiss large numbers of inactive or otherwise unmeritorious claims in order to be better positioned to evaluate remaining and future claims, while the smaller number of total claims resolved in 2016 reflects in part the outcome of those efforts.

Through December 31, 2016 and 2015, the Company had accrued and paid $477.7 million and $432.7 million in indemnity (including settlement payments) and defense costs in connection with asbestos-related claims, respectively. During 2016 and 2015, the Company had paid indemnity and related defense costs totaling $45.3 million and $54.7 million, respectively. These gross payments are before tax benefits and

any insurance receipts. Indemnity and defense costs are incorporated into the Company's operating cash flows and will continue to be in the future.

The Company reviews, on an ongoing basis, its own experience in handling asbestos-related claims and trends affecting asbestos-related claims in the U.S. tort system generally, for the purposes of assessing the value of pending asbestos-related claims and the number and value of those that may be asserted in the future, as well as potential recoveries from the Company's insurers with respect to such claims and defense costs. As of December 31, 2015, the Company also recorded an estimated liability of $108.5 million for asbestos-related claims asserted but not yet resolved and their associated defense costs. The Company further stated that, as of that date, its ultimate liability could not be reasonably estimated in excess of the amounts it had then accrued for claims that had been resolved and the estimated liability for claims asserted but not yet resolved and their associated defense costs. The inability to arrive at a reasonable estimate of the liability for potential asbestos-related claims that may be asserted in the future was based on, among other factors, the volatility in the number and type of asbestos claims that may be asserted, changes in asbestos-related litigation in the United States, the significant number of co-defendants that have filed for bankruptcy, the magnitude and timing of co-defendant bankruptcy trust payments, the inherent uncertainty of future disease incidence and claiming patterns against the Company, and the impact of tort reform legislation that may be enacted at the state or federal levels.

The Company has continued efforts to evaluate these factors and, if possible, arrive at a reasonable estimate of the number and value of potential future asbestos-related claims. In recent years, there have been more observable trends in the Company's claims data that would indicate that claiming patterns against the Company have stabilized. Concurrently, in recent years, the Company has made enhancements to the management and analysis of asbestos-related claims, including specifically: the engagement of new National Coordinating Counsel with significant asbestos litigation experience and a global presence, the engagement of several new local counsel panels; outsourcing administration and claims handling to a third party; implementing various improvements in the processing of asbestos-related claims so as to allow the Company's management to have greater real-time insight into the handling of individual asbestos-related claims; and increasing audits and compliance reviews of counsel handling asbestos-related claims. This process has as of the end of 2016 resulted in improvements in both the quantity and the quality of the information available to the Company's management respecting individual asbestos-related claims and their handling and disposition. This process has also resulted, in the Company's view, in an increased ability to reasonably forecast the aggregate number of potential future asbestos-related claims that may be asserted against the Company.

The Company has further engaged in a sustained effort to obtain the dismissal of thousands of dormant asbestos-related product liability claims, which has resulted in a reduction in the number of its pending claims by 48 percent over the past few years. Legislative and judicial developments affecting the U.S. tort system generally, including medical criteria legislation, procedural reforms, and docket control measures relating to so-called unimpaired claims, have also stabilized certain aspects of the Company's defense efforts respecting asbestos-related claims and allowed the Company greater insight into the number and value of potential future claims in recent years.

As part of its review and assessment of asbestos-related claims, the Company hired a third party consultant in the third quarter of 2016 to further assist in the analysis of potential future asbestos-related claims. The consultant's work utilized the updated data and analysis resulting from the Company's claim review process and included the development of an estimate of the potential value of asbestos-related claims asserted but not yet resolved as well as the number and potential value of asbestos-related claims not yet asserted. The Company determined based on the factors described above, including the analysis and input of the consultant, that its best estimate of the aggregate liability both for asbestos-related claims asserted but not yet resolved and potential asbestos-related claims not yet asserted, including an estimate for defense costs, is $879.3 million as of December 31, 2016. This liability reflects the actuarial central estimate, which is intended to represent an expected value of the most probable outcome. This estimate

42

is not discounted to present value and includes an estimate of liability for potential future claims not yet asserted through December 31, 2059 with a runoff through 2067. The Company currently believes that December 31, 2067 is a reasonable assumption as to the last date on which it is likely to have resolved all asbestos-related claims, based on the nature and useful life of the Company's products and the likelihood of incidence of asbestos-related disease in the U.S. population generally.

In developing the estimate of liability for potential future claims, the third-party consultant projected a potential number of future claims based on the Company's historical claim filings and patterns and compared that to anticipated levels of unique plaintiff asbestos-related claims asserted in the U.S. tort system against all defendants. The consultant also utilized assumptions based on the Company's historical proportion of claims resolved without payment, historical settlement costs for those claims that result in a payment, and historical defense costs. The liabilities were then estimated by multiplying the pending and projected future claim filings by projected payments rates and average settlement amounts and then adding an estimate for defense costs.

The Company's estimate of the indemnity and defense costs for asbestos-related claims asserted but not yet resolved and potential claims not yet asserted is its best estimate of such costs. That estimate is subject to numerous uncertainties. These include future legislative or judicial changes affecting the U.S. tort system, bankruptcy proceedings involving one or more co-defendants, the impact and timing of payments from bankruptcy trusts that presently exist and those that may exist in the future, disease emergence and associated claim filings, the impact of future settlements or significant judgments, changes in the medical condition of claimants, changes in the treatment of asbestos-related disease, and any changes in settlement or defense strategies. The amount recorded at December 31, 2016 for asbestos-related claims is based on currently available information and assumptions that the Company believes are reasonable. Any amounts that are reasonably possible of occurring in excess of amounts recorded are believed to not be significant. The various assumptions utilized in arriving at the Company's estimate the number of future claims that may be asserted, the percentage of claims that may result in a payment, the average cost to resolve such claims, and potential defense costs - may also change over time, and the Company's actual liability for asbestos-related claims asserted but not yet resolved and those not yet asserted may be higher or lower than the estimate provided herein as a result of such changes.

The Company has certain insurance coverage applicable to asbestos-related claims. Prior to June 2004, the settlement and defense costs associated with all asbestos-related claims were paid by the Company's primary layer insurance carriers under a series of interim funding arrangements. In June 2004, primary layer insurance carriers notified the Company of the alleged exhaustion of their policy limits. A declaratory judgment action was filed in January 2004 in the Circuit Court of Cook County, Illinois by Continental Casualty Company and related companies against the Company and certain of its historical general liability insurers. The Cook County court has issued a number of interim rulings and discovery is continuing in this proceeding. The Company is vigorously pursuing the litigation against all carriers that are parties to it, as well as pursuing settlement discussions with its carriers where appropriate. The Company has entered into settlement agreements with certain of its insurance carriers, resolving such insurance carriers' coverage disputes through the carriers' agreement to pay specified amounts to the Company, either immediately or over a specified period.

Through December 31, 2016 and 2015, the Company had received $270.0 million and $263.9 million in cash and notes from insurers, respectively, on account of indemnity and defense costs respecting asbestos-related claims. The Company additionally recorded assets as of December 31, 2015 in the amount of (i) $168.8 million , representing the difference between the $432.7 million in defense and indemnity costs paid by the Company as of December 31, 2015 for asbestos-related claims and the $263.9 million received from insurers prior to that date, and (ii) $108.5 million, representing the then-estimated amount of asbestos-related claims asserted but not yet resolved for which the Company believes it has insurance coverage. In each case, such amounts were expected to be fully recovered.

43

The Company continues to have additional excess insurance coverage available for potential future asbestos-related claims. In connection with the Company's ongoing review of its asbestos-related claims, the Company also reviewed the amount of its potential insurance coverage for such claims, taking into account the remaining limits of such coverage, the number and amount of claims on our insurance from co-insured parties, ongoing litigation against the Company's insurers described above, potential remaining recoveries from insolvent insurers, the impact of previous insurance settlements, and coverage available from solvent insurers not party to the coverage litigation. Based on that review, the Company estimates as of December 31, 2016 that it has $386.4 million in aggregate insurance coverage available with respect to asbestos-related claims already satisfied by the Company but not yet reimbursed by the insurers, asbestos-related claims asserted but not yet resolved, and asbestos-related claims not yet asserted, in each case together with their associated defense costs. In each case, such amounts are expected to be fully recovered. However, the resolution of the insurance coverage litigation, and the number and amount of claims on our insurance from co-insured parties, may increase or decrease the amount of insurance coverage available to us for asbestos-related claims from the estimates discussed above.

As a result of all of the foregoing estimates of asbestos-related liabilities and related insurance assets, the Company in the fourth quarter of 2016 recorded a charge of $703.6 million before tax, or $440.6 million after tax, resulting from the difference in the total liability from what was previously accrued, consulting fees, less available insurance coverage.

The amounts recorded in the Consolidated Balance Sheets respecting asbestos-related claims are as follows:

	December 31,	
(millions of dollars)	2016	2015
Assets:		
Non-current assets	$386.4	$277.3
Total insurance assets	$386.4	$277.3
Liabilities:		
Accounts payable and accrued expenses	$51.7	$47.7
Other non-current liabilities	827.6	60.8
Total accrued liabilities	$879.3	$108.5

CRITICAL ACCOUNTING POLICIES

The consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States ("GAAP"). In preparing these financial statements, management has made its best estimates and judgments of certain amounts included in the financial statements, giving due consideration to materiality. Critical accounting policies are those that are most important to the portrayal of the Company's financial condition and results of operations. Some of these policies require management's most difficult, subjective or complex judgments in the preparation of the financial statements and accompanying notes. Management makes estimates and assumptions about the effect of matters that are inherently uncertain, relating to the reporting of assets, liabilities, revenues, expenses and the disclosure of contingent assets and liabilities. Our most critical accounting policies are discussed below.

Use of estimates The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the accompanying notes, as well as, the amounts of revenues and expenses reported during the periods covered by these financial statements and accompanying notes. Actual results could differ from those estimates.

Concentration of risk The Company performs ongoing credit evaluations of its suppliers and customers and, with the exception of certain financing transactions, does not require collateral from its OEM customers. Some automotive parts suppliers continue to experience commodity cost pressures and the effects of industry overcapacity. These factors have increased pressure on the industry's supply base, as suppliers cope with changing commodity costs, lower production volumes and other challenges. The Company receives certain of its raw materials from sole suppliers or a limited number of suppliers. The inability of a supplier to fulfill supply requirements of the Company could affect future operating results.

Revenue recognition The Company recognizes revenue when title and risk of loss pass to the customer, which is usually upon shipment of product. Although the Company may enter into long-term supply agreements with its major customers, each shipment of goods is treated as a separate sale and the prices are not fixed over the life of the agreements.

Cost of sales The Company includes materials, direct labor and manufacturing overhead within cost of sales. Manufacturing overhead is comprised of indirect materials, indirect labor, factory operating costs and other such costs associated with manufacturing products for sale.

Impairment of long-lived assets, including definite-lived intangible assets The Company reviews the carrying value of its long-lived assets, whether held for use or disposal, including other amortizing intangible assets, when events and circumstances warrant such a review under Accounting Standards Codification ("ASC") Topic 360. In assessing long-lived assets for an impairment loss, assets are grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. In assessing long-lived assets for impairment, management generally considers individual facilities the lowest level for which identifiable cash flows are largely independent. A recoverability review is performed using the undiscounted cash flows if there is a triggering event. If the undiscounted cash flow test for recoverability identifies a possible impairment, management will perform a fair value analysis. Management determines fair value under ASC Topic 820 using the appropriate valuation technique of market, income or cost approach. If the carrying value of a long-lived asset is considered impaired, an impairment charge is recorded for the amount by which the carrying value of the long-lived asset exceeds its fair value.

Management believes that the estimates of future cash flows and fair value assumptions are reasonable; however, changes in assumptions underlying these estimates could affect the valuations. Long-lived assets held for sale are recorded at the lower of their carrying amount or fair value less cost to sell. Significant judgments and estimates used by management when evaluating long-lived assets for impairment include: (i) an assessment as to whether an adverse event or circumstance has triggered the need for an impairment review; (ii) undiscounted future cash flows generated by the asset; and (iii) fair valuation of the asset. Events and conditions that could result in impairment in the value of our long-lived assets include changes in the industries in which we operate, particularly the impact of a downturn in the global economy, as well as competition and advances in technology, adverse changes in the regulatory environment, or other factors leading to reduction in expected long-term sales or profitability.

Goodwill and other indefinite-lived intangible assets During the fourth quarter of each year, the Company qualitatively assesses its goodwill and indefinite-lived intangible assets assigned to each of its reporting units. This qualitative assessment evaluates various events and circumstances, such as macro economic conditions, industry and market conditions, cost factors, relevant events and financial trends, that may impact a reporting unit's fair value. Using this qualitative assessment, the Company determines whether it is more-likely-than-not the reporting unit's fair value exceeds its carrying value. If it is determined that it is not more-likely-than-not the reporting unit's fair value exceeds the carrying value, or upon consideration of other factors, including recent acquisition or divestiture activity, the Company performs a quantitative, "step one," goodwill impairment analysis. In addition, the Company may test goodwill in between annual test dates if an event occurs or circumstances change that could more-likely-than-not reduce the fair value of a reporting unit below its carrying value.

During the fourth quarter of 2016, the Company performed a qualitative analysis on each reporting unit, except for the reporting unit with recent acquisition and divestiture activities, and determined it was more-likely-than-not the fair value exceeded the carrying value of these reporting units. For the reporting unit with acquisition and divestiture activities, the Company performed a quantitative, "step one," goodwill impairment analysis, which requires the Company to make significant assumptions and estimates about the extent and timing of future cash flows, discount rates and growth rates. The basis of this goodwill impairment analysis is the Company's annual budget and long-range plan (“LRP”). The annual budget and LRP includes a five year projection of future cash flows based on actual new products and customer commitments and assumes the last year of the LRP data is a fair indication of the future performance. Because the LRP is estimated over a significant future period of time, those estimates and assumptions are subject to a high degree of uncertainty. Further, the market valuation models and other financial ratios used by the Company require certain assumptions and estimates regarding the applicability of those models to the Company's facts and circumstances.

The Company believes the assumptions and estimates used to determine the estimated fair value are reasonable. Different assumptions could materially affect the estimated fair value. The primary assumptions affecting the Company's December 31, 2016 goodwill quantitative, "step one," impairment review are as follows:

- Discount rate: The Company used a 10% weighted average cost of capital (“WACC”) as the discount rate for future cash flows. The WACC is intended to represent a rate of return that would be expected by a market participant.

- Operating income margin: The Company used historical and expected operating income margins, which may vary based on the projections of the reporting unit being evaluated.

In addition to the above primary assumptions, the Company notes the following risks to volume and operating income assumptions that could have an impact on the discounted cash flow models:

- The automotive industry is cyclical and the Company's results of operations would be adversely affected by industry downturns.
- The Company is dependent on market segments that use our key products and would be affected by decreasing demand in those segments.
- The Company is subject to risks related to international operations.

Based on the assumptions outlined above, the impairment testing conducted in the fourth quarter of 2016 indicated the Company's goodwill assigned to the reporting unit that was quantitatively assessed was not impaired and contained a fair value substantially higher than the reporting unit's carrying value. Additionally, sensitivity analyses were completed indicating a one percent increase in the discount rate or a one percent decrease in the operating margin assumptions would not result in the carrying value exceeding the fair value of the reporting unit quantitatively assessed.

Refer to Note 6, "Goodwill and Other Intangibles," to the Consolidated Financial Statements in Item 8 of this report for more information regarding goodwill.

Product warranties The Company provides warranties on some, but not all, of its products. The warranty terms are typically from one to three years. Provisions for estimated expenses related to product warranty are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and industry developments and recoveries from third parties. Management actively studies trends of warranty claims and takes action to improve product quality and minimize warranty claims. Management believes that the warranty accrual is appropriate; however, actual claims incurred could differ from the original estimates, requiring adjustments to the accrual. Our warranty provision as a percentage of net sales in 2016 increased is primarily related to the Company's fourth quarter 2015 acquisition of Remy:

	Year Ended December 31,		
(millions of dollars)	2016	2015	2014
Net sales	$9,071.0	$8,023.2	$8,305.1
Warranty provision	$62.2	$28.6	$47.8
Warranty provision as a percentage of net sales	0.7 %	0.4 %	0.6 %

The following table illustrates the sensitivity of a 25 basis point change (as a percentage of net sales) in the assumed warranty trend on the Company's accrued warranty liability:

	December 31,		
(millions of dollars)	2016	2015	2014
25 basis point decrease (income)/expense	$(22.7)	$(20.1)	$(20.8)
25 basis point increase (income)/expense	$22.7	$20.1	$20.8

At December 31, 2016, the total accrued warranty liability was $95.3 million. The accrual is represented as $63.9 million in current liabilities and $31.4 million in non-current liabilities on our Consolidated Balance Sheet.

Refer to Note 7, "Product Warranty," to the Consolidated Financial Statements in Item 8 of this report for more information regarding product warranties.

Other loss accruals and valuation allowances The Company has numerous other loss exposures, such as customer claims, workers' compensation claims, litigation and recoverability of assets. Establishing loss accruals or valuation allowances for these matters requires the use of estimates and judgment in regard to the risk exposure and ultimate realization. The Company estimates losses under the programs using consistent and appropriate methods; however, changes to its assumptions could materially affect the recorded accrued liabilities for loss or asset valuation allowances.

Asbestos The Company and certain of its subsidiaries along with numerous other companies are named as defendants in personal injury lawsuits based on alleged exposure to asbestos-containing materials. With the assistance of third party consultants, the Company estimates the liability and corresponding insurance recovery for pending and future claims not yet asserted through December 31, 2059 with a runoff through 2067 and defense costs. This estimate is based on the Company's historical claim experience and estimates of the number and resolution cost of potential future claims that may be filed based on anticipated levels of unique plaintiff asbestos-related claims in the U.S. tort system against all defendants. This estimate is not discounted to present value. The Company currently believes that December 31, 2067 is a reasonable assumption as to the last date on which it is likely to have resolved all asbestos-related claims, based on the nature and useful life of the Company’s products and the likelihood of incidence of asbestos-related disease in the U.S. population generally. The Company assesses the sufficiency of its estimated liability for pending and future claims and defense costs on an ongoing basis by evaluating actual experience regarding claims filed, settled and dismissed, and amounts paid in settlements. In addition to claims and settlement experience, the Company considers additional quantitative and qualitative factors such as changes in legislation, the legal environment, and the Company's defense strategy.

The Company continues to have additional excess insurance coverage available for potential future asbestos-related claims. In connection with the Company's ongoing review of its asbestos-related claims, the Company also reviewed the amount of its potential insurance coverage for such claims, taking into account the remaining limits of such coverage, the number and amount of claims on our insurance from co-insured parties, ongoing litigation against the Company's insurers, potential remaining recoveries from insolvent insurers, the impact of previous insurance settlements, and coverage available from solvent insurers not party to the coverage litigation.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding management's judgments applied in the recognition and measurement of asbestos-related assets and liabilities.

Environmental contingencies The Company works with outside experts to determine a range of potential liability for environmental sites. The ranges for each individual site are then aggregated into a loss range for the total accrued liability. We record an accrual at the most probable amount within the range unless one cannot be determined; in which case we record the accrual at the low end of the range. Management's estimate of the loss for environmental liability was $6.3 million at December 31, 2016.

Refer to Note 14, "Contingencies," to the Consolidated Financial Statements in Item 8 of this report for more information regarding environmental accrual.

Pension and other postretirement defined benefits The Company provides postretirement defined benefits to a number of its current and former employees. Costs associated with postretirement defined benefits include pension and postretirement health care expenses for employees, retirees and surviving spouses and dependents.

The Company's defined benefit pension and other postretirement plans are accounted for in accordance with ASC Topic 715. The determination of the Company's obligation and expense for its pension and other postretirement employee benefits, such as retiree health care, is dependent on certain assumptions used by actuaries in calculating such amounts. Certain assumptions, including the expected long-term rate of return on plan assets, discount rate, rates of increase in compensation and health care costs trends are described in Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report. The effects of any modification to those assumptions are either recognized immediately or amortized over future periods in accordance with GAAP.

In accordance with GAAP, actual results that differ from assumptions used are accumulated and generally amortized over future periods. The primary assumptions affecting the Company's accounting for employee benefits under ASC Topics 712 and 715 as of December 31, 2016 are as follows:

- Expected long-term rate of return on plan assets: The expected long-term rate of return is used in the calculation of net periodic benefit cost. The required use of the expected long-term rate of return on plan assets may result in recognized returns that are greater or less than the actual returns on those plan assets in any given year. Over time, however, the expected long-term rate of return on plan assets is designed to approximate actual earned long-term returns. The expected long-term rate of return for pension assets has been determined based on various inputs, including historical returns for the different asset classes held by the Company's trusts and its asset allocation, as well as inputs from internal and external sources regarding expected capital market return, inflation and other variables. The Company also considers the impact of active management of the plans' invested assets. In determining its pension expense for the year ended December 31, 2016, the Company used long-term rates of return on plan assets ranging from 1.5% to 6.75% outside of the U.S. and 6.7% in the U.S.

Actual returns on U.S. pension assets were 5.9%, 0.1% and 10.3% for the years ended December 31, 2016, 2015 and 2014, respectively, compared to the expected rate of return assumption of 6.7% for the same years ended.

Actual returns on U.K. pension assets were 22.0%, 1.0% and 16.5% for the years ended December 31, 2016, 2015 and 2014, respectively, compared to the expected rate of return assumption of 6.75% for the same years ended.

Actual returns on German pension assets were 8.6%, 5.1% and 14.5% for the years ended December 31, 2016, 2015 and 2014, respectively, compared to the expected rate of return assumption of 6.6% for the same years ended.

- Discount rate: At December 31, 2015, the Company changed the method used to estimate the service and interest components of net periodic benefit cost for pension and other postretirement benefits for plans that utilize a yield curve approach. This change compared to the previous method resulted in different service and interest components of net periodic benefit cost (credit). Historically, the Company estimated these service and interest cost components utilizing a single weighted-average discount rate derived from the yield curve used to measure the benefit obligation at the beginning of the period. The Company elected to utilize a full yield curve approach in the estimation of these components by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. The Company made this change to provide a more precise measurement of service and interest costs by improving the correlation between projected benefit cash flows to the spot yield curve rates. The change in the service and interest costs going forward is not expected to be significant. The Company has accounted for this change as a change in accounting estimate.

The discount rate is used to calculate pension and postretirement employee benefit obligations (“OPEB”). The Company used discount rates ranging from 0.33% to 9.50% to determine its pension and other benefit obligations as of December 31, 2016, including weighted average discount rates of 3.94% in the U.S., 2.25% outside of the U.S., and 3.61% for U.S. other postretirement health care plans. The U.S. discount rate reflects the fact that our U.S. pension plan has been closed for new participants since 1989 (1999 for our U.S. health care plan).

- Health care cost trend: For postretirement employee health care plan accounting, the Company reviews external data and Company specific historical trends for health care cost to determine the health care cost trend rate assumptions. In determining the projected benefit obligation for postretirement employee health care plans as of December 31, 2016, the Company used health care cost trend rates of 6.79%, declining to an ultimate trend rate of 5% by the year 2022.

While the Company believes that these assumptions are appropriate, significant differences in actual experience or significant changes in these assumptions may materially affect the Company's pension and other postretirement employee benefit obligations and its future expense.

The following table illustrates the sensitivity to a change in certain assumptions for Company sponsored U.S. and non-U.S. pension plans on its 2017 pre-tax pension expense:

(millions of dollars)	Impact on U.S. 2017 pre-tax pension (expense)/income	Impact on Non-U.S. 2017 pre-tax pension (expense)/income
One percentage point decrease in discount rate	$ — *	$ (8.0)
One percentage point increase in discount rate	$ — *	$ 8.0
One percentage point decrease in expected return on assets	$ (2.2)	$ (3.9)
One percentage point increase in expected return on assets	$ 2.2	$ 3.9

* A one percentage point increase or decrease in the discount rate would have a negligible impact on the Company's U.S. 2017 pre-tax pension expense.

The following table illustrates the sensitivity to a change in the discount rate assumption related to the Company's U.S. OPEB interest expense:

(millions of dollars)	Impact on 2017 pre-tax OPEB interest (expense)/income
One percentage point decrease in discount rate	$ (0.8)
One percentage point increase in discount rate	$ 0.8

The sensitivity to a change in the discount rate assumption related to the Company's total 2017 U.S. OPEB expense is expected to be negligible, as any increase in interest expense will be offset by net actuarial gains.

The following table illustrates the sensitivity to a one-percentage point change in the assumed health care cost trend related to the Company's OPEB obligation and service and interest cost:

	One Percentage Point	
(millions of dollars)	Increase	Decrease
Effect on other postretirement employee benefit obligation	$7.9	$ (7.0)
Effect on total service and interest cost components	$0.3	$ (0.3)

Refer to Note 11, "Retirement Benefit Plans," to the Consolidated Financial Statements in Item 8 of this report for more information regarding the Company's retirement benefit plans.

Income taxes The Company accounts for income taxes in accordance with ASC Topic 740. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled.

Management judgment is required in determining the Company's provision for income taxes, deferred tax assets and liabilities and the valuation allowance recorded against the Company's net deferred tax assets. In calculating the provision for income taxes on an interim basis, the Company uses an estimate of the annual effective tax rate based upon the facts and circumstances known at each interim period. In determining the need for a valuation allowance, the historical and projected financial performance of the operation recording the net deferred tax asset is considered along with any other pertinent information. Since future financial results may differ from previous estimates, periodic adjustments to the Company's valuation allowance may be necessary.

The Company is subject to income taxes in the U.S. at the federal and state level and numerous non-U.S. jurisdictions. Significant judgment is required in determining our worldwide provision for income taxes and recording the related assets and liabilities. In the ordinary course of our business, there are many transactions and calculations where the ultimate tax determination is less than certain. Accruals for income tax contingencies are provided for in accordance with the requirements of ASC Topic 605. The Company's U.S. federal and certain state income tax returns and certain non-U.S. income tax returns are currently under various stages of audit by applicable tax authorities. Although the outcome of ongoing tax audits is always uncertain, management believes that it has appropriate support for the positions taken on its tax returns and that its annual tax provisions included amounts sufficient to pay assessments, if any, which may be proposed by the taxing authorities. At December 31, 2016, the Company has recorded a liability for its

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best estimate of the more-likely-than-not loss on certain of its tax positions, which is included in other non-current liabilities. Nonetheless, the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ materially from the amounts accrued for each year.

Refer to Note 4, "Income Taxes," to the Consolidated Financial Statements in Item 8 of this report for more information regarding income taxes.

New Accounting Pronouncements

In January 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2017-04, "Simplifying the Test for Goodwill Impairment." It eliminates Step 2 from the goodwill impairment test and an entity should recognize an impairment charge for the amount by which the carrying amount of goodwill exceeds the reporting unit's fair value, not to exceed the carrying amount of goodwill. This guidance is effective for annual and any interim impairment tests in fiscal years beginning after December 15, 2019. The Company does not expect this guidance to have any impact on its Consolidated Financial Statements.

In January 2017, the FASB issued Accounting Standards Update ("ASU") No. 2017-01, "Clarifying the Definition of a Business." It revises the definition of a business and provides a framework to evaluate when an input and a substantive process are present in an acquisition to be considered a business. This guidance is effective for annual periods beginning after December 15, 2017. The Company does not expect this guidance to have any impact on its Consolidated Financial Statements.

In November 2016, the FASB issued ASU No. 2016-18, "Restricted Cash." It requires that amounts generally described as restricted cash and restricted cash equivalents should 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. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In August 2016, the FASB issued ASU No. 2016-15, "Classification of Certain Cash Receipts and Cash Payments." It provides guidance on eight specific cash flow issues with the objective of reducing the existing diversity in practice in how they are classified in the statement of cash flows. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. Early adoption is permitted, provided that all of the amendments are adopted in the same period. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In March 2016, the FASB issued ASU No. 2016-09, "Improvements to Employee Share-Based Payment Accounting." Under this guidance, the areas of simplification involve several aspects of the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, impact on earnings per share and classification on the statement of cash flows. This guidance is effective for interim and annual reporting periods beginning after December 15, 2016 and the Company will adopt this guidance in the first quarter of 2017. Upon the adoption of the guidance, all of the tax effects of share-based payments will be recorded in the income statement. The impact to the Consolidated Financial Statements will be dependent upon the underlying vesting or exercise activity and related future stock prices. The Company is currently evaluating the other impacts this guidance will have on its Consolidated Financial Statements.

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)." Under this guidance, lessees will be required to recognize a right-of-use asset and a lease liability for all operating leases defined under previous GAAP. This guidance is effective for interim and annual reporting periods beginning after December 15, 2018. The Company is currently evaluating the impact this guidance will have on its Consolidated Financial Statements.

51

In September 2015, the FASB issued ASU No. 2015-16, "Simplifying the Accounting for Measurement-Period Adjustments." Under this guidance, an acquirer is required to recognize adjustments to provisional amounts that are identified during the measurement period in the reporting period in which the adjustment amounts are determined. This guidance is effective for interim and annual reporting periods beginning after December 15, 2015. The Company adopted this guidance in the first quarter of 2016 and recorded fair value adjustments related to the Remy acquisition based on new information obtained during the measurement period primarily related to warranty, inventory, and deferred taxes. These adjustments have resulted in a decrease in goodwill of $12.1 million from the Company's initial estimate recorded in 2016.

In August 2015, the FASB issued ASU No. 2015-15, "Presentation and Subsequent Measurement of Debt Issuance Costs Associated with Line-of-Credit Arrangements." Under this guidance, debt issuance costs associated with line-of-credit arrangements would be deferred as an asset and amortized ratably over the term, regardless of whether there are any outstanding borrowings on the line-of-credit arrangement. This guidance is effective for interim and annual reporting periods beginning after December 15, 2015 and the Company adopted this guidance in the first quarter of 2016 with no impact on the Company's Consolidated Financial Statements.

In July 2015, the FASB issued ASU No. 2015-11, "Simplifying the Measurement of Inventory." Under this guidance, inventory should be measured at the lower of cost and net realizable value. Subsequent measurement is unchanged for inventory measured using LIFO or the retail inventory method. This guidance is effective for interim and annual reporting periods beginning after December 15, 2016. The Company does not expect this guidance to have a material impact on its Consolidated Financial Statements.

In May 2015, the FASB issued ASU No. 2015-07, "Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)." Under this guidance, investments measured at net asset value, as a practical expedient for fair value, are excluded from the fair value hierarchy. This guidance is effective for interim and annual reporting periods beginning after December 15, 2015 and the Company adopted this guidance in the first quarter of 2016. The pension asset disclosure has been updated retrospectively to reflect this guidance and there is no impact on the Company's Consolidated Financial Statements.

In May 2014, the FASB amended the Accounting Standards Codification to add Topic 606, "Revenue from Contracts with Customers," outlining a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and superseding most current revenue recognition guidance. This guidance is effective for interim and annual reporting periods beginning after December 15, 2017. The Company anticipates changes to the revenue recognition of pre-production activities such as customer owned tooling and engineering design & development recoveries, including the potential recording of these items as revenue. Further, the Company is currently analyzing the impact of the new guidance on its contracts and customer arrangements that include various pricing structures and cancellation clauses, which could impact the timing of revenue recognition. The Company expects to adopt this guidance effective January 1, 2018 utilizing the Modified Retrospective approach and is currently evaluating the impact that the adoption of this guidance will have on its consolidated financial statements.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company's primary market risks include fluctuations in interest rates and foreign currency exchange rates. We are also affected by changes in the prices of commodities used or consumed in our manufacturing operations. Some of our commodity purchase price risk is covered by supply agreements with customers and suppliers. Other commodity purchase price risk is addressed by hedging strategies, which include forward contracts. The Company enters into derivative instruments only with high credit quality counterparties and diversifies its positions across such counterparties in order to reduce its exposure to credit losses. We do not engage in any derivative instruments for purposes other than hedging specific operating risks.

We have established policies and procedures to manage sensitivity to interest rate, foreign currency exchange rate and commodity purchase price risk, which include monitoring the level of exposure to each market risk. For quantitative disclosures about market risk, refer to Note 10, "Financial Instruments," to the Consolidated Financial Statements in Item 8 of this report for information with respect to interest rate risk and foreign currency exchange rate risk and commodity purchase price risk.

Interest Rate Risk

Interest rate risk is the risk that we will incur economic losses due to adverse changes in interest rates. The Company manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to optimize its interest costs. The Company selectively uses interest rate swaps to reduce market value risk associated with changes in interest rates (fair value hedges). At December 31, 2016, the amount of debt with fixed interest rates was 98.5% of total debt. Our earnings exposure related to adverse movements in interest rates is primarily derived from outstanding floating rate debt instruments that are indexed to floating money market rates. A 10% increase or decrease in the average cost of our variable rate debt would result in a change in pre-tax interest expense of approximately $0.1 million, $2.1 million and $0.2 million in the years ended December 31, 2016, 2015 and 2014, respectively.

Foreign Currency Exchange Rate Risk

Foreign currency exchange rate risk is the risk that we will incur economic losses due to adverse changes in foreign currency exchange rates. Currently, our most significant currency exposures relate to the British Pound, the Chinese Renminbi, the Euro, the Hungarian Forint, the Japanese Yen, the Mexican Peso, the Swedish Krona and the South Korean Won. We mitigate our foreign currency exchange rate risk by establishing local production facilities and related supply chain participants in the markets we serve, by invoicing customers in the same currency as the source of the products and by funding some of our investments in foreign markets through local currency loans. Such non-U.S. Dollar debt was $82.1 million and $144.6 million as of December 31, 2016 and 2015, respectively. We also monitor our foreign currency exposure in each country and implement strategies to respond to changing economic and political environments. The depreciation of the British Pound post the United Kingdom's 2016 vote to leave the European Union is not expected to have a significant impact on the Company since net sales from the United Kingdom represents less than 2% of the Company's net sales in 2016. In addition, the Company periodically enters into forward currency contracts in order to reduce exposure to exchange rate risk related to transactions denominated in currencies other than the functional currency. As of December 31, 2016 and 2015, the Company recorded a short-term deferred gain related to foreign currency derivatives of $6.7 million and $2.4 million, respectively, and short-term deferred loss related to foreign currency derivatives of $1.1 million and $2.5 million, respectively.

The foreign currency translation adjustment losses of $109.1 million, $260.5 million and $(341.8) million for the years ended December 31, 2016, 2015 and 2014, respectively, contained within our Consolidated Statements of Comprehensive Income represent the foreign currency translational impacts of converting our non-U.S. dollar subsidiaries financial statements to the Company’s reporting currency (U.S. Dollar). The 2016 foreign currency translation adjustment loss was primarily due to the impact of a strengthening

53

U.S. dollar against the Euro and Chinese Renminbi, which increased other comprehensive loss by approximately $60 million and $45 million, respectively. The 2015 foreign currency translation adjustment loss was primarily due to the impact of a strengthening U.S. dollar, which increased approximately 10% in relation to the Euro between December 31, 2014 and 2015. This 10% change in the Euro increased other comprehensive loss by approximately $220 million. The 2014 foreign currency translation adjustment loss was primarily due to the impact of the strengthening U.S. dollar, which increased approximately 12% in relation to the Euro between December 31, 2013 and 2014. This 12% change in the Euro increased other comprehensive loss by approximately $243 million.

Commodity Price Risk

Commodity price risk is the possibility that we will incur economic losses due to adverse changes in the cost of raw materials used in the production of our products. Commodity forward and option contracts are executed to offset our exposure to potential change in prices mainly for various non-ferrous metals and natural gas consumption used in the manufacturing of vehicle components. As of December 31, 2016 and 2015, the Company had forward and option commodity contracts with a total notional value of $1.0 million and $38.8 million, respectively. As of December 31, 2016 and 2015, the Company recorded a short-term deferred loss related to commodity derivatives of $0.1 million and $2.1 million, respectively.

Disclosure Regarding Forward-Looking Statements

The matters discussed in this Item 7 include forward looking statements. See "Forward Looking Statements" at the beginning of this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

For quantitative and qualitative information regarding market risk, please refer to the discussion in Item 7 of this report under the caption "Quantitative and Qualitative Disclosures about Market Risk."

For information regarding interest rate risk, foreign currency exchange risk and commodity price risk, refer to the Financial Instruments footnote. For information regarding the levels of indebtedness subject to interest rate fluctuation, refer to the Notes Payable and Long-Term Debt footnote. For information regarding the level of business outside the United States, which is subject to foreign currency exchange rate market risk, refer to the Reporting Segments and Related Information footnote.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of BorgWarner Inc.

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of BorgWarner Inc. and its subsidiaries at December 31, 2016 and December 31, 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Detroit, Michigan
February 9, 2017

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except share and per share amounts)	December 31, 2016	2015
ASSETS		
Cash	$443.7	$577.7
Receivables, net	1,689.3	1,665.0
Inventories, net	641.2	723.6
Prepayments and other current assets	137.4	168.9
Total current assets	2,911.6	3,135.2
Property, plant and equipment, net	2,501.8	2,448.1
Investments and other long-term receivables	502.2	460.9
Goodwill	1,702.2	1,757.7
Other intangible assets, net	463.5	543.8
Other non-current assets	753.4	480.0
Total assets	$8,834.7	$8,825.7
LIABILITIES AND EQUITY		
Notes payable and other short-term debt	$175.9	$441.4
Accounts payable and accrued expenses	1,847.3	1,866.4
Income taxes payable	68.6	49.4
Total current liabilities	2,091.8	2,357.2
Long-term debt	2,043.6	2,108.9
Other non-current liabilities:		
Asbestos-related liabilities	827.6	60.8
Retirement-related liabilities	294.1	312.9
Other	275.7	354.4
Total other non-current liabilities	1,397.4	728.1
Commitments and contingencies		
Capital stock:		
Preferred stock, $0.01 par value; authorized shares: 5,000,000; none issued and outstanding	—	—
Common stock, $0.01 par value; authorized shares: 390,000,000; issued shares: (2016 - 246,387,057; 2015 - 246,387,057); outstanding shares: (2016 - 212,262,965; 2015 - 219,324,821)	2.5	2.5
Non-voting common stock, $0.01 par value; authorized shares: 25,000,000; none issued and outstanding	—	—
Capital in excess of par value	1,104.3	1,109.7
Retained earnings	4,215.2	4,210.1
Accumulated other comprehensive loss	(722.1)	(610.2)
Common stock held in treasury, at cost: (2016 - 34,124,092 shares; 2015 - 27,062,236 shares)	(1,381.6)	(1,158.4)
Total BorgWarner Inc. stockholders' equity	3,218.3	3,553.7
Noncontrolling interest	83.6	77.8
Total equity	3,301.9	3,631.5

Total liabilities and equity	$8,834.7	$8,825.7

See Accompanying Notes to Consolidated Financial Statements.

BORGWARNER INC. AND CONSOLIDATED SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
(in millions, except share and per share amounts)	2016	2015	2014
Net sales	$9,071.0	$8,023.2	$8,305.1
Cost of sales	7,137.9	6,320.1	6,548.7
Gross profit	1,933.1	1,703.1	1,756.4
Selling, general and administrative expenses	817.5	662.0	698.9
Other expense, net	889.7	101.4	93.8
Operating income	225.9	939.7	963.7
Equity in affiliates' earnings, net of tax	(42.9)	(40.0)	(47.3)
Interest income	(6.3)	(7.5)	(5.5)
Interest expense and finance charges	84.6	60.4	36.4
Earnings before income taxes and noncontrolling interest	190.5	926.8	980.1
Provision for income taxes	30.3	280.4	292.6
Net earnings	160.2	646.4	687.5
Net earnings attributable to the noncontrolling interest, net of tax	41.7	36.7	31.7
Net earnings attributable to BorgWarner Inc.	$118.5	$609.7	$655.8
Earnings per share — basic	$0.55	$2.72	$2.89
Earnings per share — diluted	$0.55	$2.70	$2.86
Weighted average shares outstanding (thousands):			
Basic	214,374	224,414	227,150
Diluted	215,328	225,648	