
UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549



FORM 10-K

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

For the Fiscal Year Ended December 31, 2016

Commission File Number 1-4949

CUMMINS INC.

Indiana
(State of Incorporation)

35-0257090
(IRS Employer Identification No.)

500 Jackson Street
Box 3005
Columbus, Indiana 47202-3005
(Address of principal executive offices)

Telephone (812) 377-5000

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

Title of each class	Name of each exchange on which registered
Common Stock, \$2.50 par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: **None.**

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

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

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically 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 (§ 229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K 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.

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 definition of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a smaller reporting company)

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 No

The aggregate market value of the voting stock held by non-affiliates was approximately \$19.0 billion at July 3, 2016. This value includes all shares of the registrant's common stock, except for treasury shares.

As of February 3, 2017, there were 168,155,330 shares outstanding of \$2.50 par value common stock.

Documents Incorporated by Reference

Portions of the registrant's definitive Proxy Statement for its 2017 annual meeting of shareholders, which will be filed with the Securities and Exchange Commission on Schedule 14A within 120 days after the end of 2016, will be incorporated by reference in Part III of this Form 10-K to the extent indicated therein upon such filing.

Website Access to Company's Reports

We maintain an internet website at www.cummins.com. Investors may obtain copies of our filings from this website free of charge as soon as reasonable practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. We are not including the information provided on the website as part of, or incorporating such information by reference into, this Annual Report on Form 10-K.

CUMMINS INC. AND SUBSIDIARIES
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Cummins Inc. and its consolidated subsidiaries are hereinafter sometimes referred to as "Cummins," "we," "our," or "us."

CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING INFORMATION

Certain parts of this annual report contain forward-looking statements intended to qualify for the safe harbors from liability established by the Private Securities Litigation Reform Act of 1995. Forward-looking statements include those that are based on current expectations, estimates and projections about the industries in which we operate and management's beliefs and assumptions. Forward-looking statements are generally accompanied by words such as "anticipates," "expects," "forecasts," "intends," "plans," "believes," "seeks," "estimates," "could," "should" or words of similar meaning. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions, which we refer to as "future factors," which are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in such forward-looking statements. Some future factors that could cause our results to differ materially from the results discussed in such forward-looking statements are discussed below and shareholders, potential investors and other readers are urged to consider these future factors carefully in evaluating forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date hereof. Future factors that could affect the outcome of forward-looking statements include the following:

- a sustained slowdown or significant downturn in our markets;
- changes in the engine outsourcing practices of significant customers;
- a major customer experiencing financial distress;
- lower than expected acceptance of new or existing products or services;
- any significant problems in our new engine platforms;
- a further slowdown in infrastructure development and/or continuing depressed commodity prices;
- unpredictability in the adoption, implementation and enforcement of emission standards around the world;
- foreign currency exchange rate changes;
- the actions of, and income from, joint ventures and other investees that we do not directly control;
- the integration of our previously partially-owned United States and Canadian distributors;
- our plan to reposition our portfolio of product offerings through exploring strategic acquisitions and divestitures and related uncertainties of entering such transactions;
- supply shortages and supplier financial risk, particularly from any of our single-sourced suppliers;
- variability in material and commodity costs;
- product recalls;
- competitor activity;
- increasing competition, including increased global competition among our customers in emerging markets;
- exposure to potential security breaches or other disruptions to our information technology systems and data security;
- political, economic and other risks from operations in numerous countries;
- changes in taxation;
- global legal and ethical compliance costs and risks;
- aligning our capacity and production with our demand;
- product liability claims;
- increasingly stringent environmental laws and regulations;
- the price and availability of energy;
- the performance of our pension plan assets and volatility of discount rates;
- labor relations;
- changes in accounting standards;

- future bans or limitations on the use of diesel-powered vehicles;

- our sales mix of products;
- protection and validity of our patent and other intellectual property rights;
- technological implementation and cost/financial risks in our increasing use of large, multi-year contracts;
- the outcome of pending and future litigation and governmental proceedings;
- continued availability of financing, financial instruments and financial resources in the amounts, at the times and on the terms required to support our future business; and
- other risk factors described in Item 1A under the caption "Risk Factors."

Shareholders, potential investors and other readers are urged to consider these factors carefully in evaluating the forward-looking statements and are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements made herein are made only as of the date of this annual report and we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

PART I**ITEM 1. Business****OVERVIEW**

We were founded in 1919 as Cummins Engine Company, a corporation in Columbus, Indiana. We were one of the first diesel engine manufacturers. We changed our name to Cummins Inc. in 2001. We are a global power leader that designs, manufactures, distributes and services diesel and natural gas engines and engine-related component products, including filtration, aftertreatment, turbochargers, fuel systems, controls systems, air handling systems and electric power generation systems. We sell our products to original equipment manufacturers (OEMs), distributors and other customers worldwide. We serve our customers through a network of approximately 600 wholly-owned and independent distributor locations and over 7,400 dealer locations in more than 190 countries and territories.

OPERATING SEGMENTS

As previously announced, beginning with the second quarter of 2016, we realigned certain of our reportable segments to be consistent with changes to our organizational structure and how the Chief Operating Decision Maker (CODM) monitors the performance of our segments. We reorganized our business to combine our Power Generation segment and our high-horsepower engine business to create the new Power Systems segment. Our reportable operating segments consist of Engine, Distribution, Components and Power Systems. We began to report results for our new reporting structure in the second quarter of 2016 and also reflected this change for historical periods. The formation of the Power Systems segment combined two businesses that were already strongly interdependent, which will allow us to streamline business and technical processes to accelerate innovation, grow market share and more efficiently manage our supply chain and manufacturing operations.

Our segments share technology, customers, strategic partners, brand recognition and our distribution network in order to compete more efficiently and effectively in their respective markets. In each of our operating segments, we compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. Our products compete primarily on the basis of performance, fuel economy, speed of delivery, quality, customer support and price. Financial information about our operating segments, including geographic information, is incorporated by reference from Note 21, "OPERATING SEGMENTS," to our *Consolidated Financial Statements*.

Engine Segment

Engine segment sales and earnings before interest and taxes (EBIT) as a percentage of consolidated results were:

	Years ended December 31,		
	2016	2015	2014
Percent of consolidated net sales ⁽¹⁾	35 %	36 %	38 %
Percent of consolidated EBIT ⁽¹⁾	35 %	30 %	40 %

⁽¹⁾ Measured before intersegment eliminations

Our Engine segment manufactures and markets a broad range of diesel and natural gas powered engines under the Cummins brand name, as well as certain customer brand names, for the heavy- and medium-duty truck, bus, recreational vehicle (RV), light-duty automotive, construction, mining, marine, rail, oil and gas, defense and agricultural markets. We manufacture a wide variety of engine products including:

- Engines with a displacement range of 2.8 to 15 liters and horsepower ranging from 48 to 715 and
- New parts and service, as well as remanufactured parts and engines, through our extensive distribution network.

In the second quarter of 2016, in conjunction with the reorganization of our segments, our Engine segment reorganized its reporting structure as follows:

- **Heavy-duty truck** - We manufacture diesel and natural gas engines that range from 310 to 605 horsepower serving global heavy-duty truck customers worldwide, primarily in North America, Latin America and Australia.

- **Medium-duty truck and bus** -We manufacture diesel and natural gas engines ranging from 130 to 450 horsepower serving medium-duty truck and bus customers worldwide, with key markets including North America, Latin America, China, Europe and India. Applications include pickup and delivery trucks, vocational truck, school bus, transit bus and shuttle bus. We also provide diesel engines for Class A motor homes (RVs), primarily in North America.
- **Light-duty automotive (Pickup and Light Commercial Vehicle (LCV))** -We manufacture 105 to 385 horsepower diesel engines, including engines for the pickup truck market for Chrysler and Nissan in North America, and LCV markets in Europe, Latin America and Asia.
- **Off-highway** - We manufacture diesel engines that range from 48 to 715 horsepower to key global markets including mining, marine, rail, oil and gas, defense, agriculture and construction equipment and also to the power generation business for standby, mobile and distributed power generation solutions throughout the world.

The principal customers of our heavy-duty truck engines include truck manufacturers such as PACCAR Inc. (PACCAR), Daimler Trucks North America (Daimler) and Navistar International Corporation (Navistar). The principal customers of our medium-duty truck engines include truck manufacturers such as Daimler, PACCAR and Navistar. We sell our industrial engines to manufacturers of construction, agricultural and marine equipment, including Komatsu, Belaz, Hyundai, Hitachi and JLG. The principal customers of our light-duty on-highway engines are Fiat Chrysler Automobiles (Fiat Chrysler), Nissan and manufacturers of RVs.

In the markets served by our Engine segment, we compete with independent engine manufacturers as well as OEMs who manufacture engines for their own products. Our primary competitors in North America are Daimler, Caterpillar Inc. (CAT), Volvo Powertrain, Ford Motor Company (Ford) and Hino Power. Our primary competitors in international markets vary from country to country, with local manufacturers generally predominant in each geographic market. Other engine manufacturers in international markets include Weichai Power Co. Ltd., MAN Nutzfahrzeuge AG (MAN), Fiat Power Systems, Guangxi Yuchai Group, GE Jenbacher, Tognum AG, CAT, Volvo AB (Volvo), Yanmar Co., Ltd. and Deutz AG.

Distribution Segment

Distribution segment sales and EBIT as a percentage of consolidated results were:

	Years ended December 31,		
	2016	2015	2014
Percent of consolidated net sales ⁽¹⁾	28%	26%	22%
Percent of consolidated EBIT ⁽¹⁾	20%	20%	19%

⁽¹⁾ Measured before intersegment eliminations

Our Distribution segment consists of 36 wholly-owned and 6 joint venture distributors that service and distribute the full range of our products and services to end-users at approximately 450 locations in over 80 distribution territories. Our wholly-owned distributors are located in key markets, including North America, Australia, Europe, the Middle East, China, Africa, Russia, Japan, Brazil, Singapore and Central America, while our joint venture distributors are located in key markets, including South America, India, Thailand and Singapore.

The Distribution segment consists of the following product lines which service and/or distribute the full range of our products and services:

- Parts;
- Engines;
- Power generation;
and
- Service.

The Distribution segment is organized into seven primary geographic regions:

- North and Central America;
- Asia Pacific;
- Europe, Commonwealth of Independent States (CIS) and China;

- Africa;
- Middle East;
- India; and
- South America.

Asia Pacific is composed of six smaller regional distributor organizations (South Pacific, Korea, Japan, Philippines, Malaysia and Singapore) which allow us to better manage these vast geographic territories.

Our distribution network consists of independent, partially-owned and wholly-owned distributors which provide parts and service to our customers. These full-service solutions include maintenance contracts, engineering services and integrated products, where we customize our products to cater to specific needs of end-users. Our distributors also serve and develop dealers, predominantly OEM dealers, in their territories by providing new products, technical support, tools, training, parts and product information.

In addition to managing our involvement with our wholly-owned and partially-owned distributors, our Distribution segment is responsible for managing the performance and capabilities of our independent distributors. Our Distribution segment serves a highly diverse customer base with approximately 38 percent of its 2016 sales being generated from new engines and power generation equipment, compared to 41 percent in 2015, with its remaining sales generated by parts and service revenue.

Our distributors compete with distributors or dealers that offer similar products. In many cases, these competing distributors or dealers are owned by, or affiliated with the companies that are listed as competitors of our Engine, Components or Power Systems segments. These competitors vary by geographical location.

During 2016, we paid \$109 million to acquire the remaining interest in the last two partially owned North American distributors including the related debt retirements. See Note 18, "ACQUISITIONS," to our *Consolidated Financial Statements* for additional information.

Components Segment

Components segment sales and EBIT as a percentage of consolidated results were:

	Years ended December 31,		
	2016	2015	2014
Percent of consolidated net sales ⁽¹⁾	21 %	21 %	21 %
Percent of consolidated EBIT ⁽¹⁾	32 %	34 %	27 %

⁽¹⁾ Measured before intersegment eliminations

Our Components segment supplies products which complement our Engine and Power Systems segments, including aftertreatment systems, turbochargers, filtration products and fuel systems for commercial diesel applications. We manufacture filtration systems for on- and off-highway heavy-duty and mid-range equipment, and we are a supplier of filtration products for industrial car applications. In addition, we develop aftertreatment systems and turbochargers to help our customers meet increasingly stringent emission standards and fuel systems which have primarily supplied our Engine segment and our joint venture partner Scania.

Our Components segment is organized around the following businesses:

- **Emission solutions** - Our emission solutions business is a global leader in designing, manufacturing and integrating aftertreatment technology and solutions for the commercial on- and off-highway light, medium, heavy-duty and high-horsepower engine markets. Aftertreatment is the mechanism used to convert engine emissions of criteria pollutants, such as particulate matter (PM), nitrogen oxides (NOx), carbon monoxide (CO) and unburned hydrocarbons (HC) into harmless emissions. Our products include custom engineering systems and integrated controls, oxidation catalysts, particulate filters, selective catalytic reduction systems and engineered components, including dosers and sensors. Our emission solutions business primarily serves markets in North America, Europe, China, Brazil, Russia, Australia and India. We serve both OEM first fit and retrofit customers.

- **Turbo technologies** - Our turbo technologies business designs, manufactures and markets turbochargers for light-duty, mid-range, heavy-duty and high-horsepower diesel markets with manufacturing facilities in five countries and sales and distribution worldwide. Our turbo technologies business provides critical air handling technologies for engines, including variable geometry turbochargers, to meet challenging performance requirements and worldwide emission standards. Our turbo technologies business primarily serves markets in North America, Europe, Asia and Brazil.
- **Filtration** - Our filtration business designs, manufactures and sells filters, coolant and chemical products. Our filtration business offers over 8,300 products for first fit and aftermarket applications including air filters, fuel filters, fuel water separators, lube filters, hydraulic filters, coolants, fuel additives and other filtration systems to OEMs, dealers/distributors and end users. Our filtration business supports a wide customer base in a diverse range of markets including on-highway, off-highway segments such as oil and gas, agriculture, mining, construction, power generation, marine and industrial markets. We produce and sell globally recognized Fleetguard® branded products in over 160 countries including countries in North America, Europe, South America, Asia, Australia and Africa. Fleetguard products are available through thousands of distribution points worldwide.
- **Fuel systems** - Our fuel systems business designs and manufactures new and replacement fuel systems primarily for heavy-duty on-highway diesel engine applications and also remanufactures fuel systems.

Customers of our Components segment generally include our Engine and Distribution segments, truck manufacturers and other OEMs, many of which are also customers of our Engine segment, such as PACCAR, Daimler, Navistar, Volvo, Scania, Fiat Chrysler, Komatsu and other manufacturers that use our components in their product platforms.

Our Components segment competes with other manufacturers of aftertreatment systems, filtration, turbochargers and fuel systems. Our primary competitors in these markets include Robert Bosch GmbH, Donaldson Company, Inc., Clarcor Inc., Mann+Hummel Group, Honeywell International, Borg-Warner, Tenneco Inc., Eberspacher Holding GmbH & Co. KG and Denso Corporation.

Power Systems Segment

Power Systems segment sales and EBIT as a percentage of consolidated results were:

	Years ended December 31,		
	2016	2015	2014
Percent of consolidated net sales ⁽¹⁾	16 %	17 %	19 %
Percent of consolidated EBIT ⁽¹⁾	13 %	16 %	14 %

⁽¹⁾ Measured before intersegment eliminations

In the second quarter of 2016, in conjunction with the reorganization of our segments, our Power Systems segment reorganized its reporting structure as follows:

- **Power generation** - We design, manufacture, sell and support back-up and prime power generators ranging from 2 kilowatts to 3.5 megawatts, as well as controls, paralleling systems and transfer switches, for applications such as consumer, commercial, industrial, data centers, health care, telecommunications and waste water treatment plants. We also provide turnkey solutions for distributed generation and energy management applications using natural gas or biogas as a fuel. We also serve global rental accounts for diesel and gas generator sets.
- **Industrial** - We design, manufacture, sell and support diesel and natural gas high-horsepower engines up to 5,500 horsepower for a wide variety of equipment in the mining, rail, defense, oil and gas, and commercial marine applications throughout the world. Across these markets, we have major customers in North America, Europe, the Middle East, Africa, China, Korea, Japan, Latin America, India, Russia, Southeast Asia, South Pacific and Mexico.
- **Generator technologies** - We design, manufacture, sell and support A/C generator/alternator products for internal consumption and for external generator set assemblers. Our products are sold under the Stamford, AVK and Markon brands and range in output from 3 kilovolt-amperes (kVA) to 12,000 kVA.

This segment continuously explores emerging technologies and provides integrated power generation products using technologies other than reciprocating engines. We use our own research and development capabilities as well as those of our business partnerships to develop cost-effective and environmentally sound power solutions.

Our customer base for our Power Systems offerings is highly diversified, with customer groups varying based on their power needs. India, China, the U.K., Western Europe, Latin America and the Middle East are our largest geographic markets outside of North America.

In the markets served by our Power Systems segment, we compete with independent engine manufacturers as well as OEMs who manufacture engines for their own products. We compete with a variety of engine manufacturers and generator set assemblers across the world. Our primary competitors are CAT, MTU Friedrichshafen GmbH (MTU) and Kohler/SDMO (Kohler Group), but we also compete with GE Jenbacher, FG Wilson (CAT group), Tognum (MTU group), Generac, Mitsubishi (MHI) and numerous regional generator set assemblers. Our alternators business competes globally with Marathon Electric and Meccalte, among others.

JOINT VENTURES, ALLIANCES AND NON-WHOLLY-OWNED SUBSIDIARIES

We have entered into a number of joint venture agreements and alliances with business partners around the world. Our joint ventures are either distribution or manufacturing entities. We also own controlling interests in non-wholly-owned manufacturing and distribution subsidiaries.

In the event of a change of control of either party to certain of these joint ventures and other strategic alliances, certain consequences may result including automatic termination and liquidation of the venture, exercise of "put" or "call" rights of ownership by the non-acquired partner, termination or transfer of technology license rights to the non-acquired partner and increases in component transfer prices to the acquired partner. We will continue to evaluate joint venture and partnership opportunities in order to penetrate new markets, develop new products and generate manufacturing and operational efficiencies.

Financial information about our investments in joint ventures and alliances is incorporated by reference from Note2, "INVESTMENTS IN EQUITY INVESTEEES," to the *Consolidated Financial Statements*.

Our equity income from these investees was as follows:

In millions	Years ended December 31,					
	2016		2015		2014	
Distribution entities						
Komatsu Cummins Chile, Ltda.	\$ 34	13%	\$ 31	11%	\$ 29	9 %
North American distributors	21	8 %	33	12%	107	32 %
All other distributors	—	—%	3	1%	4	1 %
Manufacturing entities						
Beijing Foton Cummins Engine Co., Ltd.	52	20%	62	23%	(2)	(1)%
Dongfeng Cummins Engine Company, Ltd.	46	18%	51	19%	67	20 %
Chongqing Cummins Engine Company, Ltd.	38	15%	41	15%	51	16 %
All other manufacturers	69	26%	52	19%	74	23 %
Cummins share of net income ⁽¹⁾	\$ 260	100 %	\$ 273	100%	\$ 330	100 %

⁽¹⁾ This total represents our share of net income of our equity investees and is exclusive of royalties and interest income from our equity investees. To see how this amount reconciles to "Equity, royalty and interest income from investees" in the *Consolidated Statements of Income*, see Note 2, "INVESTMENTS IN EQUITY INVESTEEES," to our *Consolidated Financial Statements* for additional information.

Distribution Entities

- **Komatsu Cummins Chile, Ltda.** - Komatsu Cummins Chile, Ltda. is a joint venture with Komatsu America Corporation. The joint venture is a distributor that offers the full range of our products and services to customers and end-users in the Chilean and Peruvian markets.
- **North American Distributors** - During 2016, we acquired the remaining interest in the final unconsolidated North American distributor joint venture.

See further discussion of our distribution network under the Distribution segment section above.

Manufacturing Entities

Our manufacturing joint ventures have generally been formed with customers and generally are intended to allow us to increase our market penetration in geographic regions, reduce capital spending, streamline our supply chain management and develop technologies. Our largest manufacturing joint ventures are based in China and are included in the list below. Our engine manufacturing joint ventures are supplied by our Components segment in the same manner as it supplies our wholly-owned Engine segment and Power Systems segment manufacturing facilities. Our Components segment joint ventures and wholly owned entities provide fuel systems, filtration, aftertreatment systems and turbocharger products that are used in our engines as well as some competitors' products. The results and investments in our joint ventures in which we have 50 percent or less ownership interest are included in "Equity, royalty and interest income from investees" and "Investments and advances related to equity method investees" in our *Consolidated Statements of Income* and *Consolidated Balance Sheets*, respectively.

- **Beijing Foton Cummins Engine Co., Ltd.** -Beijing Foton Cummins Engine Co., Ltd. is a joint venture in China with Beiqi Foton Motor Co., Ltd., a commercial vehicle manufacturer, which consists of two distinct lines of business, a light-duty business and a heavy-duty business. The light-duty business produces ISF 2.8 liter and ISF 3.8 liter families of our high performance light-duty diesel engines in Beijing. These engines are used in light-duty commercial trucks, pickup trucks, buses, multipurpose and sport utility vehicles with main markets in China, Brazil and Russia. Certain types of marine, small construction equipment and industrial applications are also served by these engine families. The heavy-duty business produces ISG 10.5 liter and ISG 11.8 liter families of our high performance heavy-duty diesel engines in Beijing. These engines are used in heavy-duty commercial trucks in China and will be used in world wide markets. Certain types of construction equipment and industrial applications are also served by these engine families.
- **Dongfeng Cummins Engine Company, Ltd.** -Dongfeng Cummins Engine Company, Ltd. (DCEC) is a joint venture in China with Dongfeng Automotive Co. Ltd., a subsidiary of Dongfeng Motor Corporation, one of the largest medium-duty and heavy-duty truck manufacturers in China. DCEC produces Cummins 4- to 13-liter mechanical engines, full-electric diesel engines, with a power range from 125 to 545 horsepower, and natural gas engines.
- **Chongqing Cummins Engine Company, Ltd.** -Chongqing Cummins Engine Company, Ltd. is a joint venture in China with Chongqing Machinery and Electric Co. Ltd. This joint venture manufactures several models of our heavy-duty and high-horsepower diesel engines, primarily serving the industrial and stationary power markets in China.

Non-Wholly-Owned Subsidiary

We have a controlling interest in Cummins India Ltd. (CIL), which is a publicly listed company on various stock exchanges in India. CIL produces mid-range, heavy-duty and high-horsepower engines, generators for the Indian and export markets and natural gas spark-ignited engines for power generation, automotive and industrial applications. CIL also has distribution and power generation operations.

SUPPLY

The performance of the end-to-end supply chain, extending through to our suppliers, is foundational to our ability to meet customers' expectations and support long-term growth. We are committed to having a robust strategy for how we select and manage our suppliers to enable a market focused supply chain. This requires us to continuously evaluate and upgrade our supply base, as necessary, to ensure we are meeting the needs of our customers.

We use a category strategy process (a process designed to create the most value for the company) that reviews our long-term needs and guides decisions on what we make internally and what we purchase externally. For the items we decide to purchase externally, the strategies also identify the suppliers we should partner with long-term to provide the best technology, the lowest total cost and highest supply chain performance. We design and/or manufacture our strategic components used in or with our engines and power generation units, including cylinder blocks and heads, turbochargers, connecting rods, camshafts, crankshafts, filters, alternators, electronic and emissions controls, and fuel systems. We source externally purchased material and manufactured components from leading global suppliers. Many key suppliers are managed through long-term supply agreements that assure capacity, delivery, quality and cost requirements are met over an extended period. Approximately 20 percent of the direct material in our product designs are single sourced to external suppliers. We have an established sourcing strategy and supplier management process to evaluate and mitigate risk. These processes are leading us to determine our need for dual sourcing and increase our use of dual and parallel sources to minimize risk and increase supply chain responsiveness. Our current target for dual and parallel sourcing is approximately 90 percent of our direct material spend. As of December 31, 2016, our analysis indicates that we have approximately 80 percent of direct material spend with dual or parallel sources or 89 percent of our target.

Other important elements of our sourcing strategy include:

- working with suppliers to measure and improve their environmental footprint;
- selecting and managing suppliers to comply with our supplier code of conduct; and
- assuring our suppliers comply with Cummins' prohibited and restricted materials policy.

PATENTS AND TRADEMARKS

We own or control a significant number of patents and trademarks relating to the products we manufacture. These patents and trademarks were granted and registered over a period of years. Although these patents and trademarks are generally considered beneficial to our operations, we do not believe any patent, group of patents or trademark (other than our leading brand house trademarks) is significant to our business.

SEASONALITY

While individual product lines may experience modest seasonal variation in production, there is no material effect on the demand for the majority of our products on a quarterly basis with the exceptions that our Power Systems segment normally experiences seasonal declines in the first quarter due to general declines in construction spending during this period and our Distribution segment normally experiences seasonal declines in its first quarter business activity due to holiday periods in Asia and Australia.

LARGEST CUSTOMERS

We have thousands of customers around the world and have developed long-standing business relationships with many of them. PACCAR is our largest customer, accounting for 13 percent of our consolidated net sales in 2016, 15 percent in 2015 and 14 percent in 2014. We have long-term supply agreements with PACCAR for our heavy-duty ISX 15 liter and ISX 11.9 liter engines and our mid-range ISL 9 liter engine. While a significant number of our sales to PACCAR are under long-term supply agreements, these agreements provide for particular engine requirements for specific vehicle models and not a specific volume of engines. PACCAR is our only customer accounting for more than 10 percent of our net sales in 2016. The loss of this customer or a significant decline in the production level of PACCAR vehicles that use our engines would have an adverse effect on our results of operations and financial condition. We have been an engine supplier to PACCAR for 72 years. A summary of principal customers for each operating segment is included in our segment discussion.

In addition to our agreement with PACCAR, we have long-term heavy-duty engine supply agreements with Daimler and Navistar and a long-term mid-range supply agreement with Daimler. We also have an agreement with Fiat Chrysler to supply engines for its Ram trucks. Collectively, our net sales to these four customers, including PACCAR, were 33 percent of our consolidated net sales in 2016, 36 percent in 2015 and 32 percent in 2014. Excluding PACCAR, net sales to any single customer were less than 7 percent of our consolidated net sales in 2016, less than 9 percent in 2015 and less than 8 percent in 2014. These agreements contain standard purchase and sale agreement terms covering engine and engine parts pricing, quality and delivery commitments, as well as engineering product support obligations. The basic nature of our agreements with OEM customers is that they are long-term price and operations agreements that help assure the availability of our products to each customer through the duration of the respective agreements. Agreements with most OEMs contain bilateral termination provisions giving either party the right to terminate in the event of a material breach, change of control or insolvency or bankruptcy of the other party.

BACKLOG

We have supply agreements with some truck and off-highway equipment OEMs, however most of our business is transacted through open purchase orders. These open orders are historically subject to month-to-month releases and are subject to cancellation on reasonable notice without cancellation charges and therefore are not considered firm. At December 31, 2016, we did not have any significant backlogs.

RESEARCH AND DEVELOPMENT

In 2016, we continued to invest in future critical technologies and products. We will continue to make investments to improve our current technologies, meet the future emission requirements around the world and improve fuel economy.

Our research and development program is focused on product improvements, product extensions, innovations and cost reductions for our customers. Research and development expenditures include salaries, contractor fees, building costs, utilities, testing, technical IT, administrative expenses and allocation of corporate costs and are expensed, net of contract reimbursements, when incurred. From time to time, we enter into agreements with customers and government agencies to fund a portion of the research and development costs of a particular project. We generally account for these reimbursements as an offset to the related research and development expenditure. Research and development expenses, net of contract reimbursements, were \$616 million in 2016, \$718 million in 2015 and \$737 million in 2014. Contract reimbursements were \$131 million in 2016, \$98 million in 2015 and \$121 million in 2014.

For 2016, 2015 and 2014, approximately \$77 million, \$90 million and \$60 million, or 13 percent, 13 percent and 8 percent, respectively, of our research and development expenditures were directly related to compliance with 2017 U.S. Environmental Protection Agency (EPA) emission standards.

ENVIRONMENTAL SUSTAINABILITY

We adopted our first ever comprehensive environmental sustainability plan in 2014 after examining our entire environmental footprint, focusing on the key areas of water, waste, energy and greenhouse gases (GHG). As the concept and scope of environmental sustainability has matured and broadened, leaders have moved from initially working on environmental impacts within our direct control to an expanded view of fuel and raw materials that reaches across the entire product life-cycle. "Engage Cummins" is the comprehensive lens through which we view environmental sustainability, from design to manufacture to end of life. Our environmental sustainability plan is the way we carry out our priorities, goals and initiatives in our action areas, including reducing our carbon footprint, using fewer natural resources and partnering to solve complex problems.

We currently have the following environmental sustainability goals and commitments:

- a new product vision statement — "powering the future through product innovation that makes people's lives better and reduces our environmental footprint;"
- partnering with customers to improve the fuel efficiency of our products in use, targeting an annual run-rate reduction of 3.5 million metric tons of carbon dioxide and saving 350 million gallons of fuel by 2020;
- achieving a 32 percent energy intensity reduction from company facilities by 2020 (using a baseline year of 2010) and increasing the portion of electricity we use derived from renewable sources;
- reducing direct water use by 50 percent adjusted for hours worked and achieving water neutrality at 15 sites by 2020;
- increasing our recycling rate from 88 percent to 95 percent and achieving zero disposal at 30 sites by 2020;
and
- utilizing the most efficient methods and modes to move goods across our network to reduce carbon dioxide per kilogram of goods moved by 10 percent by 2020.

In 2016, we announced that we exceeded our second energy and GHG emission goal of a 25 percent and 27 percent reduction, respectively, by achieving intensity reductions of 33 and 36 percent, respectively.

We continue to articulate our positions on key public policy issues and on a wide range of environmental issues. We are actively engaged with regulatory, industry and other stakeholder groups around the world as GHG and fuel efficiency standards become more prevalent globally. We were named to the Dow Jones North American Sustainability Index for the eleventh consecutive year in 2016, included in the "Disclosure Leadership Index" of the Carbon Disclosure Project's climate report in 2015 and we were identified as a "Natural Capital Decoupling Leader" by Green Biz Group and Trucost for reductions in environmental footprint amid company growth in 2014. Our Sustainability Report for 2015/2016 and prior reports as well as a Data Book of more detailed environmental data in accordance with the Global Reporting Initiative's G4 core designation are available on our website at www.cummins.com, although such reports and data book are not incorporated into this Form 10-K.

ENVIRONMENTAL COMPLIANCE

Product Certification and Compliance

We strive to have robust certification and compliance processes, adhering to all emissions regulations worldwide, including prohibiting the use of defeat devices in all of our products. We are transparent with all governing bodies in these processes, from disclosure of the design and operation of the emission control system, to test processes and results, and later to any necessary reporting and corrective action processes if required.

We work collaboratively and proactively with emission regulators globally to ensure emission standards are clear, appropriately stringent and enforceable, in an effort to ensure our products deliver on our commitments to our customers and the environment in real world use every day.

Our engines are subject to extensive statutory and regulatory requirements that directly or indirectly impose standards governing emission and noise. We have substantially increased our global environmental compliance presence and expertise to understand and meet emerging product environmental regulations around the world. Our ability to comply with these and future emission standards is an essential element in maintaining our leadership position in regulated markets. We have made, and will continue to make, significant capital and research expenditures to comply with these standards. Our failure to comply with these standards could result in adverse effects on our future financial results.

EU and EPA Engine Certifications

The current on-highway NO_x and PM emission standards came into effect in the European Union (EU) on January 1, 2013, (Euro VI) and on January 1, 2010, for the EPA. To meet the more stringent heavy-duty on-highway emission standards, we used an evolution of our proven selective catalytic reduction (SCR) and exhaust gas recirculation (EGR) technology solutions and refined them for the EU and EPA certified engines to maintain power and torque with substantial fuel economy improvement and maintenance intervals comparable with our previous compliant engines. We offer a complete lineup of on-highway engines to meet the near-zero emission standards. Mid-range and heavy-duty engines for EU and EPA require NO_x aftertreatment. NO_x reduction is achieved by an integrated technology solution comprised of the XPI High Pressure Common Rail fuel system, SCR technology, next-generation cooled EGR, advanced electronic controls, proven air handling and the Cummins Diesel Particulate Filter (DPF). The EU, EPA and California Air Resources Board (CARB) have certified that our engines meet the current emission requirements. Emission standards in international markets, including Japan, Mexico, Australia, Brazil, Russia, India and China are becoming more stringent. We believe that our experience in meeting the EU and EPA emission standards leaves us well positioned to take advantage of opportunities in these markets as the need for emission control capability grows.

In 2013, we certified to EPA's first ever GHG regulations for on-highway medium- and heavy-duty engines. Additionally, the EPA 2013 regulations added the requirement of on-board diagnostics, which were introduced on the ISX15 in 2010, across the full on-highway product line while maintaining the same near-zero emission levels of NO_x and particulate matter required in 2010. On-board diagnostics provide enhanced service capability with standardized diagnostic trouble codes, service tool interface, in-cab warning lamp and service information availability. The new GHG and fuel-efficiency regulations were required for all heavy-duty diesel and natural gas engines beginning in January 2014. Our GHG certification was the first engine certificate issued by the EPA and uses the same proven base engine with the XPI fuel system, variable geometry turbocharger (VGT™), Cummins aftertreatment system with DPF and SCR technology. Application of these engines and aftertreatment technologies continues in our products that comply with the 2017 GHG regulations.

The current off-highway emission standards for EPA and EU came into effect between the 2013 - 2015 timeframe for all power categories. These engines were designed for Tier 4 / Stage 4 standards and were based on our extensive on-highway experience developing SCR, high pressure fuel systems, DPF and VGT™. Our products offer low fuel consumption, high torque rise and power output, extended maintenance intervals, reliable and durable operation and a long life to overhaul period, all while meeting the most stringent emission standards in the industrial market. Our off-highway products power multiple applications including construction, mining, marine, agriculture, rail, defense and oil and gas and serves a global customer base.

In 2016, the EPA certified our locomotive engine as the first to meet the Tier 4 standards and will enter the market as the propulsion prime mover for Siemens' new Charger passenger locomotive, serving multiple routes in major U.S. cities. The 95 liter QSK95 engine provides over 4,000 horsepower and is the U.S.'s first low emission Tier 4 engine to power the passenger train service market.

Other Environmental Statutes and Regulations

Expenditures for environmental control activities and environmental remediation projects at our facilities in the U.S. have not been a substantial portion of our annual expenses and are not expected to be material in 2017. We believe we are in compliance in all material respects with laws and regulations applicable to our plants and operations.

In the U.S., pursuant to notices received from federal and state agencies and/or defendant parties in site environmental contribution actions, we have been identified as a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended or similar state laws, at fewer than 20 waste disposal sites.

Based upon our experiences at similar sites we believe that our aggregate future remediation costs will not be material. We have established accruals that we believe are adequate for our expected future liability with respect to these sites. In addition, we have several other sites where we are working with governmental authorities on remediation projects. The costs for these remediation projects are not expected to be material.

EMPLOYEES

At December 31, 2016, we employed approximately 55,400 persons worldwide. Approximately 18,340 of our employees worldwide are represented by various unions under collective bargaining agreements that expire between 2017 and 2021.

AVAILABLE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information electronically with the Securities and Exchange Commission (SEC). You may read and copy any document we file with the SEC at the SEC's public reference room at 100 F Street, N.E., Washington, DC 20549. Please call the SEC at 1-800-SEC-0330 for information on the public reference room. The SEC maintains an internet site that contains annual, quarterly and current reports, proxy and information statements and other information that issuers (including Cummins) file electronically with the SEC. The SEC's internet site is www.sec.gov.

Our internet site is www.cummins.com. You can access our Investors and Media webpage through our internet site, by clicking on the heading "Investors and Media" followed by the "Investor Relations" link. We make available, free of charge, on or through our Investors and Media webpage, our proxy statements, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to the Securities Exchange Act of 1934 or the Securities Act of 1933, as amended, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

We also have a Corporate Governance webpage. You can access our Governance Documents webpage through our internet site, www.cummins.com, by clicking on the heading "Investors and Media," followed by the "Investor Relations" link and then the topic heading of "Governance Documents" within the "Corporate Governance" heading. Code of Conduct, Committee Charters and other governance documents are included at this site. Our Code of Conduct applies to all employees, regardless of their position or the country in which they work. It also applies to the employees of any entity owned or controlled by us. We will post any amendments to the Code of Conduct and any waivers that are required to be disclosed by the rules of either the SEC or the New York Stock Exchange LLC (NYSE), on our internet site. The information on our internet site is not incorporated by reference into this report.

EXECUTIVE OFFICERS OF THE REGISTRANT

Following are the names and ages of our executive officers, their positions with us at January 31, 2017 and summaries of their backgrounds and business experience:

Name and Age	Present Cummins Inc. position and year appointed to position	Principal position during the past five years other than Cummins Inc. position currently held
N. Thomas Linebarger (54)	Chairman of the Board of Directors and Chief Executive Officer (2012)	
Richard J. Freeland (59)	President and Chief Operating Officer (2014)	Vice President and President— Engine Business (2010-2014)
Sherry A. Aaholm (54)	Vice President—Chief Information Officer (2013)	Executive Vice President, Information Technology, FedEx Services (2006-2013)
Sharon R. Barner (59)	Vice President—General Counsel (2012)	Partner—Law firm of Foley & Lardner (2011-2012)
Steven M. Chapman (62)	Group Vice President—China and Russia (2009)	
Jill E. Cook (53)	Vice President—Chief Human Resources Officer (2003)	
Tracy A. Embree (43)	Vice President and President— Components Group (2015)	Vice President and President— Turbo Technologies (2012-2014) General Manager, Turbo Technologies—Asia (2011-2012)
Thaddeaus B. Ewald (49)	Vice President—Corporate Strategy and Business Development (2010)	
Marsha L. Hunt (53)	Vice President—Corporate Controller (2003)	
Donald G. Jackson (47)	Vice President—Treasurer (2015)	Executive Director—Assistant Treasurer (2013-2015) Vice President—Americas Finance, Hewlett-Packard Co. (2010-2013)
Norbert Nusterer (48)	Vice President and President—Power Systems (2016)	Vice President—New and ReCon Parts (2011-2016)
Mark J. Osowick (49)	Vice President—Human Resources Operations (2014)	Executive Director—Human Resources, Components Segment & India ABO (2010-2014)
Srikanth Padmanabhan (52)	Vice President and President—Engine Business (2016)	Vice President—Engine (HMLD) Business (2014-2016) Vice President and General Manager—Cummins Emission Solutions (2008-2014)
Marya M. Rose (54)	Vice President—Chief Administrative Officer (2011)	
Jennifer Rumsey (43)	Vice President—Chief Technical Officer (2015)	Vice President—Engineering, Engine Business (2014-2015) Vice President—Heavy, Medium and Light Duty Engineering (2013-2014) Executive Director—HD Engineering (2010-2013)
Livingston L. Satterthwaite (56)	Vice President and President—Distribution Business (2015)	Vice President and President—Power Generation (2008-2015)

Mark A. Smith (49)	Vice President—Financial Operations (2016)	Vice President—Investor Relations and Business Planning and Analysis (2014-2016) Executive Director—Investor Relations (2011-2014)
Anant J. Talaulicar (55)	Vice President, and Chairman and Managing Director—Cummins India Area Business Organization (2003)	Vice President and President—Components Group (2010-2014)
Patrick J. Ward (53)	Vice President—Chief Financial Officer (2008)	

Our Chairman and Chief Executive Officer is elected annually by our Board of Directors and holds office until the meeting of the Board of Directors at which his election is next considered. Other officers are appointed by the Chairman and Chief Executive Officer, are ratified by our Board of Directors and hold office for such period as the Chairman and Chief Executive Officer or the Board of Directors may prescribe.

ITEM 1A. Risk Factors

Set forth below and elsewhere in this Annual Report on Form 10-K are some of the principal risks and uncertainties that could cause our actual business results to differ materially from any forward-looking statements contained in this Report and could individually, or in combination, have a material adverse effect on our results of operations, financial position or cash flows. These risk factors should be considered in addition to our cautionary comments concerning forward-looking statements in this Report, including statements related to markets for our products and trends in our business that involve a number of risks and uncertainties. Our separate section above, "CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING INFORMATION," should be considered in addition to the following statements.

A sustained slowdown or more significant downturn in our markets could materially and adversely affect our results of operations, financial condition or cash flows.

Many of our on- and off-highway markets are cyclical in nature and experience volatility in demand throughout these cycles as experienced in 2016 with downward market pressure both domestically and internationally. While North American on-highway markets remained strong for several years, in 2016, these markets began to decline as they transitioned to a lower demand cycle as evidenced by the slowing demand for heavy-duty trucks as a result of lower capital spending by truck fleets in response to weak growth in the economy. Most international markets in 2016 continued to experience weak demand consistent with the last several years, especially in South America, the Middle East, U.K., Singapore and Mexico. If the North American markets suffer a further significant downturn or if the slower pace of economic growth and weaker demand in our significant international markets were to persist or worsen, depending upon the length, duration and severity of the slowdown, our results of operations, financial condition or cash flows would likely be materially adversely affected. Specifically, our revenues would likely decrease, we may need to realign capacity with demand, we may need to increase our allowance for doubtful accounts, our days sales outstanding may increase and we could experience impairments to assets of certain businesses.

Our truck manufacturers and OEM customers may discontinue outsourcing their engine supply needs.

Several of our engine customers, including PACCAR, Volvo AB, Navistar, Fiat Chrysler, Daimler and Dongfeng Cummins Engine Company, Ltd., are truck manufacturers or OEMs that manufacture engines for some of their own vehicles. Despite their own engine manufacturing abilities, these customers have historically chosen to outsource certain types of engine production to us due to the quality of our engine products, our emission compliance capabilities, our systems integration, their customers' preferences, their desire for cost reductions, their desire for eliminating production risks and their desire to maintain company focus. However, there can be no assurance that these customers will continue to outsource, or outsource as much of, their engine production in the future. In fact, several of these customers have expressed their intention to significantly increase their own engine production and to decrease engine purchases from us. In addition, increased levels of OEM vertical integration could result from a number of factors, such as shifts in our customers' business strategies, acquisition by a customer of another engine manufacturer, the inability of third-party suppliers to meet product specifications and the emergence of low-cost production opportunities in foreign countries. Any significant reduction in the level of engine production outsourcing from our truck manufacturer or OEM customers could have a material adverse effect on our results of operations.

Financial distress of one of our large truck OEM customers could materially adversely impact our results of operations.

We recognize significant sales of engines and components to a few large on-highway truck OEM customers in North America which have been an integral part of our positive business results for several years. If one of our large truck OEM customers experiences financial distress or bankruptcy, such circumstance would likely lead to significant reductions in our revenues and earnings, commercial disputes, receivable collection issues, and other negative consequences that could have a material adverse impact on our results of operations.

Lower-than-anticipated market acceptance of our new or existing products or services.

Although we conduct market research before launching new or refreshed engines and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace. Offering engines and services that customers desire and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less than desirable (whether in terms of price, quality, overall value, fuel efficiency or other attributes) can exacerbate these risks. With increased consumer interconnectedness through the internet, social media and other media, mere allegations relating to poor quality, safety, fuel efficiency, corporate responsibility or other key attributes can negatively impact our reputation or market acceptance of our products or services, even if such allegations prove to be inaccurate or unfounded.

The discovery of any significant problems with our recently-introduced engine platforms in North America could materially adversely impact our results of operations, financial condition and cash flow.

The EPA and CARB have certified all of our 2017 on-highway engines, which utilize SCR technology to meet requisite emission and GHG levels. The effective performance of SCR technology and the overall performance of our engine platforms impacts a number of our operating segments and remains crucial to our success in North America. The discovery of any significant problems in these platforms could result in recall campaigns, increased warranty costs, reputational risk and brand risk, and could materially adversely impact our results of operations, financial condition or cash flows.

Further slowdown in infrastructure development and/or continuing depressed commodity prices could adversely affect our business.

Infrastructure development and strong commodity prices have been significant drivers of our historical growth, but as the pace of investment in infrastructure has slowed (especially in China and Brazil), commodity prices have been significantly lower in recent years and demand for our products in off-highway markets has remained weak for several years. Weakness in commodities, such as oil, gas and coal, has adversely impacted mining industry participants' demand for vehicles and equipment that contain our engines and other products. Further deterioration, or continued weakness, in infrastructure and commodities markets will continue to adversely affect our customers' demand for vehicles and equipment and will adversely affect our business.

Unpredictability in the adoption, implementation and enforcement of increasingly stringent emission standards by multiple jurisdictions around the world could adversely affect our business.

Our engines are subject to extensive statutory and regulatory requirements governing emission and noise, including standards imposed by the EPA, the EU, state regulatory agencies (such as the CARB) and other regulatory agencies around the world. We have made, and will be required to continue to make, significant capital and research expenditures to ensure our engines comply with these emission standards. Developing engines and components to meet numerous changing government regulatory requirements, with different implementation timelines and emission requirements, makes developing engines efficiently for multiple markets complicated and could result in substantial additional costs that may be difficult to recover in certain markets. In some cases, we are required to develop new products to comply with new regulations, particularly those relating to air emissions. While we have met previous deadlines, our ability to comply with other existing and future regulatory standards will be essential for us to maintain our competitive advantage in the engine markets we serve. The successful development and introduction of new and enhanced products in order to comply with new regulatory requirements are subject to other risks, such as delays in product development, cost over-runs and unanticipated technical and manufacturing difficulties.

In addition to these risks, the nature and timing of government implementation and enforcement of increasingly stringent emission standards in emerging markets are unpredictable and subject to change. Any delays in implementation or enforcement could result in the products we developed or modified to comply with these standards becoming unnecessary or becoming necessary later than expected thereby, in some cases, negating our competitive advantage. This in turn can delay, diminish or eliminate the expected return on capital and research expenditures that we have invested in such products and may adversely affect our perceived competitive advantage in being an early, advanced developer of compliant engines.

We are subject to foreign currency exchange rate and other related risks.

We conduct operations in many areas of the world involving transactions denominated in a variety of currencies. We are subject to foreign currency exchange rate risk to the extent that our costs are denominated in currencies other than those in which we earn revenues. In addition, since our financial statements are denominated in U.S. dollars, changes in foreign currency exchange rates between the U.S. dollar and other currencies have had, and will continue to have, an impact on our results of operations. The U.S. dollar has strengthened in recent years and has resulted in material unfavorable impacts on our revenues. If the U.S. dollar continues to strengthen against other currencies, we will continue to experience additional volatility in our financial statements.

While we customarily enter into financial transactions that attempt to address these risks and many of our supply agreements with customers include foreign currency exchange rate adjustment provisions, there can be no assurance that foreign currency exchange rate fluctuations will not adversely affect our future results of operations. In addition, while the use of currency hedging instruments may provide us with some protection from adverse fluctuations in foreign currency exchange rates, by utilizing these instruments we potentially forego the benefits that might result from favorable fluctuations in foreign currency exchange rates.

We also face risks arising from the imposition of foreign exchange controls and currency devaluations. Foreign exchange controls may limit our ability to convert foreign currencies into U.S. dollars or to remit dividends and other payments by our

foreign subsidiaries or businesses located in or conducted within a country imposing controls. Currency devaluations result in a diminished value of funds denominated in the currency of the country instituting the devaluation. See Management's Discussion and Analysis for additional information.

We derive significant earnings from investees that we do not directly control, with more than 50 percent of these earnings from our China-based investees.

For 2016, we recognized \$301 million of equity, royalty and interest income from investees, compared to \$315 million in 2015. More than half of our equity, royalty and interest income from investees is from three of our 50 percent owned joint ventures in China, Beijing Foton Cummins Engine Co., Ltd., Dongfeng Cummins Engine Company, Ltd. and Chongqing Cummins Engine Company, Ltd. As a result, although a significant percentage of our net income is derived from these unconsolidated entities, we do not unilaterally control their management or their operations, which puts a substantial portion of our net income at risk from the actions or inactions of these entities. A significant reduction in the level of contribution by these entities to our net income would likely have a material adverse effect on our results of operations and cash flows.

We may fail to realize all of the expected enhanced revenue, earnings, cash flow, cost savings and other benefits from the acquisition and integration of our partially-owned United States and Canadian distributors.

Our ability to realize all of the expected enhanced revenue, earnings, cash flow, cost savings and other benefits from our recent distributor acquisitions will depend, in substantial part, on our ability to successfully complete the integration of the acquired distributors with our other businesses. While we believe we will ultimately achieve these expected benefits, it is possible that we will be unable to achieve all of the objectives within our anticipated time frame or in the anticipated amounts. The expected benefits from integration also may not be fully realized or may be delayed due to certain prohibitions in applicable state franchise and distributor laws. If we are not able to successfully complete our integration strategy, the anticipated enhanced revenue, earnings, cash flow, cost savings and other benefits resulting from our distributor acquisitions may not be realized fully or may take longer to realize than expected.

Delays encountered or increased costs incurred in completing the integration of these acquisitions could negatively impact our revenues, expenses, operating results, cash flow and financial condition, including the loss of current customers or suppliers, increased exposure to legal claims and other liabilities and the distraction or departure of key managers and employees.

Our plan to reposition our portfolio of product offerings through exploring strategic acquisitions and divestitures may expose us to additional costs and risks.

Part of our strategic plan is to improve our gross margins and earnings by exploring the repositioning of our portfolio of product line offerings through the pursuit of potential strategic acquisitions and/or divestitures to provide future strategic, financial and operational benefits and improve shareholder value. There can be no assurance that we will be able to identify suitable candidates or consummate these transactions on favorable terms. The successful identification and completion of any strategic transaction depends on a number of factors that are not entirely within our control, including the availability of suitable candidates and our ability to negotiate terms acceptable to all parties involved, conclude satisfactory agreements and obtain all necessary regulatory approvals. Accordingly, we may not be able to successfully negotiate and complete specific transactions. The exploration, negotiation and consummation of strategic transactions may involve significant expenditures by us, which may adversely affect our results of operations at the time such expenses are incurred, and may divert management's attention from our existing business. Strategic transactions also may have adverse effects on our existing business relationships with suppliers and customers.

If required, the financing for strategic acquisitions could result in an increase in our indebtedness, dilute the interests of our shareholders or both. Any acquisition may not be accretive to us for a significant period of time following the completion of such acquisition. Also, our ability to effectively integrate any potential acquisition into our existing business and culture may not be successful, which could jeopardize future financial and operational performance for the combined businesses. In addition, if an acquisition results in any additional goodwill or increase in other intangible assets on our balance sheet and subsequently becomes impaired, we would be required to record a non-cash impairment charge, which could result in a material adverse effect on our financial condition and results of operations.

Similarly, any strategic divestiture of a product line or business may reduce our revenue and earnings, reduce the diversity of our business, result in substantial costs and expenses and cause disruption to our employees, customers, vendors and communities in which we operate.

We are vulnerable to supply shortages from single-sourced suppliers.

During 2016, we single sourced approximately 20 percent of the total types of parts in our product designs, compared to approximately 56 percent in 2015. Any delay in our suppliers' deliveries may adversely affect our operations at multiple

manufacturing locations, forcing us to seek alternative supply sources to avoid serious disruptions. Delays may be caused by factors affecting our suppliers, including capacity constraints, labor disputes, economic downturns, availability of credit, the impaired financial condition of a particular supplier, suppliers' allocations to other purchasers, weather emergencies, natural disasters or acts of war or terrorism. Any extended delay in receiving critical supplies could impair our ability to deliver products to our customers and our results of operations.

Our products are exposed to variability in material and commodity costs.

Our businesses establish prices with our customers in accordance with contractual time frames; however, the timing of material and commodity market price increases may prevent us from passing these additional costs on to our customers through timely pricing actions. Additionally, higher material and commodity costs around the world may offset our efforts to reduce our cost structure. While we customarily enter into financial transactions and contractual pricing adjustment provisions with our customers that attempt to address some of these risks (notably with respect to copper, platinum and palladium), there can be no assurance that commodity price fluctuations will not adversely affect our results of operations. In addition, while the use of commodity price hedging instruments and contractual pricing adjustments may provide us with some protection from adverse fluctuations in commodity prices, by utilizing these instruments we potentially forego the benefits that might result from favorable fluctuations in price. As a result, higher material and commodity costs, as well as hedging these commodity costs during periods of decreasing prices, could result in declining margins.

Our products are subject to recall for performance or safety-related issues.

Our products may be subject to recall for performance or safety-related issues. Product recalls subject us to harm to our reputation, loss of current and future customers, reduced revenue and product recall costs. Product recall costs are incurred when we decide, either voluntarily or involuntarily, to recall a product through a formal campaign to solicit the return of specific products due to a known or suspected performance issue. Any significant product recalls could have a material adverse effect on our results of operations, financial condition and cash flows. See Note 12, "COMMITMENTS AND CONTINGENCIES" to the *Consolidated Financial Statements* for additional information.

We face significant competition in the markets we serve.

The markets in which we operate are highly competitive. We compete worldwide with a number of other manufacturers and distributors that produce and sell similar products. We primarily compete in the market with diesel engines and related diesel products; however, new technologies continue to be developed for gasoline, natural gas and other technologies and we will continue to face new competition from these expanding technologies. Our products primarily compete on the basis of price, performance, fuel economy, speed of delivery, quality and customer support. We also face competitors in some emerging markets who have established local practices and long standing relationships with participants in these markets. There can be no assurance that our products will be able to compete successfully with the products of other companies and in other markets.

Increasing global competition among our customers may affect our existing customer relationships and restrict our ability to benefit from some of our customers' growth.

As our customers in emerging markets continue to grow in size and scope, they are increasingly seeking to export their products to other countries. This has meant greater demand for our advanced engine technologies to help these customers meet the more stringent emissions requirements of developed markets, as well as greater demand for access to our distribution systems for purposes of equipment servicing. As these emerging market customers enter into, and begin to compete in more developed markets, they may increasingly begin to compete with our existing customers in these markets. Our further aid to emerging market customers could adversely affect our relationships with developed market customers and, as a result, we may be pressured to restrict the sale or support of some of our products in the areas of increased competition. In addition, to the extent the competition does not correspond to overall growth in demand, we may see little or no benefit from this type of expansion by our emerging market customers.

We are exposed to, and may be adversely affected by, potential security breaches or other disruptions to our information technology systems and data security.

We rely on the capacity, reliability and security of our information technology systems and data security infrastructure in connection with various aspects of our business activities. We also rely on our ability to expand and continually update these systems and infrastructure in response to the changing needs of our business. As we implement new systems, they may not perform as expected. We also face the challenge of supporting our older systems and implementing necessary upgrades. In addition, some of these systems are managed by third party service providers and are not under our direct control. If we experience a problem with an important information technology system, including during system upgrades and/or new system implementations, the resulting disruptions could have an adverse effect on our business and reputation. As customers adopt and

rely on the cloud-based digital technologies and services we offer, any disruption of the confidentiality, integrity or availability of those services could have an adverse effect on our business and reputation.

The information handled by our information technology systems is vulnerable to security threats. Our operations routinely involve receiving, storing, processing and transmitting sensitive information pertaining to our business, customers, dealers, suppliers, employees and other sensitive matters. Information technology security threats, such as security breaches, computer malware and other "cyber attacks," which are increasing in both frequency and sophistication, could result in unauthorized disclosures of information and create financial liability, subject us to legal or regulatory sanctions, or damage our reputation with customers, dealers, suppliers and other stakeholders. We continuously seek to maintain a robust program of information security and controls, but the impact of a material information technology event could have a material adverse effect on our competitive position, reputation, results of operations, financial condition and cash flow.

We are exposed to political, economic and other risks that arise from operating a multinational business.

Approximately 46 percent of our net sales for 2016 and 44 percent in 2015 were attributable to customers outside the U.S. Accordingly, our business is subject to the political, economic and other risks that are inherent in operating in numerous countries. These risks include:

- the difficulty of enforcing agreements and collecting receivables through foreign legal systems;
- trade protection measures and import or export licensing requirements;
- the imposition of taxes on foreign income and tax rates in certain foreign countries that exceed those in the U.S.;
- the imposition of tariffs, exchange controls or other restrictions;
- difficulty in staffing and managing widespread operations and the application of foreign labor regulations;
- required compliance with a variety of foreign laws and regulations; and
- changes in general economic and political conditions in countries where we operate, particularly in emerging markets.

As we continue to operate our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and other related risks. There can be no assurance that the consequences of these and other factors relating to our multinational operations will not have a material adverse effect upon us.

Unanticipated changes in our effective tax rate, the adoption of new tax legislation or exposure to additional income tax liabilities could adversely affect our profitability.

We are subject to income taxes in the U.S. and numerous international jurisdictions. Our income tax provision and cash tax liability in the future could be adversely affected by changes in the distribution of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, changes to our assertions regarding permanent reinvestment of our foreign earnings, changes in tax laws and the discovery of new information in the course of our tax return preparation process. The carrying value of deferred tax assets, which are predominantly in the U.S., is dependent on our ability to generate future taxable income in the U.S. We are also subject to ongoing tax audits. These audits can involve complex issues, which may require an extended period of time to resolve and can be highly judgmental. Tax authorities may disagree with certain tax reporting positions taken by us and, as a result, assess additional taxes against us. We regularly assess the likely outcomes of these audits in order to determine the appropriateness of our tax provision. The amounts ultimately paid upon resolution of these or subsequent tax audits could be materially different from the amounts previously included in our income tax provision and, therefore, could have a material impact on our tax provision.

Our global operations are subject to laws and regulations that impose significant compliance costs and create reputational and legal risk.

Due to the international scope of our operations, we are subject to a complex system of commercial and trade regulations around the world. Recent years have seen an increase in the development and enforcement of laws regarding trade compliance and anti-corruption, such as the U.S. Foreign Corrupt Practices Act and similar laws from other countries. Our numerous foreign subsidiaries, affiliates and joint venture partners are governed by laws, rules and business practices that differ from those of the U.S. The activities of these entities may not comply with U.S. laws or business practices or our Code of Business Conduct. Violations of these laws may result in severe criminal or civil sanctions, could disrupt our business, and result in an adverse effect on our reputation, business and results of operations or financial condition. We cannot predict the nature, scope or effect of future regulatory requirements to which our operations might be subject or the manner in which existing laws might be administered or interpreted.

We face the challenge of accurately aligning our capacity with our demand.

We can experience idle capacity as economies slow or demand for certain products decline. Accurately forecasting our expected volumes and appropriately adjusting our capacity have been, and will continue to be, important factors in determining our results of operations. If we overestimate our demand and overbuild our capacity, we may have significantly underutilized assets and we may experience reduced margins. If we do not accurately align our manufacturing capabilities with demand it could have a material adverse effect on our results of operations.

Our business is exposed to potential product liability claims.

We face an inherent business risk of exposure to product liability claims in the event that our products' failure to perform to specification results, or is alleged to result, in property damage, bodily injury and/or death. At any given time, we are subject to various and multiple product liability claims, any one of which, if decided adversely to us, may have a material adverse effect on our reported results of operation in the period in which our liability with respect to any such claim is recognized. While we maintain insurance coverage with respect to certain product liability claims, we may not be able to obtain such insurance on acceptable terms in the future, if at all, and any such insurance may not provide adequate coverage against product liability claims. In addition, product liability claims can be expensive to defend and can divert the attention of management and other personnel for significant periods of time, regardless of the ultimate outcome. Furthermore, even if we are successful in defending against a claim relating to our products, claims of this nature could cause our customers to lose confidence in our products and us.

Our operations are subject to increasingly stringent environmental laws and regulations.

Our plants and operations are subject to increasingly stringent environmental laws and regulations in all of the countries in which we operate, including laws and regulations governing air emission, discharges to water and the generation, handling, storage, transportation, treatment and disposal of waste materials. While we believe that we are in compliance in all material respects with these environmental laws and regulations, there can be no assurance that we will not be adversely impacted by costs, liabilities or claims with respect to existing or subsequently acquired operations, under either present laws and regulations or those that may be adopted or imposed in the future. We are also subject to laws requiring the cleanup of contaminated property. If a release of hazardous substances occurs at or from any of our current or former properties or at a landfill or another location where we have disposed of hazardous materials, we may be held liable for the contamination and the amount of such liability could be material.

We are exposed to risks arising from the price and availability of energy.

The level of demand for our products and services is influenced in multiple ways by the price and availability of energy. High energy costs generally drive greater demand for better fuel economy in almost all countries in which we operate. Some of our engine products have been developed with a primary purpose of offering fuel economy improvements, and if energy costs decrease or increase less than expected, demand for these products may likewise decrease. The relative unavailability of electricity in some emerging market countries also influences demand for our electricity generating products, such as our diesel generators. If these countries add energy capacity by expanding their power grids at a rate equal to or faster than the growth in demand for energy, the demand for our generating products could also decrease or increase less than would otherwise be the case.

Significant declines in future financial and stock market conditions could diminish our pension plan asset performance and adversely impact our results of operations, financial condition and cash flow.

We sponsor both funded and unfunded domestic and foreign defined benefit pension and other retirement plans. Our pension cost and the required contributions to our pension plans are directly affected by the value of plan assets, the projected and actual rates of return on plan assets and the actuarial assumptions we use to measure our defined benefit pension plan obligations, including the discount rate at which future projected and accumulated pension obligations are discounted to a present value. We could experience increased pension cost due to a combination of factors, including the decreased investment performance of pension plan assets, decreases in the discount rate and changes in our assumptions relating to the expected return on plan assets.

Significant declines in future financial and stock market conditions could cause material losses in our pension plan assets, which could result in increased pension cost in future years and adversely impact our results of operations, financial condition and cash flow. Depending upon the severity of market declines and government regulatory changes, we may be legally obligated to make pension payments in the U.S. and perhaps other countries and these contributions could be material.

We may be adversely impacted by work stoppages and other labor matters.

At December 31, 2016, we employed approximately 55,400 persons worldwide. Approximately 18,340 of our employees worldwide are represented by various unions under collective bargaining agreements that expire between 2017 and 2021. While we have no reason to believe that we will be materially impacted by work stoppages or other labor matters, there can be no assurance that future issues with our labor unions will be resolved favorably or that we will not encounter future strikes, work stoppages, or other types of conflicts with labor unions or our employees. Any of these consequences may have an adverse effect on us or may limit our flexibility in dealing with our workforce. In addition, many of our customers and suppliers have unionized work forces. Work stoppages or slowdowns experienced by our customers or suppliers could result in slowdowns or closures that would have a material adverse effect on our results of operations, financial condition and cash flow.

Our financial statements are subject to changes in accounting standards that could adversely impact our profitability or financial position.

Our financial statements are subject to the application of generally accepted accounting principles (GAAP) in the United States of America, which are periodically revised and/or expanded. Accordingly, from time to time, we are required to adopt new or revised accounting standards issued by recognized authoritative bodies, including the Financial Accounting Standards Board. Recently, accounting standard setters issued new guidance which further interprets or seeks to revise accounting pronouncements related to revenue recognition and lease accounting as well as to issue new standards expanding disclosures. The impact of accounting pronouncements that have been issued but not yet implemented is disclosed in our annual and quarterly reports on Form 10-K and Form 10-Q. An assessment of proposed standards is not provided, as such proposals are subject to change through the exposure process and, therefore, their effects on our financial statements cannot be meaningfully assessed. It is possible that future accounting standards we are required to adopt could change the current accounting treatment that we apply to our consolidated financial statements and that such changes could have a material adverse effect on our reported results of operations and financial position.

Future bans or limitations on the use of diesel-powered vehicles could materially adversely affect our business over the long term.

Mayors of several large international cities have announced that they plan to implement a ban on the use in their cities of diesel-powered vehicles by 2025. Similarly, Germany adopted legislation to ban new internal combustion engine vehicles by 2030. To the extent that these types of bans are actually implemented in the future on a broad basis, or in one or more of our key markets, our business over the long-term could be materially adversely affected.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

Manufacturing Facilities

Our principal manufacturing facilities include our plants used by the following segments in the following locations:

Segment	U.S. Facilities	Facilities Outside the U.S.
Engine	Indiana: Columbus	Brazil: Sao Paulo
	New York: Lakewood	India: Phaltan
	North Carolina: Whitakers	U.K.: Darlington
Components	Indiana: Columbus	Australia: Kilsyth
	South Carolina: Charleston	Brazil: Sao Paulo
	Tennessee: Cookeville	China: Beijing, Shanghai, Wuxi, Wuhan
	Wisconsin: Mineral Point, Neillsville	France: Quimper
		Germany: Markttheidenfeld
		India: Pune, Dewas, Pithampur, Rudrapur
		Mexico: Ciudad Juarez, San Luis Potosi
		South Africa: Johannesburg
		South Korea: Suwon
		Turkey: Izmir
Power Systems	Indiana: Elkhart, Seymour	U.K.: Darlington, Huddersfield
	Minnesota: Fridley	Brazil: Sao Paulo
	New Mexico: Clovis	China: Wuxi, Wuhan
		India: Pune, Ahmendnagar, Ranjangaon, Phaltan
		Mexico: San Luis Potosi
		Romania: Craiova
		U.K.: Daventry, Margate, Manston, Stamford
	Nigeria: Lagos	

In addition, engines and engine components are manufactured by joint ventures or independent licensees at manufacturing plants in the U.S., China and India.

Distribution Facilities

The principal distribution facilities that serve all of our segments are located in the following locations:

U.S. Facilities	Facilities Outside the U.S.
California: Irvine	Belgium: Rumst
Colorado: Henderson	Canada: Vancouver
Georgia: Atlanta	China: Shanghai
Kentucky: Walton	Singapore: Singapore
Michigan: New Hudson	South Africa: Johannesburg
Minnesota: White Bear Lake	United Arab Emirates: Dubai
Nebraska: Omaha	
North Carolina: Charlotte	
Pennsylvania: Bristol	
Tennessee: Memphis	
Texas: Dallas	

Headquarters and Other Offices

Our Corporate Headquarters are located in Columbus, Indiana. Additional marketing and operational headquarters are in the following locations:

U.S. Facilities	Facilities Outside the U.S.
Indiana: Columbus, Indianapolis	Brazil: Guarulhos
Tennessee: Nashville	China: Beijing, Shanghai, Wuhan
Washington, D.C.	India: Pune
	Mexico: San Luis Potosi
	Russia: Moscow
	South Africa: Johannesburg
	U.K.: Staines, Stockton
	United Arab Emirates: Dubai

ITEM 3. Legal Proceedings

We are subject to numerous lawsuits and claims arising out of the ordinary course of our business, including actions related to product liability; personal injury; the use and performance of our products; warranty matters; product recalls; patent, trademark or other intellectual property infringement; contractual liability; the conduct of our business; tax reporting in foreign jurisdictions; distributor termination; workplace safety; and environmental matters. We also have been identified as a potentially responsible party at multiple waste disposal sites under U.S. federal and related state environmental statutes and regulations and may have joint and several liability for any investigation and remediation costs incurred with respect to such sites. We have denied liability with respect to many of these lawsuits, claims and proceedings and are vigorously defending such lawsuits, claims and proceedings. We carry various forms of commercial, property and casualty, product liability and other forms of insurance; however, such insurance may not be applicable or adequate to cover the costs associated with a judgment against us with respect to these lawsuits, claims and proceedings. We do not believe that these lawsuits are material individually or in the aggregate. While we believe we have also established adequate accruals pursuant to U.S. generally accepted accounting principles for our expected future liability with respect to pending lawsuits, claims and proceedings, where the nature and extent of any such liability can be reasonably estimated based upon then presently available information, there can be no assurance that the final resolution of any existing or future lawsuits, claims or proceedings will not have a material adverse effect on our business, results of operations, financial condition or cash flows.

The matters described under "Loss Contingency Charges" in Note 12, "COMMITMENTS AND CONTINGENCIES," to the *Consolidated Financial Statements* are incorporated herein by reference.

We conduct significant business operations in Brazil that are subject to the Brazilian federal, state and local labor, social security, tax and customs laws. While we believe we comply with such laws, they are complex, subject to varying interpretations and we are often engaged in litigation regarding the application of these laws to particular circumstances.

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

(a) Our common stock is listed on the NYSE under the symbol "CMI." For information about the quoted market prices of our common stock, information regarding dividend payments and the number of common stock shareholders, see "Selected Quarterly Financial Data" in this report. For other matters related to our common stock and shareholders' equity, see Note 13, "SHAREHOLDERS' EQUITY," to the *Consolidated Financial Statements*.

(b) Use of proceeds—not applicable.

(c) The following information is provided pursuant to Item 703 of Regulation S-K:

Period	Issuer Purchases of Equity Securities			
	(a) Total Number of Shares Purchased ⁽¹⁾	(b) Average Price Paid per Share	(c) Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs ⁽²⁾
October 3 - November 6	1,335	\$ 129.78	—	90,937
November 7 - December 4	269,459	131.37	246,478	68,106
December 5 - December 31	4,654	142.10	—	62,953
Total	275,448	131.55	246,478	

⁽¹⁾ Shares purchased represent shares under our Key Employee Stock Investment Plan established in 1969 (there is no maximum repurchase limitation in this plan) and our Board of Directors authorized share repurchase programs.

⁽²⁾ These values reflect the sum of shares held in loan status under our Key Employee Stock Investment Plan. The repurchase programs authorized by the Board of Directors do not limit the number of shares that may be purchased and were excluded from this column. The dollar value remaining available for future purchases under such programs as of December 31, 2016, was \$1.5 billion.

In December 2016, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon completion of the 2015 repurchase plan. In November 2015, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon the completion of the 2014 repurchase plan. During the three months ended December 31, 2016, we repurchased \$33 million of common stock under the 2015 Board of Directors authorized plan.

During the three months ended December 31, 2016, we repurchased 28,970 shares from employees in connection with the Key Employee Stock Investment Plan which allows certain employees, other than officers, to purchase shares of common stock on an installment basis up to an established credit limit. Loans are issued for five-year terms at a fixed interest rate established at the date of purchase and may be refinanced after their initial five-year period for an additional five-year period. Participants must hold shares for a minimum of six months from date of purchase. If the shares are sold before the loan is paid off, the employee must wait six months before another share purchase may be made. We hold participants' shares as security for the loans and would, in effect repurchase shares if the participant defaulted in repayment of the loan. There is no maximum amount of shares that we may purchase under this plan.

Performance Graph (Unaudited)

The following Performance Graph and related information shall not be deemed "soliciting material" or to be "filed" with the SEC, nor shall such information be incorporated by reference into any of our future filings under the Securities Act of 1933 or Securities Exchange Act of 1934, each as amended, except to the extent that we specifically incorporate it by reference into such filing.

The following graph compares the cumulative total shareholder return on our common stock for the last five years with the cumulative total return on the S&P 500 Index and an index of peer companies selected by us. Our peer group includes BorgWarner Inc, Caterpillar, Inc., Daimler AG, Danaher Corporation, Deere & Company, Donaldson Company Inc., Eaton Corporation, Emerson Electric Co., W.W. Grainger Inc., Honeywell International, Illinois Tool Works Inc., Ingersoll-Rand Company Ltd., Navistar, PACCAR, Parker-Hannifin Corporation, Textron Inc. and Volvo AB. Each of the measures of cumulative total return assumes reinvestment of dividends. The comparisons in this table are required by the SEC and are not intended to forecast or be indicative of possible future performance of our stock.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

AMONG CUMMINS INC., S&P 500 INDEX AND CUSTOM PEER GROUP



ASSUMES \$100 INVESTED ON DEC. 31, 2011
 ASSUMES DIVIDENDS REINVESTED
 FISCAL YEAR ENDING DEC. 31, 2016

ITEM 6. Selected Financial Data

The selected financial information presented below for each of the last five years ended December 31, beginning with 2016, was derived from our *Consolidated Financial Statements*. This information should be read in conjunction with our *Consolidated Financial Statements* and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

In millions, except per share amounts	2016	2015	2014	2013	2012
For the years ended December 31,					
Net sales	\$ 17,509	\$ 19,110	\$ 19,221	\$ 17,301	\$ 17,334
<i>U.S. percentage of sales</i>	54%	56%	52%	48%	47%
<i>Non-U.S. percentage of sales</i>	46%	44%	48%	52%	53%
Gross margin ⁽¹⁾	4,452	4,947	4,861	4,280	4,416
Research, development and engineering expenses	636	735	754	713	728
Equity, royalty and interest income from investees	301	315	370	361	384
Interest expense ⁽²⁾	69	65	64	41	32
Net income attributable to Cummins Inc. ⁽³⁾	1,394	1,399	1,651	1,483	1,645
Earnings per common share attributable to Cummins Inc.					
Basic	\$ 8.25	\$ 7.86	\$ 9.04	\$ 7.93	\$ 8.69
Diluted	8.23	7.84	9.02	7.91	8.67
Cash dividends declared per share	4.00	3.51	2.81	2.25	1.80
Net cash provided by operating activities	\$ 1,935	\$ 2,059	\$ 2,266	\$ 2,089	\$ 1,532
Capital expenditures	531	744	743	676	690
At December 31,					
Cash and cash equivalents	\$ 1,120	\$ 1,711	\$ 2,301	\$ 2,699	\$ 1,369
Total assets	15,011	15,134	15,764	14,728	12,548
Long-term debt ⁽²⁾	1,568	1,576	1,577	1,672	698
Total equity ⁽⁴⁾	7,174	7,750	8,093	7,870	6,974

⁽¹⁾ We revised the classification of certain amounts for "Cost of sales" and "Selling, general and administrative expenses" for 2013 and 2012. Certain activities that were previously classified in "Selling, general and administrative expenses" are now classified as "Cost of sales." The reclassifications for the years ended December 31, 2013 and 2012, were \$103 million and \$92 million, respectively. The revision had no impact on reported net income, cash flows or the balance sheet.

⁽²⁾ In 2015, we adopted new rules related to balance sheet debt issuance costs, which resulted in the reclassification of our December 31, 2014, debt balance, reducing our long-term debt by \$12 million. In September 2013, we issued \$1 billion of senior unsecured debt.

⁽³⁾ For the year ended December 31, 2016, consolidated net income included a \$138 million charge for a loss contingency (\$74 million net of favorable variable compensation impact and after-tax). For the year ended December 31, 2015, consolidated net income included \$211 million for an impairment of light-duty diesel assets (\$133 million after-tax), \$90 million of restructuring actions and other charges (\$61 million after-tax) and a \$60 million charge for a loss contingency (\$38 million after-tax). For the year ended December 31, 2014, consolidated net income included \$32 million of restructuring and other charges (\$21 million after-tax) for operating actions related to the Power Systems segment. For the year ended December 31, 2012, consolidated net income included \$52 million of restructuring and other charges (\$35 million after-tax) and a \$20 million charge (\$12 million after-tax) related to legal matters.

⁽⁴⁾ For the years ended December 31, 2016, 2015, 2014, 2013 and 2012, we recorded non-cash charges (credits) to equity of \$65 million, \$63 million, \$78 million, \$(102) million and \$83 million, respectively, to record net actuarial losses (gains) associated with the valuation of our pension plans. These losses (gains) include the effects of market conditions on our pension trust assets and the effects of economic factors on the valuation of the pension liability. For the years ended December 31, 2016, 2015, 2014, 2013 and 2012, we recorded non-cash charges (credits) to equity of \$431 million, \$290 million, \$227 million, \$18 million and \$(37) million, respectively, to record unrealized losses (gains) associated with the foreign currency translation adjustments.

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

ORGANIZATION OF INFORMATION

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) was prepared to provide the reader with a view and perspective of our business through the eyes of management and should be read in conjunction with our *Consolidated Financial Statements* and the accompanying notes to those financial statements. Our MD&A is presented in the following sections:

- Executive Summary and Financial Highlights
- 2017 Outlook
- Results of Operations
- Operating Segment Results
- Liquidity and Capital Resources
- Contractual Obligations and Other Commercial Commitments
- Application of Critical Accounting Estimates
- Recently Issued Accounting Pronouncements

EXECUTIVE SUMMARY AND FINANCIAL HIGHLIGHTS

We are a global power leader that designs, manufactures, distributes and services diesel and natural gas engines and engine-related component products, including filtration, aftertreatment, turbochargers, fuel systems, controls systems, air handling systems and electric power generation systems. We sell our products to original equipment manufacturers (OEMs), distributors and other customers worldwide. We have long-standing relationships with many of the leading manufacturers in the markets we serve, including PACCAR Inc, Daimler Trucks North America, Navistar International Corporation and Fiat Chrysler Automobiles. We serve our customers through a network of approximately 600 wholly-owned and independent distributor locations and over 7,400 dealer locations in more than 190 countries and territories.

Our reportable operating segments consist of Engine, Distribution, Components and Power Systems. This reporting structure is organized according to the products and markets each segment serves. The Engine segment produces engines (15 liters and less in size) and associated parts for sale to customers in on-highway and various off-highway markets. Our engines are used in trucks of all sizes, buses and recreational vehicles, as well as in various industrial applications, including construction, agriculture, power generation systems and other off-highway applications. The Distribution segment includes wholly-owned and partially-owned distributorships engaged in wholesaling engines, generator sets and service parts, as well as performing service and repair activities on our products and maintaining relationships with various OEMs throughout the world. The Components segment sells filtration products, aftertreatment systems, turbochargers and fuel systems. The Power Systems segment is an integrated power provider, which designs, manufactures and sells engines (16 liters and larger) for industrial applications (including mining, oil and gas and marine), standby and prime power generator sets, alternators and other power components.

Our financial performance depends, in large part, on varying conditions in the markets we serve, particularly the on-highway, construction and general industrial markets. Demand in these markets tends to fluctuate in response to overall economic conditions. Our sales may also be impacted by OEM inventory levels, production schedules and stoppages. Economic downturns in markets we serve generally result in reduced sales of our products and can result in price reductions in certain products and/or markets. As a worldwide business, our operations are also affected by currency, political, economic and regulatory matters, including adoption and enforcement of environmental and emission standards, in the countries we serve. As part of our growth strategy, we invest in businesses in certain countries that carry high levels of these risks such as China, Brazil, India, Mexico, Russia and countries in the Middle East and Africa. At the same time, our geographic diversity and broad product and service offerings have helped limit the impact from a drop in demand in any one industry or customer or the economy of any single country on our consolidated results.

Worldwide revenues declined 8 percent in 2016 compared to 2015, primarily due to lower demand in most global on-highway markets, decreased demand in most global power generation markets, unfavorable foreign currency fluctuations and lower demand in most global high-horsepower industrial markets, partially offset by sales increases related to the consolidation of North American distributors since December 31, 2014 and an increase in light-duty automotive sales primarily due to new sales for the Nissan pick-up platform launched in the second half of 2015. Revenue in the U.S. and Canada declined by 12 percent

primarily due to decreased demand in the North American on-highway markets, lower organic sales in our distribution markets and unfavorable demand in the industrial oil and gas and construction markets, partially offset by increased Distribution segment sales related to the consolidation of North American distributors and an increase in light-duty automotive sales primarily due to new sales for the Nissan pick-up platform launched in the second half of 2015. Continued global economic weakness in 2016 negatively impacted our international revenues (excludes the U.S. and Canada), which declined by 2 percent, with sales down in most of our markets, especially in South America, the Middle East, U.K., Singapore and Mexico. The decline in international sales was primarily due to declines in most international power generation markets, unfavorable foreign currency impacts of 4 percent of international sales (primarily in the British pound, Chinese renminbi, Indian rupee, Brazilian real, South African rand and Australian dollar), decreased demand in high-horsepower industrial markets led by declines in marine and mining, lower demand in distribution markets in Asia Pacific, Africa and the Middle East and lower demand in the on-highway markets in Brazil and Mexico.

The following table contains sales and earnings before interest expense, income tax expense and noncontrolling interests (EBIT) results by operating segment for the years ended December 31, 2016 and 2015. See the section titled "Operating Segment Results" for a more detailed discussion of net sales and EBIT by operating segment including the reconciliation of segment EBIT to consolidated net income.

Operating Segments

In millions	2016			2015			Percent change 2016 vs. 2015	
	Sales	Percent of Total	EBIT	Sales ⁽¹⁾	Percent of Total	EBIT ⁽¹⁾	Sales	EBIT
Engine	\$ 7,804	45 %	\$ 686 ⁽²⁾	\$ 8,670	45 %	\$ 636 ⁽²⁾⁽³⁾⁽⁴⁾	(10)%	8 %
Distribution	6,181	35 %	392	6,229	33 %	412 ⁽⁴⁾	(1)%	(5)%
Components	4,836	28 %	641	5,172	27 %	727 ⁽³⁾⁽⁴⁾	(6)%	(12)%
Power Systems	3,517	20 %	263	4,067	21 %	335 ⁽⁴⁾	(14)%	(21)%
Intersegment eliminations	(4,829)	(28)%	—	(5,028)	(26)%	—	(4)%	—
Non-segment	—	—	17	—	—	(20) ⁽⁴⁾	—	NM
Total	\$ 17,509	100 %	\$ 1,999	\$ 19,110	100 %	\$ 2,090	(8)%	(4)%

"NM" - not meaningful information

⁽¹⁾ Sales and EBIT numbers were adjusted for the segment reorganization. See Note 21, "OPERATING SEGMENTS," to the *Consolidated Financial Statements* for additional information.

⁽²⁾ The years ended December 31, 2016 and 2015, included \$138 million and \$60 million for loss contingency charges, respectively. See the "Results of Operations" section for additional information.

⁽³⁾ The year ended December 31, 2015, included an impairment of light-duty diesel assets for the Engine and Components segments of \$202 million and \$9 million, respectively. See the "Results of Operations" section for additional information.

⁽⁴⁾ The year ended December 31, 2015, included \$90 million of restructuring actions and other charges which were re-allocated in conjunction with our segment realignment. Restructuring actions and other charges for the Engine, Distribution, Components, Power Systems and Non-segment segments were \$17 million, \$23 million, \$13 million, \$26 million and \$11 million, respectively. See the "Results of Operations" section for additional information.

Net income attributable to Cummins Inc. for 2016 was \$1.39 billion, or \$8.23 per diluted share, on sales of \$17.5 billion, compared to 2015 net income attributable to Cummins Inc. of \$1.40 billion, or \$7.84 per diluted share, on sales of \$19.1 billion. Net income was relatively flat as significantly lower gross margin and higher loss contingency charges were mostly offset by the absence of 2015 impairment and restructuring charges, in addition to lower research, development and engineering expenses, a lower effective tax rate, lower selling, general and administrative expenses and favorable changes to corporate owned life insurance. The decrease in gross margin was primarily due to lower volumes, unfavorable mix and unfavorable foreign currency fluctuations (primarily in the Brazilian real, South African rand and Canadian dollar), partially offset by lower material and commodity costs, improved Distribution segment margins related to the acquisition of North American distributors since December 31, 2014 and lower warranty expense. Diluted earnings per share for 2016 benefited \$0.26 per share from lower shares outstanding, primarily due to purchases under the stock repurchase program.

We generated \$1,935 million of operating cash flows in 2016, compared to \$2,059 million in 2015. See the section titled "Cash Flows" in the "Liquidity and Capital Resources" section for a discussion of items impacting cash flows.

In December 2016, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon completion of the 2015 repurchase plan. During 2016, we repurchased \$778 million, or 7.3 million shares of common stock. In 2016, we entered into an accelerated share repurchase agreement with a third party financial institution to repurchase \$500 million of our common stock under our previously announced share repurchase plans and received 4.7 million shares at an average purchase price of \$105.50 per share. See Note 13, "SHAREHOLDERS' EQUITY," to the *Consolidated Financial Statements* for additional information.

During 2016, we paid \$109 million to acquire the remaining interest in the last two partially owned North American distributors, including the related debt retirements, and recognized a total gain of \$15 million on the fair value adjustment resulting from the acquisition of the controlling interest in the previously unconsolidated entity. See Note 18, "ACQUISITIONS," to the *Consolidated Financial Statements* for additional information.

Our debt to capital ratio (total capital defined as debt plus equity) at December 31, 2016, was 20.6 percent, compared to 17.5 percent at December 31, 2015. The increase was due to higher total debt, as a result of the commercial paper program added in 2016, and a net decrease in shareholders' equity. At December 31, 2016, we had \$1.4 billion in cash and marketable securities on hand and access to our credit facilities, if necessary, to meet currently anticipated investment and funding needs. As of the date of filing this Annual Report on Form 10-K, our credit ratings were as follows:

Credit Rating Agency	Long-Term	Short-Term	Outlook
	Senior Debt Rating	Debt Rating	
Standard & Poor's Rating Services	A+	A1	Stable
Fitch Ratings	A	F1	Stable
Moody's Investors Service, Inc.	A2	P1	Stable

In July 2016, our Board of Directors authorized an increase to our quarterly dividend of 5.1 percent from \$0.975 per share to \$1.025 per share.

Our global pension plans, including our unfunded and non-qualified plans, were 110 percent funded at December 31, 2016. Our U.S. qualified plans, which represent approximately 56 percent of the worldwide pension obligation, were 118 percent funded and our U.K. plans were 121 percent funded. We expect to contribute approximately \$134 million to our global pension plans in 2017. See application of critical accounting estimates within MD&A and Note 8, "PENSION AND OTHER POSTRETIREMENT BENEFITS," to the *Consolidated Financial Statements*, for additional information concerning our pension and other post-retirement benefit plans.

In 2016, we recorded additional charges of \$138 million for an existing loss contingency. See Note 12, "COMMITMENTS AND CONTINGENCIES," to the *Consolidated Financial Statements* for additional information.

2017 OUTLOOK

Our outlook reflects the following positive trends and challenges to our business that we expect could impact our revenue and earnings potential in 2017:

- Demand for pick-up trucks in North America may remain strong.
- On-highway markets in India may improve.
- Industry production of heavy-duty trucks in North America may decline.
- Power generation markets may remain weak.
- Industry production of medium-duty trucks in North America may decline.
- North American construction markets may weaken.
- Weak economic conditions in Brazil may continue to negatively impact demand across our businesses.
- Foreign currency volatility could continue to put pressure on our results.
- Market demand may remain weak in industrial engine and global mining markets.

Demand in a number of important markets has been weak or declining for a number of years, below replacement levels, and we expect that demand will improve over time, as in prior economic cycles. We are well-positioned to benefit when market conditions improve.

RESULTS OF OPERATIONS

In millions (except per share amounts)	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
NET SALES	\$ 17,509	\$ 19,110	\$ 19,221	\$ (1,601)	(8)%	\$ (111)	(1)%
Cost of sales	13,057	14,163	14,360	1,106	8 %	197	1 %
GROSS MARGIN	4,452	4,947	4,861	(495)	(10)%	86	2 %
OPERATING EXPENSES AND INCOME							
Selling, general and administrative expenses	2,046	2,092	2,095	46	2 %	3	— %
Research, development and engineering expenses	636	735	754	99	13 %	19	3 %
Equity, royalty and interest income from investees	301	315	370	(14)	(4)%	(55)	(15)%
Loss contingency charges	138	60	—	(78)	NM	(60)	NM
Impairment of light-duty diesel assets	—	211	—	211	NM	(211)	NM
Restructuring actions and other charges	—	90	—	90	NM	(90)	NM
Other operating expense, net	(5)	(17)	(17)	12	71 %	—	— %
OPERATING INCOME	1,928	2,057	2,365	(129)	(6)%	(308)	(13)%
Interest income	23	24	23	(1)	(4)%	1	4 %
Interest expense	69	65	64	(4)	(6)%	(1)	(2)%
Other income, net	48	9	110	39	NM	(101)	(92)%
INCOME BEFORE INCOME TAXES	1,930	2,025	2,434	(95)	(5)%	(409)	(17)%
Income tax expense	474	555	698	81	15 %	143	20 %
CONSOLIDATED NET INCOME	1,456	1,470	1,736	(14)	(1)%	(266)	(15)%
Less: Net income attributable to noncontrolling interests	62	71	85	9	13 %	14	16 %
NET INCOME ATTRIBUTABLE TO CUMMINS INC.	\$ 1,394	\$ 1,399	\$ 1,651	\$ (5)	— %	\$ (252)	(15)%
Diluted earnings per common share attributable to Cummins Inc.	\$ 8.23	\$ 7.84	\$ 9.02	\$ 0.39	5 %	\$ (1.18)	(13)%

"NM" - not meaningful information

Percent of sales	Favorable/(Unfavorable) Percentage Points					
	2016	2015	2014	2016 vs. 2015	2015 vs. 2014	
Gross margin	25.4%	25.9%	25.3%	(0.5)	0.6	
Selling, general and administrative expenses	11.7%	10.9%	10.9%	(0.8)	—	
Research, development and engineering expenses	3.6%	3.8%	3.9%	0.2	0.1	

2016 vs. 2015
Net Sales

Net sales decreased \$1.6 billion versus 2015, primarily driven by the following:

- Engine segment sales decreased 10 percent primarily due to lower demand in North American heavy-duty and medium-duty on-highway markets and lower demand in most North American off-highway markets, partially offset by increased sales in the light-duty automotive market.
- Power Systems segment sales decreased 14 percent primarily due to lower demand in all product lines and decreased sales in most regions with the largest declines in North America, Asia, China, Latin America, the Middle East, Africa and Western Europe.
- Components segment sales decreased 6 percent primarily due to lower demand in most lines of business, principally in North American on-highway markets, partially offset by higher demand in China.
- Foreign currency fluctuations unfavorably impacted sales by approximately 2 percent primarily in the British pound, Chinese renminbi, Indian rupee, Brazilian real, South African rand, Canadian dollar and Australian dollar.

Sales to international markets (excluding the U.S. and Canada), based on location of customers, were 42 percent of total net sales in 2016, compared with 39 percent of total net sales in 2015.

A more detailed discussion of sales by segment is presented in the "Operating Segment Results" section.

Gross Margin

Gross margin decreased \$495 million and 0.5 points as a percentage of sales, primarily due to lower volumes, unfavorable mix and unfavorable foreign currency fluctuations (primarily in the Brazilian real, South African rand and Canadian dollar), partially offset by lower material and commodity costs, improved Distribution segment margins related to the acquisition of North American distributors since December 31, 2014 and lower warranty expense.

The provision for warranties issued, excluding campaigns, as a percentage of sales was 1.7 percent in 2016 and 1.8 percent in 2015. A more detailed discussion of margin by segment is presented in the "Operating Segment Results" section.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased \$46 million, primarily due to lower compensation expenses of \$56 million as a result of restructuring actions taken in the fourth quarter of 2015. Compensation and related expenses include salaries, fringe benefits and variable compensation. Overall, selling, general and administrative expenses, as a percentage of sales, increased to 11.7 percent in 2016 from 10.9 percent in 2015.

Research, Development and Engineering Expenses

Research, development and engineering expenses decreased \$99 million, primarily due to reduced project spending in most of our segments, decreased compensation expenses as a result of restructuring actions taken in the fourth quarter of 2015, and lower consulting expenses. Overall, research, development and engineering expenses, as a percentage of sales, decreased to 3.6 percent in 2016 from 3.8 percent in 2015. Research activities continue to focus on development of new products to meet future emission standards around the world and improvements in fuel economy performance.

Equity, Royalty and Interest Income From Investees

Equity, royalty and interest income from investees decreased \$14 million, primarily due to the consolidation of partially-owned North American distributors of \$12 million and lower earnings at Beijing Foton Cummins Engine Co., Ltd. of \$10 million, partially offset by higher earnings at other joint ventures.

Loss Contingency Charges

In 2016, we recorded charges of \$138 million in addition to the 2015 charge of \$60 million for a loss contingency. See Note 12, "COMMITMENTS AND CONTINGENCIES," to the *Consolidated Financial Statements* for additional information.

Impairment of Light-duty Diesel Assets

In 2015, we recognized an impairment charge of \$211 million on our light-duty assets. See Note 19, "IMPAIRMENT OF LIGHT-DUTY DIESEL ASSETS," to the *Consolidated Financial Statements* for additional information.

Restructuring Actions and Other Charges

In 2015, we incurred a charge of \$90 million which included \$86 million for the severance costs related to both voluntary and involuntary terminations and \$4 million for asset impairments and other charges. See Note 20, "RESTRUCTURING ACTIONS AND OTHER CHARGES," to the *Consolidated Financial Statements* for additional information.

Other Operating Expense, Net

Other operating expense, net was as follows:

In millions	Years ended December 31,	
	2016	2015
Loss on write off of assets	\$ (18)	\$ (15)
Amortization of intangible assets	(9)	(18)
Royalty income, net	28	20
Other, net	(6)	(4)
Total other operating expense, net	\$ (5)	\$ (17)

Interest Income

Interest income was relatively flat compared to 2015.

Interest Expense

Interest expense increased \$4 million versus the comparable period in 2015, primarily due to an increase in total weighted average debt outstanding.

Other Income, Net

Other income, net was as follows:

In millions	Years ended December 31,	
	2016	2015
Change in cash surrender value of corporate owned life insurance	\$ 18	\$ (3)
Gain on sale of equity investee	17	—
Gains on fair value adjustment for consolidated investees ⁽¹⁾	15	18
Dividend income	5	3
Bank charges	(9)	(9)
Foreign currency loss, net	(12)	(18)
Other, net	14	18
Total other income, net	\$ 48	\$ 9

⁽¹⁾ See Note 18, "ACQUISITIONS," to the *Consolidated Financial Statements* for additional information.

Income Tax Expense

Our income tax rates are generally less than the 35 percent U.S. statutory income tax rate, primarily because of lower taxes on foreign earnings and research tax credits. Our effective tax rate for 2016 was 24.6 percent compared to 27.4 percent for 2015. The 2.8 percent decrease in our effective tax rate from 2015 to 2016 was primarily due to favorable changes in the jurisdictional mix of pre-tax income.

We expect our 2017 effective tax rate to be 26 percent, excluding any discrete items that may arise.

Noncontrolling Interests

Noncontrolling interests eliminate the income or loss attributable to non-Cummins ownership interests in our consolidated entities. Noncontrolling interests in income of consolidated subsidiaries decreased \$9 million primarily due to lower earnings as a result of the consolidation of North American distributors since December 31, 2014 and lower earnings at Cummins India Ltd.

Net Income Attributable to Cummins Inc. and Diluted Earnings Per Common Share Attributable to Cummins Inc.

Net income was relatively flat as significantly lower gross margin and higher loss contingency charges were mostly offset by the absence of 2015 impairment and restructuring charges, in addition to lower research, development and engineering expenses, a lower effective tax rate, lower selling, general and administrative expenses and favorable changes to corporate owned life insurance. Diluted earnings per share for 2016 benefited \$0.26 per share from lower shares outstanding, primarily due to purchases under the stock repurchase program.

2015 vs. 2014**Net Sales**

Net sales decreased \$111 million versus 2014, primarily driven by the following:

- Foreign currency fluctuations unfavorably impacted sales approximately 4 percent (primarily in the euro, Brazilian real, Australian dollar, Canadian dollar, British pound and Indian rupee).
- Power Systems segment sales decreased 8 percent, due to lower demand in all lines of business and across most markets.

- Engine segment sales decreased 3 percent, primarily due to lower global demand in most industrial markets and lower on-highway demand in international markets, especially Brazil, partially offset by higher demand in most North American on-highway markets.

The decreases above were partially offset by the following:

- Distribution segment sales increased 20 percent, principally related to the acquisitions of North American distributors since December 31, 2013.
- Components segment sales increased 1 percent, primarily due to higher demand in the emission solutions and fuel systems businesses, partially offset by lower demand in the turbo technologies and filtration businesses.

Sales to international markets (excluding the U.S. and Canada), based on location of customers, were 39 percent of total net sales in 2015, compared with 44 percent of total net sales in 2014.

A more detailed discussion of sales by segment is presented in the "OPERATING SEGMENT RESULTS" section.

Gross Margin

Gross margin increased \$86 million and 0.6 points as a percentage of sales, primarily due to improved Distribution segment sales from the consolidation of partially-owned North American distributors since December 31, 2013 and lower material and commodity costs, partially offset by unfavorable foreign currency fluctuations (primarily in the Australian dollar, Canadian dollar, Brazilian real and euro), unfavorable pricing, unfavorable mix and lower volumes.

The provision for warranties issued, excluding campaigns, as a percentage of sales was 1.8 percent in 2015 and 2.0 percent in 2014. A more detailed discussion of margin by segment is presented in the "OPERATING SEGMENT RESULTS" section.

Selling, General and Administrative Expenses

Selling, general and administrative expenses decreased \$3 million, primarily due to lower consulting expenses of \$41 million, partially offset by higher compensation and related expenses of \$19 million (largely due to the acquisition of partially-owned North American distributors since December 31, 2013). Compensation and related expenses include salaries, fringe benefits and variable compensation. Overall, selling, general and administrative expenses, as a percentage of sales, was 10.9 percent in 2015 and 2014.

Research, Development and Engineering Expenses

Research, development and engineering expenses decreased \$19 million, primarily due to higher expense recovery of \$12 million, partially offset by higher consulting expenses of \$8 million. Overall, research, development and engineering expenses, as a percentage of sales, decreased to 3.8 percent in 2015 from 3.9 percent in 2014. Research activities continue to focus on development of new products to meet future emission standards around the world and improvements in fuel economy performance.

Equity, Royalty and Interest Income From Investees

Equity, royalty and interest income from investees decreased \$55 million, primarily due to the consolidation of partially-owned North American distributors since December 31, 2013, of \$74 million, lower earnings at Dongfeng Cummins Engine Company, Ltd. of \$16 million and Chongqing Cummins Engine Company, Ltd. of \$10 million. These decreases were partially offset by higher earnings at Beijing Foton Cummins Engine Co., Ltd. of \$64 million as it continues to increase market share with the new heavy-duty engine platform introduced in 2014.

Loss Contingency Charge

In 2015, we recorded a charge of \$60 million for a loss contingency. See Note 12, "COMMITMENTS AND CONTINGENCIES," to the *Consolidated Financial Statements* for additional information.

Impairment of Light-duty Diesel Assets

In 2015, we recognized an impairment charge of \$211 million. See Note 19, "IMPAIRMENT OF LIGHT-DUTY DIESEL ASSETS," to the *Consolidated Financial Statements* for additional information.

Restructuring Actions and Other Charges

In 2015, we incurred a charge of \$90 million which included \$86 million for the severance costs related to both voluntary and involuntary terminations and \$4 million for asset impairments and other charges. See Note 20, "RESTRUCTURING ACTIONS AND OTHER CHARGES," to the *Consolidated Financial Statements* for additional information.

Other Operating Expense, Net

Other operating expense, net was as follows:

In millions	Years ended December 31,	
	2015	2014
Amortization of intangible assets	(18)	(16)
Loss on write off of assets	(15)	(23)
Royalty income, net	20	27
Other, net	(4)	(5)
Total other operating expense, net	<u>\$ (17)</u>	<u>\$ (17)</u>

Interest Income

Interest income was relatively flat compared to 2014.

Interest Expense

Interest expense was relatively flat compared to 2014.

Other Income, Net

Other income, net was as follows:

In millions	Years ended December 31,	
	2015	2014
Gains on fair value adjustment for consolidated investees ⁽¹⁾	\$ 18	\$ 73
Dividend income	3	3
Gains on marketable securities, net	1	14
Change in cash surrender value of corporate owned life insurance	(3)	24
Bank charges	(9)	(12)
Foreign currency loss, net	(18)	(6)
Other, net	17	14
Total other income, net	<u>\$ 9</u>	<u>\$ 110</u>

⁽¹⁾ See Note 18, "ACQUISITIONS," to the *Consolidated Financial Statements* for additional information.

Income Tax Expense

Our income tax rates are generally less than the 35 percent U.S. statutory income tax rate, primarily because of lower taxes on foreign earnings and research tax credits. Our effective tax rate for 2015 was 27.4 percent compared to 28.7 percent for 2014. The 1.3 percent decrease in our effective tax rate from 2014 to 2015 was primarily due to the release of reserves for uncertain tax positions related to a favorable audit settlement and favorable changes in the jurisdictional mix of pre-tax income.

Noncontrolling Interests

Noncontrolling interests in income of consolidated subsidiaries decreased \$14 million, primarily due to lower earnings at Wuxi Cummins Turbo Technologies Co. Ltd. and a decline from the acquisition of the remaining interest in previously consolidated North American distributors since December 31, 2013.

Net Income Attributable to Cummins Inc. and Diluted Earnings Per Common Share Attributable to Cummins Inc.

Net income and diluted earnings per share attributable to Cummins Inc. decreased \$252 million and \$1.18 per share primarily due to our impairment of light-duty diesel assets, unfavorable foreign currency fluctuations, restructuring actions, loss contingency charge, lower other income as a result of larger gains recognized in 2014 from the acquisition of North American distributors and lower equity, royalty and interest income from investees. These decreases were partially offset by improved gross margin, lower research, development and engineering expenses and a lower effective tax rate of 27.4 percent in 2015 versus 28.7 percent in 2014. Diluted earnings per share for 2015 benefited \$0.14 per share from lower shares outstanding, primarily due to purchases under the stock repurchase program.

Comprehensive Income - Foreign Currency Translation Adjustment

The foreign currency translation adjustment was a net loss of \$448 million, \$305 million and \$234 million for the years ended 2016, 2015 and 2014, respectively, and was driven by the following:

In millions	Years ended December 31,					
	2016		2015		2014	
	Translation adjustment	Primary currency driver vs. U.S. dollar	Translation adjustment	Primary currency driver vs. U.S. dollar	Translation adjustment	Primary currency driver vs. U.S. dollar
Wholly owned subsidiaries	\$ (397)	British pound, Chinese renminbi, offset by Brazilian real	\$ (261)	British pound, Brazilian real, Chinese renminbi	\$ (208)	British pound, Brazilian real
Equity method investments	(34)	Chinese renminbi, Indian rupee, offset by Mexican peso ⁽¹⁾	(29)	Chinese renminbi, Indian rupee	(19)	Russian rouble, Chinese renminbi
Consolidated subsidiaries with a noncontrolling interest	(17)	Chinese renminbi, Indian rupee	(15)	Indian rupee, Chinese renminbi	(7)	Indian rupee, Chinese renminbi
Total	<u>\$ (448)</u>		<u>\$ (305)</u>		<u>\$ (234)</u>	

⁽¹⁾ The Mexican peso adjustment related to a reclassification out of other comprehensive income at the time of the sale of an equity investment in the first quarter of 2016.

OPERATING SEGMENT RESULTS

Our reporting structure is organized according to the products and markets each segment serves. We use segment EBIT as the primary basis for the Chief Operating Decision Maker (CODM) to evaluate the performance of each of our operating segments.

As previously announced, beginning with the second quarter of 2016, we realigned certain of our reportable segments to be consistent with changes to our organizational structure and how the CODM monitors the performance of our segments. We reorganized our business to combine our Power Generation segment and our high-horsepower engine business to create the new Power Systems segment. Our reportable operating segments consist of Engine, Distribution, Components and Power Systems. We began to report results for our new reporting structure in the second quarter of 2016 and also reflected this change for historical periods. The formation of the Power Systems segment combined two businesses that were already strongly interdependent, which will allow us to streamline business and technical processes to accelerate innovation, grow market share and more efficiently manage our supply chain and manufacturing operations.

We allocate certain common costs and expenses, primarily corporate functions, among segments. These include certain costs and expenses of shared services, such as information technology, human resources, legal, finance and supply chain management. In addition to the reorganization noted above, we reevaluated the allocation of these costs, considering the new segment structure created in April 2016 and adjusted our allocation methodology accordingly. The revised methodology, which is based on a combination of relative segment sales and relative service usage levels, is effective for the periods beginning after January 1, 2016 and resulted in the revision of our segment operating results, including segment EBIT, for all four segments for the first quarter of 2016 with a greater share of costs allocated to the Distribution and Components segments than in previous years. Prior periods were not revised for the new allocation methodology. These changes had no impact on our consolidated results.

Following is a discussion of results for each of our operating segments.

Engine Segment Results

Financial data for the Engine segment was as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
				2016 vs. 2015		2015 vs. 2014	
	2016	2015	2014	Amount	Percent	Amount	Percent
External sales ⁽¹⁾	\$ 5,774	\$ 6,733	\$ 7,462	\$ (959)	(14)%	\$ (729)	(10)%
Intersegment sales ⁽¹⁾	2,030	1,937	1,505	93	5 %	432	29 %
Total sales	7,804	8,670	8,967	(866)	(10)%	(297)	(3)%
Depreciation and amortization	163	187	163	24	13 %	(24)	(15)%
Research, development and engineering expenses	226	263	265	37	14 %	2	1 %
Equity, royalty and interest income from investees	148	146	118	2	1 %	28	24 %
Interest income	10	11	9	(1)	(9)%	2	22 %
Loss contingency charges ⁽²⁾	138	60	—	(78)	NM	(60)	NM
Impairment of light-duty diesel assets ⁽²⁾	—	202	—	202	NM	(202)	NM
Restructuring actions and other charges ⁽²⁾	—	17	—	17	NM	(17)	NM
Segment EBIT	686	636	1,031	50	8 %	(395)	(38)%
					Percentage Points		Percentage Points
Segment EBIT as a percentage of total sales	8.8%	7.3%	11.5%		1.5		(4.2)

"NM" - not meaningful information

⁽¹⁾ Due to the acquisitions of North American distributors, sales previously recognized as external sales are now included in intersegment sales.

⁽²⁾ See respective sections of "Results of Operations" for additional information.

In the second quarter of 2016, in conjunction with the reorganization of our segments, our Engine segment reorganized its reporting structure as follows:

- **Heavy-duty truck** - We manufacture diesel and natural gas engines that range from 310 to 605 horsepower serving global heavy-duty truck customers worldwide, primarily in North America, Latin America and Australia.

- **Medium-duty truck and bus** -We manufacture diesel and natural gas engines ranging from 130 to 450 horsepower serving medium-duty truck and bus customers worldwide, with key markets including North America, Latin America, China, Europe and India. Applications include pickup and delivery trucks, vocational truck, school bus, transit bus and shuttle bus. We also provide diesel engines for Class A motor homes (RVs), primarily in North America.
- **Light-duty automotive (Pickup and Light Commercial Vehicle (LCV))** -We manufacture 105 to 385 horsepower diesel engines, including engines for the pickup truck market for Chrysler and Nissan in North America, and LCV markets in Europe, Latin America and Asia.
- **Off-highway** - We manufacture diesel engines that range from 48 to 715 horsepower to key global markets including mining, marine, rail, oil and gas, defense, agriculture and construction equipment and also to the power generation business for standby, mobile and distributed power generation solutions throughout the world.

Sales for our Engine segment by market were as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
Heavy-duty truck	\$ 2,443	\$ 3,116	\$ 3,072	\$ (673)	(22)%	\$ 44	1 %
Medium-duty truck and bus	2,272	2,507	2,431	(235)	(9)%	76	3 %
Light-duty automotive	1,581	1,475	1,567	106	7 %	(92)	(6)%
Total on-highway	6,296	7,098	7,070	(802)	(11)%	28	— %
Off-highway	1,508	1,572	1,897	(64)	(4)%	(325)	(17)%
Total sales	\$ 7,804	\$ 8,670	\$ 8,967	\$ (866)	(10)%	\$ (297)	(3)%

Unit shipments by engine classification (including unit shipments to Power Systems and off-highway engine units included in their respective classification) were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
Heavy-duty	79,000	114,400	122,100	(35,400)	(31)%	(7,700)	(6)%
Medium-duty	229,100	247,100	266,800	(18,000)	(7)%	(19,700)	(7)%
Light-duty	228,600	209,300	204,400	19,300	9 %	4,900	2 %
Total unit shipments	536,700	570,800	593,300	(34,100)	(6)%	(22,500)	(4)%

2016 vs. 2015

Sales

Engine segment sales decreased \$866 million versus 2015. The following were the primary drivers by market:

- Heavy-duty truck engine sales decreased \$673 million primarily due to lower demand in the North American heavy-duty truck market with decreased engine shipments of 38 percent.
- Medium-duty truck and bus sales decreased \$235 million primarily due to lower demand in most global medium-duty truck markets with decreased engine shipments of 17 percent, primarily in North America, Brazil and Mexico.
- Off-highway sales decreased \$64 million primarily due to decreased engine shipments in several North American industrial markets, partially offset by increased unit shipments of 25 percent in international construction markets.

The decreases above were partially offset by an increase in light-duty automotive sales of \$106 million primarily due to new sales for the Nissan pick-up truck platform launched in the second half of 2015.

Total on-highway-related sales for 2016 were 81 percent of total engine segment sales, compared to 82 percent in 2015.

Segment EBIT

In 2016, we recorded additional charges of \$138 million for an existing loss contingency in addition to the \$60 million recorded in 2015. In 2015, we also incurred an impairment charge of \$202 million for our light-duty diesel assets and incurred a restructuring charge of \$17 million for actions primarily in the form of professional voluntary and involuntary employee separation programs in response to the continued deterioration in our global markets.

Engine segment EBIT increased \$50 million versus 2015, primarily due to an impairment of light-duty diesel assets in 2015, lower selling, general and administrative expenses, lower research, development and engineering expenses and restructuring actions and other charges in 2015, partially offset by lower gross margin and higher loss contingency charges in 2016. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

In millions	Year ended December 31, 2016 vs. 2015		
	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ (210)	(13)%	(0.6)
Selling, general and administrative expenses	72	11 %	0.1
Research, development and engineering expenses	37	14 %	0.1
Equity, royalty and interest income from investees	2	1 %	0.2
Impairment of light-duty diesel assets ⁽¹⁾	202	NM	2.3
Restructuring actions and other charges ⁽¹⁾	17	NM	0.2
Loss contingency charges ⁽¹⁾	(78)	NM	1.1

"NM" - not meaningful information

⁽¹⁾ See respective sections of Results of Operations for additional information.

The decrease in gross margin versus 2015 was primarily due to lower volumes and unfavorable mix, partially offset by lower material and commodity costs and favorable product coverage. The decrease in selling, general and administrative expenses was primarily due to lower compensation expenses as the result of restructuring actions taken in the fourth quarter of 2015, and lower consulting expenses. The decrease in research, development and engineering expenses was primarily due to lower compensation expenses as a result of restructuring actions taken in the fourth quarter of 2015 and higher expense recovery from customers and external parties.

2015 vs. 2014

Sales

Engine segment sales decreased \$297 million versus 2014. The following were the primary drivers:

- Off-highway sales decreased \$325 million primarily due to decreased engine shipments to most global industrial markets.
- Foreign currency fluctuations unfavorably impacted sales results (primarily the Brazilian real, euro and British pound).
- Light-duty automotive sales decreased \$92 million due to lower demand, primarily in Brazil.

The decreases above were partially offset by the following:

- Medium-duty truck and bus sales increased \$76 million due to higher demand in the North American medium-duty truck market with increased engine shipments of 14 percent and higher global bus demand with improved engine shipments of 10 percent. These increases were partially offset by weaker medium-duty truck demand in Brazil.
- Heavy-duty truck engine sales increased \$44 million due to improved demand in the North American heavy-duty truck market, partially offset by weaker demand in China and Korea.

Total on-highway-related sales for 2015 were 82 percent of total engine segment sales, compared to 79 percent in 2014.

Segment EBIT

Engine segment EBIT decreased \$395 million versus 2014, primarily due to an impairment of light-duty diesel assets, lower gross margin, a loss contingency charge and restructuring actions and other charges, partially offset by favorable foreign

Sales for our Distribution segment by region were as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
North and Central America	\$ 4,015	\$ 3,992	\$ 2,765	\$ 23	1 %	\$ 1,227	44 %
Europe, CIS and China	798	758	908	40	5 %	(150)	(17)%
Asia Pacific	720	763	794	(43)	(6)%	(31)	(4)%
Africa	206	232	187	(26)	(11)%	45	24 %
India	175	165	157	10	6 %	8	5 %
Middle East	160	199	208	(39)	(20)%	(9)	(4)%
South America	107	120	155	(13)	(11)%	(35)	(23)%
Total sales	\$ 6,181	\$ 6,229	\$ 5,174	\$ (48)	(1)%	\$ 1,055	20 %

Sales for our Distribution segment by product line were as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
Parts ⁽¹⁾	\$ 2,627	\$ 2,423	\$ 1,924	\$ 204	8 %	\$ 499	26%
Power generation	1,239	1,290	1,163	(51)	(4)%	127	11%
Service	1,215	1,222	1,026	(7)	(1)%	196	19%
Engines	1,100	1,294	1,061	(194)	(15)%	233	22%
Total sales	\$ 6,181	\$ 6,229	\$ 5,174	\$ (48)	(1)%	\$ 1,055	20%

⁽¹⁾ In conjunction with our segment realignment, we changed "Parts and filtration" to "Parts."

2016 vs. 2015

Sales

Distribution segment sales decreased \$48 million versus 2015, primarily due to a decline in organic sales of \$295 million principally in North America, Asia Pacific and the Middle East and unfavorable foreign currency fluctuations (primarily in the South African rand, Canadian dollar, Chinese renminbi, Indian rupee, Australian dollar and British pound), partially offset by \$344 million of segment sales related to the acquisition of North American distributors since December 31, 2014.

Segment EBIT

In 2015, we incurred a restructuring charge of \$23 million for actions primarily in the form of professional voluntary and involuntary employee separation programs in response to the continued deterioration in our global markets.

Distribution segment EBIT decreased \$20 million versus 2015, primarily due to higher selling, general and administrative expenses (mainly related to the acquisition of North American distributors since December 31, 2014), partially offset by higher gross margin and restructuring actions and other charges in 2015. The acquisitions resulted in \$11 million and \$24 million of additional amortization of intangible assets, partially offset by gains of \$15 million and \$18 million related to the remeasurement of our pre-existing ownership interests for North American distributor acquisitions in 2016 and 2015, respectively. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

Year ended December 31, 2016 vs. 2015

In millions	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ 37	4 %	0.7
Selling, general and administrative expenses	(68)	(10)%	(1.2)
Research, development and engineering expenses	(3)	(30)%	—
Equity, royalty and interest income from investees	(8)	(10)%	(0.2)
Restructuring actions and other charges ⁽¹⁾	23	NM	0.4

"NM" - not meaningful information

⁽¹⁾ See *Restructuring Actions and Other Charges* section of "Results of Operations" for additional information.

The increase in gross margin versus 2015 was primarily due to the acquisitions of North American distributors since December 31, 2014 and improved pricing, partially offset by unfavorable foreign currency fluctuations (primarily in the South African rand, Canadian dollar and Australian dollar) and lower volumes. The increase in selling, general and administrative expenses was primarily due to higher compensation expenses related to the acquisitions of North American distributors and higher consulting expenses. The decrease in equity, royalty and interest income from investees was the result of the acquisitions of North American distributors.

2015 vs. 2014

Sales

Distribution segment sales increased \$1,055 million versus 2014, primarily due to \$1.4 billion of segment sales related to the consolidation of partially-owned North American distributors since December 31, 2013, partially offset by unfavorable foreign currency fluctuations (primarily the Australian dollar, Canadian dollar, euro, South African rand and Brazilian real) and decreased sales in China, Western Europe, South America and Russia.

Segment EBIT

Distribution segment EBIT decreased \$79 million versus 2014, primarily due to unfavorable foreign currency fluctuations (primarily the Australian dollar, Canadian dollar and South African rand), higher selling, general and administrative expenses, lower equity, royalty and interest income from investees and restructuring actions and other charges, partially offset by higher gross margin due to the acquisitions of North American distributors. These acquisitions also resulted in \$24 million and \$36 million of additional amortization of intangible assets, partially offset by gains of \$18 million and \$73 million related to the remeasurement of our pre-existing ownership interests for North American distributor acquisitions in 2015 and 2014, respectively. The decrease in equity, royalty and interest income from investees was the result of the acquisitions of North American distributors. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

Year ended December 31, 2015 vs. 2014

In millions	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ 160	18 %	(0.3)
Selling, general and administrative expenses	(81)	(14)%	0.6
Equity, royalty and interest income from investees	(70)	(47)%	(1.6)
Restructuring actions and other charges ⁽¹⁾	(23)	NM	(0.4)

"NM" - not meaningful information

⁽¹⁾ See *Restructuring Actions and Other Charges* section of "Results of Operations" for additional information.

Segment EBIT

In 2015, we incurred a restructuring charge of \$13 million for actions primarily in the form of professional voluntary and involuntary employee separation programs in response to the continued deterioration in our global markets. We also incurred an impairment charge of \$9 million for our light-duty diesel assets.

Components segment EBIT decreased \$86 million versus 2015, primarily due to lower gross margin and higher selling, general and administrative expenses, partially offset by lower research, development and engineering expenses, restructuring actions and other charges in 2015 and an impairment charge in 2015. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

In millions	Year ended December 31, 2016 vs. 2015		
	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ (111)	(9)%	(0.6)
Selling, general and administrative expenses	(33)	(10)%	(1.1)
Research, development and engineering expenses	28	12 %	0.3
Equity, royalty and interest income from investees	6	17 %	0.1
Impairment of light-duty diesel assets ⁽¹⁾	9	NM	0.2
Restructuring actions and other charges ⁽¹⁾	13	NM	0.3

"NM" - not meaningful information

⁽¹⁾ See respective sections of "Results of Operations" for additional information.

The decrease in gross margin was primarily due to lower volumes, unfavorable pricing, unfavorable mix and unfavorable foreign currency fluctuations (primarily in the Chinese renminbi and Brazilian real), partially offset by lower material costs. The increase in selling, general and administrative expenses was primarily due to higher consulting and compensation expenses as a result of absorbing a greater share of corporate costs under our new allocation methodology, partially offset by savings from restructuring actions taken in the fourth quarter of 2015. The decrease in research, development and engineering expenses was primarily due to reduced project spending, lower consulting expenses and lower compensation expenses from restructuring actions taken in the fourth quarter of 2015.

2015 vs. 2014

Sales

Components segment sales increased \$54 million versus 2014. The following were the primary drivers by business:

- Emission solutions sales increased, primarily due to improved demand in the North American on-highway markets and increased demand in China, partially offset by unfavorable pricing.
- Fuel systems sales increased due to the new Beijing Foton ISG engine that entered production in the second quarter of 2014 in China and improved demand in certain North American on-highway markets.

The increases above were partially offset by the following:

- Foreign currency fluctuations unfavorably impacted sales primarily in the euro, Brazilian real and British pound.
- Turbo technologies sales decreased, primarily due to lower demand in China, Europe and Brazil, partially offset by higher demand in the North American on-highway markets.
- Filtration sales decreased, primarily due to lower demand in Europe, Asia Pacific and Brazil, partially offset by higher demand in China.

Segment EBIT

Components segment EBIT increased \$43 million versus 2014, primarily due to higher gross margin and lower selling, general and administrative expenses, partially offset by unfavorable foreign currency fluctuations (primarily the euro and Brazilian real), restructuring actions and other charges, an impairment of light-duty diesel assets and higher research, development and engineering expenses. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

In millions	Year ended December 31, 2015 vs. 2014		
	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ 75	6 %	1.2
Selling, general and administrative expenses	8	2 %	0.2
Research, development and engineering expenses	(6)	(3)%	(0.1)
Equity, royalty and interest income from investees	(1)	(3)%	—
Impairment of light-duty diesel assets ⁽¹⁾	(9)	NM	(0.2)
Restructuring actions and other charges ⁽¹⁾	(13)	NM	(0.3)

"NM" - not meaningful information

⁽¹⁾ See respective sections of "Results of Operations" for additional information.

The increase in gross margin was primarily due to lower material and commodity costs and higher volumes, partially offset by unfavorable pricing and unfavorable foreign currency fluctuations (primarily the euro and Brazilian real). The decrease in selling, general and administrative expenses was primarily due to lower consulting expenses and lower compensation expenses. The increase in research, development and engineering expenses was primarily due to higher consulting expenses and higher compensation expenses, partially offset by higher expense recovery.

Power Systems Segment Results

Financial data for the Power Systems segment was as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
	Amount	Amount	Amount	Amount	Percent	Amount	Percent
External sales ⁽¹⁾	\$ 2,064	\$ 2,434	\$ 2,833	\$ (370)	(15)%	\$ (399)	(14)%
Intersegment sales ⁽¹⁾	1,453	1,633	1,581	(180)	(11)%	52	3 %
Total sales	3,517	4,067	4,414	(550)	(14)%	(347)	(8)%
Depreciation and amortization	115	110	97	(5)	(5)%	(13)	(13)%
Research, development and engineering expenses	189	226	250	37	16 %	24	10 %
Equity, royalty and interest income from investees	42	56	68	(14)	(25)%	(12)	(18)%
Interest income	5	5	6	—	— %	(1)	(17)%
Restructuring actions and other charges ⁽²⁾	—	26	—	26	NM	(26)	NM
Segment EBIT	263	335	361	(72)	(21)%	(26)	(7)%

	Percentage Points			Percentage Points	
Segment EBIT as a percentage of total sales	7.5%	8.2%	8.2%	(0.7)	—

"NM" - not meaningful information

⁽¹⁾ Due to the acquisitions of North American distributors, sales previously recognized as external sales are now included in intersegment sales.

⁽²⁾ See *Restructuring Actions and Other Charges* section of "Results of Operations" for additional information.

In the second quarter of 2016, in conjunction with the reorganization of our segments, our Power Systems segment reorganized its reporting structure into the following product lines:

- **Power generation** - We design, manufacture, sell and support back-up and prime power generators ranging from 2 kilowatts to 3.5 megawatts, as well as controls, paralleling systems and transfer switches, for applications such as consumer, commercial, industrial, data centers, health care, telecommunications and waste water treatment plants. We also provide turnkey solutions for distributed generation and energy management applications using natural gas or biogas as a fuel. We also serve global rental accounts for diesel and gas generator sets.
- **Industrial** - We design, manufacture, sell and support diesel and natural gas high-horsepower engines up to 5,500 horsepower for a wide variety of equipment in the mining, rail, defense, oil and gas, and commercial marine applications throughout the world. Across these markets, we have major customers in North America, Europe, the Middle East, Africa, China, Korea, Japan, Latin America, India, Russia, Southeast Asia, South Pacific and Mexico.

- **Generator technologies** - We design, manufacture, sell and support A/C generator/alternator products for internal consumption and for external generator set assemblers. Our products are sold under the Stamford, AVK and Markon brands and range in output from 3 kilovolt-amperes (kVA) to 12,000 kVA.

Sales for our Power Systems segment by product line were as follows:

In millions	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
				Amount	Percent	Amount	Percent
Power generation	2,235	2,570	2,633	(335)	(13)%	(63)	(2)%
Industrial	963	1,137	1,331	(174)	(15)%	(194)	(15)%
Generator technologies	319	360	450	(41)	(11)%	(90)	(20)%
Total sales	\$ 3,517	\$ 4,067	\$ 4,414	\$ (550)	(14)%	\$ (347)	(8)%

High-horsepower unit shipments by engine classification were as follows:

	Years ended December 31,			Favorable/(Unfavorable)			
	2016	2015	2014	2016 vs. 2015		2015 vs. 2014	
				Amount	Percent	Amount	Percent
Power generation	7,900	8,600	8,700	(700)	(8)%	(100)	(1)%
Industrial	4,400	5,200	6,100	(800)	(15)%	(900)	(15)%
Total units	12,300	13,800	14,800	(1,500)	(11)%	(1,000)	(7)%

2016 vs. 2015

Sales

Power Systems segment sales decreased \$550 million across all product lines versus 2015. The following were the primary drivers:

- Power generation sales decreased \$335 million, in most regions, with the largest declines in demand primarily in Asia, the Middle East, North America, Latin America, China, Western Europe, Africa and Mexico.
- Industrial sales decreased \$174 million primarily due to lower demand in North America (mainly oil and gas and mining markets, partially offset by rail markets), Asia (mainly marine and mining markets), China (mainly marine and mining markets) and Africa.
- Foreign currency fluctuations unfavorably impacted sales results primarily in the British pound, Indian rupee and Chinese renminbi.
- Generator technologies sales decreased \$41 million primarily due to lower demand in China and North America.

Segment EBIT

In 2015, we incurred a restructuring charge of \$26 million for actions primarily in the form of professional voluntary and involuntary employee separation programs in response to the continued deterioration in our global markets.

Power Systems segment EBIT decreased \$72 million versus 2015, primarily due to lower gross margin, partially offset by lower selling, general and administrative expenses, favorable foreign currency fluctuations (primarily the British pound), lower research, development and engineering expenses, restructuring actions and other charges in 2015 and a gain from the divestiture of an equity investee. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

Year ended December 31, 2016 vs. 2015

In millions	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ (215)	(21)%	(2.3)
Selling, general and administrative expenses	75	16 %	0.3
Research, development and engineering expenses	37	16 %	0.2
Equity, royalty and interest income from investees	(14)	(25)%	(0.2)
Restructuring actions and other charges ⁽¹⁾	26	NM	0.6
Gain on sale of an equity investee	17	NM	0.5

"NM" - not meaningful information

⁽¹⁾ See *Restructuring Actions and Other Charges* section of "Results of Operations" for additional information.

The decrease in gross margin versus 2015 was primarily due to lower volumes and increased project costs. The decrease in selling, general and administrative expenses was primarily due to lower compensation expenses as the result of restructuring actions taken in the fourth quarter of 2015 and lower consulting expenses. The decrease in research, development and engineering expenses was primarily due to reduced project spending, lower consulting expenses and lower compensation expenses as the result of restructuring actions taken in the fourth quarter of 2015. The decrease in equity, royalty and interest income from investees was primarily due to the impact of an \$8 million asset impairment incurred by one of our joint ventures. In the fourth quarter of 2016, we sold our remaining 49 percent interest in Cummins Olayan Energy for \$61 million and recognized a gain of \$17 million.

2015 vs. 2014

Sales

Power Systems segment sales decreased \$347 million overall and declined in all product lines versus 2014. The following were the primary drivers:

- Industrial sales decreased, primarily due to lower demand in North America, China, the Middle East and Western Europe, partially offset by Africa and India.
- Generator technologies sales decreased, primarily due to lower demand in Western Europe, China, the U.K. and North America.
- Power generation sales decreased, primarily due to lower demand in North America, Brazil and Russia, partially offset by higher demand in the Middle East, Africa, India and Mexico.
- Foreign currency fluctuations unfavorably impacted sales results (primarily the euro, Brazilian real and Indian rupee).

Segment EBIT

Power Systems segment EBIT decreased \$26 million versus 2014, primarily due to lower gross margin, restructuring charges and lower equity, royalty and interest income from investees, partially offset by lower selling, general and administrative expenses and lower research, development and engineering expenses. Major components of EBIT and related changes to segment EBIT and EBIT as a percentage of sales were as follows:

Year ended December 31, 2015 vs. 2014

In millions	Favorable/(Unfavorable) Change		
	Amount	Percent	Percentage point change as a percent of sales
Gross margin	\$ (53)	(5)%	0.7
Selling, general and administrative expenses	39	8 %	—
Research, development and engineering expenses	24	10 %	0.1
Equity, royalty and interest income from investees	(12)	(18)%	(0.1)
Restructuring actions and other charges ⁽¹⁾	(26)	NM	(0.6)

"NM" - not meaningful information

⁽¹⁾ See *Restructuring Actions and Other Charges* section of "Results of Operations" for additional information.

The decrease in gross margin versus 2014 was primarily due to lower volumes and unfavorable pricing, partially offset by savings from operating actions taken in December of 2014. The decrease in selling, general and administrative expenses was primarily due to lower compensation expenses as the result of operating actions taken in December of 2014 and lower consulting expenses. The decrease in research, development and engineering expenses was primarily due to lower compensation expenses as the result of operating actions taken in December of 2014. The decrease in equity, royalty and interest income from investees was primarily due to lower equity earnings in China.

Reconciliation of Segment EBIT to Net Income Attributable to Cummins Inc.

The table below reconciles the segment information to the corresponding amounts in the *Consolidated Statements of Income*.

In millions	Years ended December 31,		
	2016	2015	2014
TOTAL SEGMENT EBIT	\$ 1,982	\$ 2,110	\$ 2,567
Non-segment EBIT ⁽¹⁾	17	(20)	(69)
TOTAL EBIT	1,999	2,090	2,498
Less: Interest expense	69	65	64
INCOME BEFORE INCOME TAXES	1,930	2,025	2,434
Less: Income tax expense	474	555	698
CONSOLIDATED NET INCOME	1,456	1,470	1,736
Less: Net income attributable to noncontrolling interest	62	71	85
NET INCOME ATTRIBUTABLE TO CUMMINS INC.	\$ 1,394	\$ 1,399	\$ 1,651

⁽¹⁾ Includes intersegment profit in inventory eliminations and unallocated corporate expenses. The year ended December 31, 2015, included an \$11 million corporate restructuring charge. There were no significant unallocated corporate expenses for the years ended December 31, 2016 and 2014.

LIQUIDITY AND CAPITAL RESOURCES

Key Working Capital and Balance Sheet Data

We fund our working capital with cash from operations and short-term borrowings, including commercial paper, when necessary. Various assets and liabilities, including short-term debt, can fluctuate significantly from month to month depending on short-term liquidity needs. As a result, working capital is a prime focus of management attention. Working capital and balance sheet measures are provided in the following table:

Dollars in millions	December 31, 2016	December 31, 2015
Working capital ⁽¹⁾	\$ 3,382	\$ 4,144
Current ratio	1.78	2.09
Accounts and notes receivable, net	\$ 3,025	\$ 2,820
Days' sales in receivables	61	55
Inventories	\$ 2,675	\$ 2,707
Inventory turnover	4.7	4.9
Accounts payable (principally trade)	\$ 1,854	\$ 1,706
Days' payable outstanding	51	48
Total debt	\$ 1,856	\$ 1,639
Total debt as a percent of total capital ⁽²⁾	20.6 %	17.5 %

⁽¹⁾ Working capital includes cash and cash equivalents.

⁽²⁾ The increase in our debt to capital ratio was due to higher total debt, as a result of the commercial paper program added in 2016, and a net decrease in shareholders' equity.

Cash Flows

Cash and cash equivalents were impacted as follows:

In millions	Years ended December 31,			Change	
	2016	2015	2014	2016 vs. 2015	2015 vs. 2014
Net cash provided by operating activities	\$ 1,935	\$ 2,059	\$ 2,266	\$ (124)	\$ (207)
Net cash used in investing activities	(917)	(918)	(1,234)	1	316
Net cash used in financing activities	(1,409)	(1,644)	(1,343)	235	(301)
Effect of exchange rate changes on cash and cash equivalents	(200)	(87)	(87)	(113)	—
Net decrease in cash and cash equivalents	\$ (591)	\$ (590)	\$ (398)	\$ (1)	\$ (192)

2016 vs. 2015

Net cash provided by operating activities decreased \$124 million versus 2015, primarily due to the absence of the 2015 impairment of light-duty diesel assets of \$211 million and a \$123 million year over year impact related to restructuring, partially offset by an increase in deferred income taxes of \$158 million and higher loss contingency charges of \$62 million resulting in lower cash net income in 2016.

Net cash used in investing activities decreased \$1 million versus 2015, primarily due to lower capital expenditures of \$213 million and proceeds from the sale of equity investees of \$60 million, partially offset by higher net investments in marketable securities of \$160 million and changes in cash flows from derivatives not designated as hedges of \$110 million.

Net cash used in financing activities decreased \$235 million versus 2015, primarily due to higher net borrowings of commercial paper of \$212 million, lower common stock repurchases of \$122 million and higher proceeds from borrowings of \$67 million, partially offset by higher acquisitions of noncontrolling interests of \$88 million and higher payments on borrowings and capital lease obligations of \$87 million.

The effect of exchange rate changes on cash and cash equivalents decreased \$113 million versus 2015, primarily due to the British pound, which decreased cash and cash equivalents by \$112 million.

2015 vs. 2014

Net cash provided by operating activities decreased \$207 million versus 2014, primarily due to lower consolidated net income of \$266 million and unfavorable working capital fluctuations of \$328 million, partially offset by the impact of the non-cash impairment of light-duty diesel assets of \$211 million. During 2015, the higher working capital requirements resulted in a cash outflow of \$260 million compared to a cash inflow of \$68 million in 2014. This change of \$328 million was primarily driven by a decrease in accrued expenses and accounts payable, partially offset by a decrease in inventory and accounts and notes receivable.

Net cash used in investing activities decreased \$316 million versus 2014, primarily due to lower cash investment for the acquisitions of businesses of \$319 million.

Net cash used in financing activities increased \$301 million versus 2014, primarily due to higher common stock repurchases of \$230 million and higher dividend payments of \$110 million.

Sources of Liquidity

We generate significant ongoing cash flow. Cash provided by operations is our principal source of liquidity with \$1.9 billion provided in 2016.

At December 31, 2016, our sources of liquidity included:

In millions	December 31, 2016			Primary location of international balances
	Total	U.S.	International	
Cash and cash equivalents	\$ 1,120	\$ 323	\$ 797	U.K., Singapore, China
Marketable securities ⁽¹⁾	260	40	220	India, China
Total	\$ 1,380	\$ 363	\$ 1,017	
Available credit capacity				
Revolving credit facility ⁽²⁾	\$ 1,538			
International and other uncommitted domestic credit facilities ⁽³⁾	128			

⁽¹⁾ The majority of marketable securities could be liquidated into cash within a few days.

⁽²⁾ The revolving credit facility is maintained primarily to provide backup liquidity for our commercial paper borrowings and general corporate purposes. At December 31, 2016, we had \$212 million of commercial paper outstanding, which effectively reduced the \$1.75 billion available capacity under our revolving credit facility to \$1.54 billion.

⁽³⁾ The available capacity is net of letters of credit.

Cash, Cash Equivalents and Marketable Securities

A significant portion of our cash flows is generated outside the U.S. The geographic location of our cash and marketable securities aligns well with our ongoing investments. We manage our worldwide cash requirements considering available funds among the many subsidiaries through which we conduct our business and the cost effectiveness with which those funds can be accessed. As a result, we do not anticipate any local liquidity restrictions to preclude us from funding our operating needs with local resources.

If we distribute our foreign cash balances to the U.S. or to other foreign subsidiaries, we could be required to accrue and pay U.S. taxes, for example, if we repatriated cash from certain foreign subsidiaries whose earnings we have asserted are permanently reinvested outside of the U.S. Foreign earnings for which we assert permanent reinvestment outside the U.S. consist primarily of earnings of our China and U.K. domiciled subsidiaries. At present, we do not foresee a need to repatriate any earnings from these subsidiaries for which we have asserted permanent reinvestment. However, to help fund cash needs of the U.S. or other international subsidiaries as they arise, we repatriate available cash from certain foreign subsidiaries whose earnings are not permanently reinvested when it is cost effective to do so. Earnings generated after December 31, 2011, from our China operations are considered permanently reinvested, while earnings generated prior to January 1, 2012, for which U.S. deferred tax liabilities have been recorded, are expected to be repatriated in future years.

Debt Facilities and Other Sources of Liquidity

In February 2016, the Board of Directors authorized the issuance of up to \$1.75 billion of unsecured short-term promissory notes ("commercial paper") pursuant to a commercial paper program. The program will facilitate the private placement of unsecured short-term debt through third party brokers. We intend to use the net proceeds from the commercial paper program for general corporate purposes.

We have a \$1.75 billion revolving credit facility, the proceeds of which can be used for general corporate purposes. This facility expires on November 13, 2020. The revolving credit facility is maintained primarily to provide backup liquidity for our commercial paper borrowings, letters of credit and general corporate purposes. The total combined borrowing capacity under the revolving credit facility and commercial paper program should not exceed \$1.75 billion. See Note 9, "DEBT," to our *Consolidated Financial Statements* for additional information. The credit agreement includes one financial covenant: a leverage ratio. The required leverage ratio, which measures the sum of total debt plus securitization financing to consolidated earnings before interest, taxes, depreciation and amortization (EBITDA) as of the last day of any fiscal quarter, for the four fiscal quarters ended on such date may not exceed 3.5 to 1.0. At December 31, 2016, our leverage ratio was 0.75 to 1.0.

As a well-known seasoned issuer, we filed an automatic shelf registration for an undetermined amount of debt and equity securities with the Securities and Exchange Commission on February 16, 2016. Under this shelf registration we may offer, from time to time, debt securities, common stock, preferred and preference stock, depositary shares, warrants, stock purchase contracts and stock purchase units.

The maturity schedule of our existing long-term debt does not require significant cash outflows in the intermediate term. Required annual principal payments range from \$4 million to \$35 million over each of the next five years.

Uses of Cash

Share Repurchases

In December 2016, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon completion of the 2015 repurchase plan. In November 2015, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon the completion of the 2014 repurchase plan. In 2016, we made the following purchases under the respective purchase programs:

In millions (except per share amounts) For each quarter ended	Shares Purchased	Average Cost Per Share	Total Cost of Repurchases	Cash Paid for Shares Not Received	Remaining Authorized Capacity ⁽¹⁾
July 2014, \$1 billion repurchase program					
April 3 ⁽²⁾	2.7	\$ 100.12	\$ 274	—	\$ —
November 2015, \$1 billion repurchase program					
April 3	2.2	\$ 105.50	\$ 229	\$ 100	\$ 671
July 3	1.8	109.79	192	(100)	579
October 2	0.4	126.13	50	—	529
December 31	0.2	130.70	33	—	496
Subtotal	4.6	110.29	504	—	
Total	7.3	\$ 106.48	\$ 778	\$ —	

⁽¹⁾ The remaining authorized capacity under the 2015 Plan was calculated based on the cost to purchase the shares but excludes commission expenses in accordance with the authorized Plan.

⁽²⁾ Upon completion of the accelerated share repurchase in the second quarter of 2016, the shares purchased and average cost per share were updated based on the final valuation.

In 2016, we entered into an accelerated share repurchase agreement with a third party financial institution to repurchase \$500 million of our common stock under our previously announced share repurchase plans and received 4.7 million shares at an average purchase price of \$105.50 per share.

Dividends

Total dividends paid to common shareholders in 2016, 2015 and 2014 were \$676 million, \$622 million and \$512 million, respectively. Declaration and payment of dividends in the future depends upon our income and liquidity position, among other factors, and is subject to declaration by our Board of Directors, who meet quarterly to consider our dividend payment. We expect to fund dividend payments with cash from operations.

In July 2016, our Board of Directors authorized an increase to our quarterly dividend of 5.1 percent from \$0.975 per share to \$1.025 per share. In July 2015, our Board of Directors authorized an increase to our quarterly dividend of 25 percent from \$0.78 per share to \$0.975 per share. In July 2014, the Board of Directors authorized a 25 percent increase to our quarterly dividend on our common stock from \$0.625 per share to \$0.78 per share. Cash dividends per share paid to common shareholders for the last three years were as follows:

	Quarterly Dividends		
	2016	2015	2014
First quarter	\$ 0.975	\$ 0.78	\$ 0.625
Second quarter	0.975	0.78	0.625
Third quarter	1.025	0.975	0.78
Fourth quarter	1.025	0.975	0.78
Total	\$ 4.00	\$ 3.51	\$ 2.81

Capital Expenditures

Capital expenditures and spending on internal use software were \$594 million in 2016, compared to \$799 million in 2015. We continue to invest in new product lines and targeted capacity expansions. We plan to spend between \$500 million and \$530 million in 2017 on capital expenditures as we continue with product launches and facility improvements. Approximately 50 percent of our capital expenditures are expected to be invested outside of the U.S. in 2017.

Pensions

The funded status of our pension plans is dependent upon a variety of variables and assumptions including return on invested assets, market interest rates and levels of voluntary contributions to the plans. In 2016, the investment return on our U.S. pension trust was 7.2 percent while our U.K. pension trust return was 25.5 percent. Approximately 78 percent of our pension plan assets are held in highly liquid investments such as fixed income and equity securities. The remaining 22 percent of our plan assets are held in less liquid, but market valued investments, including real estate, private equity, venture capital, opportunistic credit and insurance contracts.

We sponsor funded and unfunded domestic and foreign defined benefit pension plans. Contributions to these plans were as follows:

In millions	Years ended December 31,		
	2016	2015	2014
Defined benefit pension plans			
Voluntary contribution	\$ 133	\$ 82	\$ 111
Mandatory contribution	1	108	94
Defined benefit pension contributions	134	190	205
Defined contribution pension plans	\$ 68	\$ 74	\$ 73

We anticipate making total contributions of approximately \$134 million to our defined benefit pension plans in 2017. Expected contributions to our defined benefit pension plans in 2017 will meet or exceed the current funding requirements.

Restructuring Actions

In 2015, we executed worldwide work force restructuring actions primarily in the form of professional voluntary and involuntary employee separation programs in response to lower demand for our products in the U.S. and key markets around the world. We incurred a charge of \$90 million (\$61 million after-tax) for the headcount reductions, with \$86 million expected to be settled in cash. In 2016, we paid \$58 million and as of December 31, 2016, substantially all terminations were complete. See Note 20, "RESTRUCTURING ACTIONS AND OTHER CHARGES," to the *Consolidated Financial Statements* for additional information.

Acquisitions

During 2016, we paid \$109 million to acquire the remaining interest in the last two partially owned North American distributors, including the related debt retirements, and recognized a total gain of \$15 million on the fair value adjustment resulting from the acquisition of the controlling interest in the previously unconsolidated entity. See Note 18, "ACQUISITIONS," to the *Consolidated Financial Statements* for additional information.

Credit Ratings

Our ratings and outlook from each of the credit rating agencies as of the date of filing are shown in the table below.

Credit Rating Agency ⁽¹⁾	Long-Term	Short-Term	Outlook
	Senior Debt Rating	Debt Rating	
Standard & Poor's Rating Services	A+	A1	Stable
Fitch Ratings	A	F1	Stable
Moody's Investors Service, Inc.	A2	P1	Stable

⁽¹⁾ Credit ratings are not recommendations to buy, are subject to change and each rating should be evaluated independently of any other rating. In addition, we undertake no obligation to update disclosures concerning our credit ratings, whether as a result of new information, future events or otherwise.

Management's Assessment of Liquidity

Our financial condition and liquidity remain strong. Our solid balance sheet and credit ratings enable us to have ready access to credit and the capital markets. We assess our liquidity in terms of our ability to generate adequate cash to fund our operating, investing and financing activities. We believe our operating cash flow and liquidity provides us with the financial flexibility needed to fund working capital, common stock repurchases, capital expenditures, dividend payments, projected pension obligations and debt service obligations. We continue to generate cash from operations in the U.S. and maintain access to our revolving credit facility as noted above.

CONTRACTUAL OBLIGATIONS AND OTHER COMMERCIAL COMMITMENTS

A summary of our contractual obligations and commercial commitments, at December 31, 2016, are as follows:

Contractual Cash Obligations In millions	Payments Due by Period				Total
	2017	2018-2019	2020-2021	After 2021	
Loans payable	\$ 41	\$ —	\$ —	\$ —	\$ 41
Long-term debt and capital lease obligations ⁽¹⁾	136	255	174	2,858	3,423
Operating leases	141	182	103	93	519
Capital expenditures	254	7	—	—	261
Purchase commitments for inventory	593	—	—	—	593
Other purchase commitments	254	36	2	1	293
Other postretirement benefits	35	65	59	126	285
Total	\$ 1,454	\$ 545	\$ 338	\$ 3,078	\$ 5,415

⁽¹⁾ Includes principal payments and expected interest payments based on the terms of the obligations.

The contractual obligations reported above exclude our unrecognized tax benefits of \$59 million as of December 31, 2016. We are not able to reasonably estimate the period in which cash outflows relating to uncertain tax contingencies could occur. See Note 3, "INCOME TAXES," to the *Consolidated Financial Statements* for additional information.

Our other commercial commitments at December 31, 2016, are as follows:

Other Commercial Commitments In millions	Payments Due by Period				Total
	2017	2018-2019	2020-2021	After 2021	
International and other domestic letters of credit	\$ 77	\$ 57	\$ 4	\$ 2	\$ 140
Performance and excise bonds	69	3	12	1	85
Guarantees, indemnifications and other commitments	9	2	4	9	24
Total	\$ 155	\$ 62	\$ 20	\$ 12	\$ 249

APPLICATION OF CRITICAL ACCOUNTING ESTIMATES

A summary of our significant accounting policies is included in Note 1, "SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES," of our *Consolidated Financial Statements* which discusses accounting policies that we have selected from acceptable alternatives.

Our *Consolidated Financial Statements* are prepared in accordance with generally accepted accounting principles in the U.S. (GAAP) which often requires management to make judgments, estimates and assumptions regarding uncertainties that affect the reported amounts presented and disclosed in the financial statements. Management reviews these estimates and assumptions based on historical experience, changes in business conditions and other relevant factors they believe to be reasonable under the circumstances. In any given reporting period, our actual results may differ from the estimates and assumptions used in preparing our *Consolidated Financial Statements*.

Critical accounting estimates are defined as follows: the estimate requires management to make assumptions about matters that were highly uncertain at the time the estimate was made; different estimates reasonably could have been used; or if changes in the estimate are reasonably likely to occur from period to period and the change would have a material impact on our financial condition or results of operations. Our senior management has discussed the development and selection of our accounting policies, related accounting estimates and the disclosures set forth below with the Audit Committee of our Board of Directors. We believe our critical accounting estimates include those addressing the estimation of liabilities for warranty programs, accounting for income taxes and pension benefits.

Warranty Programs

We estimate and record a liability for base warranty programs at the time our products are sold. Our estimates are based on historical experience and reflect management's best estimates of expected costs at the time products are sold and subsequent adjustment to those expected costs when actual costs differ. As a result of the uncertainty surrounding the nature and frequency of product recall programs, the liability for such programs is recorded when we commit to a recall action or when a recall becomes probable and estimable, which generally occurs when it is announced. Our warranty liability is generally affected by component failure rates, repair costs and the point of failure within the product life cycle. Future events and circumstances related to these factors could materially change our estimates and require adjustments to our liability. New product launches require a greater use of judgment in developing estimates until historical experience becomes available. Product specific experience is typically available four or five quarters after product launch, with a clear experience trend evident eight quarters after launch. We generally record warranty expense for new products upon shipment using a preceding product's warranty history and a multiplicative factor based upon preceding similar product experience and new product assessment until sufficient new product data is available for warranty estimation. We then use a blend of actual new product experience and preceding product historical experience for several subsequent quarters, and new product specific experience thereafter. Note 10, "PRODUCT WARRANTY LIABILITY," to our *Consolidated Financial Statements* contains a summary of the activity in our warranty liability account for 2016 and 2015 including adjustments to pre-existing warranties.

Accounting for Income Taxes

We determine our income tax expense using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Future tax benefits of net operating loss and credit carryforwards are also recognized as deferred tax assets. We evaluate the recoverability of our deferred tax assets each quarter by assessing the likelihood of future profitability and available tax planning strategies that could be implemented to realize our net deferred tax assets. At December 31, 2016, we recorded net deferred tax assets of \$344 million. These assets included \$313 million for the value of net operating loss and credit carryforwards. A valuation allowance of \$307 million was recorded to reduce the tax assets to the net value management believed was more likely than not to be realized. In the event our operating performance deteriorates, future assessments could conclude that a larger valuation allowance will be needed to further reduce the deferred tax assets. In addition, we operate within multiple taxing jurisdictions and are subject to tax audits in these jurisdictions. These audits can involve complex issues, which may require an extended period of time to resolve. We accrue for the estimated additional tax and interest that may result from tax authorities disputing uncertain tax positions. We have taken and we believe we have made adequate provision for income taxes for all years that are subject to audit based upon the latest information available. A more complete description of our income taxes and the future benefits of our net operating loss and credit carryforwards is disclosed in Note 3, "INCOME TAXES," to our *Consolidated Financial Statements*.

Pension Benefits

We sponsor a number of pension plans primarily in the U.S. and the U.K. and to a lesser degree in various other countries. In the U.S. and the U.K., we have several major defined benefit plans that are separately funded. We account for our pension programs in accordance with employers' accounting for defined benefit pension and other postretirement plans under GAAP. GAAP requires that amounts recognized in financial statements be determined using an actuarial basis. As a result, our pension benefit programs are based on a number of statistical and judgmental assumptions that attempt to anticipate future events and are used in calculating the expense and liability related to our plans each year at December 31. These assumptions include discount rates used to value liabilities, assumed rates of return on plan assets, future compensation increases, employee turnover rates, actuarial assumptions relating to retirement age, mortality rates and participant withdrawals. The actuarial assumptions we use may differ significantly from actual results due to changing economic conditions, participant life span and withdrawal rates. These differences may result in a material impact to the amount of net periodic pension cost to be recorded in our *Consolidated Financial Statements* in the future.

The expected long-term return on plan assets is used in calculating the net periodic pension cost. We considered several factors in developing our expected rate of return on plan assets. The long-term rate of return considers historical returns and expected returns on current and projected asset allocations and is generally applied to a five-year average market value of return. Projected returns are based primarily on broad, publicly traded fixed income and equity indices and forward-looking estimates of active portfolio and investment management. At December 31, 2016, based upon our target asset allocations, it is anticipated that our U.S. investment policy will generate an average annual return over the 10-year projection period equal to or in excess of 7.25 percent approximately 35 percent of the time while returns of 8.0 percent or greater are anticipated 26 percent of the time, including the additional positive returns expected from active investment management. Despite the 2016 one-year return of 7.2 percent, our plan assets have averaged 10.0 percent returns since 2010, and resulted in approximately \$271 million of

actuarial gains in accumulated other comprehensive income in the same period. Based on the historical returns and forward-looking return expectations, we believe an investment return assumption of 7.25 percent per year in 2017 for U.S. pension assets is reasonable.

The methodology used to determine the rate of return on pension plan assets in the U.K. was based on establishing an equity-risk premium over current long-term bond yields adjusted based on target asset allocations. At December 31, 2016, based upon our target asset allocations, it is anticipated that our U.K. investment policy will generate an average annual return over the 20-year projection period equal to or in excess of 3.9 percent approximately 50 percent of the time while returns of 4.6 percent or greater are anticipated 25 percent of the time. We expect additional positive returns from active investment management. The one-year return for our U.K. plan was 25.5 percent for 2016, and similar to our U.S. plan, the strong returns since 2010 have resulted in approximately \$544 million of actuarial gains in accumulated other comprehensive income. Our strategy with respect to our investments in pension plan assets is to be invested with a long-term outlook. Therefore, the risk and return balance of our asset portfolio should reflect a long-term horizon. Based on the historical returns and forward-looking return expectations, we believe an investment return assumption of 4.5 percent in 2017 for U.K. pension assets is reasonable. Our pension plan asset allocations at December 31, 2016 and 2015 and target allocation for 2017 are as follows:

Investment description	U.S. Plans			U.K. Plans		
	Target Allocation	Percentage of Plan Assets at December 31,		Target Allocation	Percentage of Plan Assets at December 31,	
	2017	2016	2015	2017	2016	2015
Fixed income	57.0%	57.8%	65.9%	64.0%	60.7%	53.0%
Equity securities	24.0%	29.0%	21.5%	23.0%	30.4%	39.0%
Real estate/other	19.0%	13.2%	12.6%	13.0%	8.9%	8.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The differences between the actual return on plan assets and expected long-term return on plan assets are recognized in the asset value used to calculate net periodic cost over five years. The table below sets forth the expected return assumptions used to develop our pension cost for the period 2014-2016 and our expected rate of return for 2017.

	Long-term Expected Return Assumptions			
	2017	2016	2015	2014
U.S. plans	7.25%	7.50%	7.50%	7.50%
U.K. plans	4.50%	4.70%	5.80%	5.80%

A lower expected rate of return will increase our net periodic pension cost and reduce profitability.

GAAP for pensions offers various acceptable alternatives to account for the differences that eventually arise between the estimates used in the actuarial valuations and the actual results. It is acceptable to delay or immediately recognize these differences. Under the delayed recognition alternative, changes in pension obligation (including those resulting from plan amendments) and changes in the value of assets set aside to meet those obligations are not recognized in net periodic pension cost as they occur but are recognized initially in accumulated other comprehensive loss and subsequently amortized as components of net periodic pension cost systematically and gradually over future periods. In addition to this approach, GAAP also allows immediate recognition of actuarial gains or losses. Immediate recognition introduces volatility in financial results. We have chosen to delay recognition and amortize actuarial differences over future periods. If we adopted the immediate recognition approach, we would record a loss of \$951 million (\$634 million after-tax) from cumulative actuarial net losses for our U.S. and U.K. pension plans.

The difference between the expected return and the actual return on plan assets is deferred from recognition in our results of operations and, under certain circumstances such as when the difference exceeds 10 percent of the market value of plan assets or the projected benefit obligation, amortized over future years of service. This is also true of changes to actuarial assumptions. Under GAAP, the actuarial gains and losses are recognized and recorded in accumulated other comprehensive loss. At December 31, 2016, we had net pension actuarial losses of \$770 million and \$172 million for the U.S. and U.K. pension plans, respectively. As these amounts exceed 10 percent of their respective plan assets, the excess is amortized over the average remaining service lives of participating employees. Net actuarial losses decreased our shareholders' equity by \$65 million after-tax in 2016. The loss is due to lower discount rates in the U.S. and U.K. and unfavorable foreign currency, partially offset by strong asset performance in the U.K.

The table below sets forth the net periodic pension cost for the years ended December 31 and our expected cost for 2017.

In millions	2017	2016	2015	2014
Net periodic pension cost	\$ 83	\$ 42	\$ 63	\$ 57

We expect 2017 net periodic pension cost to increase compared to 2016, primarily due to onboarding a significant portion of our newly acquired North American distributors to Cummins pension benefits, a lower expected rate of return in the U.S. and U.K. and lower discount rates in the U.S. and U.K. The decrease in net periodic pension cost in 2016 compared to 2015 was due to reduced loss amortizations in the U.S. and U.K. and higher discount rates in the U.S. and U.K., partially offset by lower expected asset returns in the U.K. as we de-risked plan trust assets. The increase in net periodic pension cost in 2015 compared to 2014 was due to lower discount rates in the U.S. and U.K. and unfavorable mortality demographics in the U.S. Another key assumption used in the development of the net periodic pension cost is the discount rate. The weighted average discount rates used to develop our net periodic pension cost are set forth in the table below.

	Discount Rates			
	2017	2016	2015	2014
U.S. plans	4.12%	4.47%	4.07%	4.83%
U.K. plans	2.70%	3.95%	3.80%	4.60%

Changes in the discount rate assumptions will impact the interest cost component of the net periodic pension cost calculation.

The discount rate enables us to state expected future cash payments for benefits as a present value on the measurement date. The guidelines for setting this rate are discussed in GAAP which suggests the use of a high-quality corporate bond rate. We used bond information provided by Moody's Investor Services, Inc. and Standard & Poor's Rating Services. All bonds used to develop our hypothetical portfolio in the U.S. and U.K. were deemed high-quality, non-callable bonds (Aa or better) at December 31, 2016, by at least one of the bond rating agencies.

Our model called for projected payments until near extinction for the U.S. and the U.K. For both countries, our model matches the present value of the plan's projected benefit payments to the market value of the theoretical settlement bond portfolio. A single equivalent discount rate is determined to align the present value of the required cash flow with the value of the bond portfolio. The resulting discount rate is reflective of both the current interest rate environment and the plan's distinct liability characteristics.

The table below sets forth the estimated impact on our 2017 net periodic pension cost relative to a change in the discount rate and a change in the expected rate of return on plan assets.

In millions	Impact on Pension Cost Increase/(Decrease)
Discount rate used to value liabilities	
0.25 percent increase	\$ (15)
0.25 percent decrease	16
Expected rate of return on assets	
1 percent increase	(43)
1 percent decrease	43

The above sensitivities reflect the impact of changing one assumption at a time. A higher discount rate decreases the plan obligations and decreases our net periodic pension cost. A lower discount rate increases the plan obligations and increases our net periodic pension cost. It should be noted that economic factors and conditions often affect multiple assumptions simultaneously and the effects of changes in key assumptions are not necessarily linear. Note 8, "PENSION AND OTHER POSTRETIREMENT BENEFITS," to our *Consolidated Financial Statements* provides a summary of our pension benefit plan activity, the funded status of our plans and the amounts recognized in our *Consolidated Financial Statements*.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

In August 2016, the Financial Accounting Standards Board (FASB) amended its standards related to the classification of certain cash receipts and cash payments. The new standard will make eight targeted changes to how cash receipts and cash payments are presented and classified in the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. If

an entity early adopts the amendments in an interim period, any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period. An entity that elects early adoption must adopt all of the amendments in the same period. The new standard will require adoption on a retrospective basis unless it is impracticable to apply, in which case it would be required to apply the amendments prospectively as of the earliest date practicable. We are in the process of evaluating the impact this standard will have on our *Consolidated Statements of Cash Flows*.

In June 2016, the FASB amended its standards related to the accounting for credit losses on financial instruments. This amendment introduces new guidance for accounting for credit losses on instruments including trade receivables and held-to-maturity debt securities. The new rules are effective for annual and interim periods beginning after December 15, 2019. Early adoption is permitted for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*.

In March 2016, the FASB amended its standards related to the accounting for stock compensation. This amendment addresses several aspects of the accounting for share-based payment transactions that could impact us including, but not limited to, recognition of excess tax benefits or deficiencies in the income statement each period and classification of the excess tax benefits or deficiencies as operating activities in the cash flow statement. The new standard is effective for annual periods beginning after December 15, 2016. The adoption of this standard could result in future volatility in our income tax expense since all excess tax benefits and deficiencies are now recorded in the income statement. We are unable to estimate this impact since the amount of excess benefits and deficiencies are dependent on our stock price at the time a stock award vests or is exercised.

In February 2016, the FASB amended its standards related to the accounting for leases. Under the new standard, lessees will now be required to recognize substantially all leases on the balance sheet as both a right-of-use-asset and a liability. The standard will continue to have two types of leases for income statement recognition purposes: operating leases and finance leases. Operating leases will result in the recognition of a single lease expense on a straight-line basis over the lease term similar to the treatment for operating leases under today's standards. Finance leases will result in an accelerated expense similar to the accounting for capital leases under today's standards. The determination of a lease classification as operating or finance will be done in a manner similar to today's standard. The new standard also contains amended guidance regarding the identification of embedded leases in service contracts and the identification of lease and non-lease components in an arrangement. The new standard is effective on January 1, 2019, with early adoption permitted. We are still evaluating the impact the standard could have on our *Consolidated Financial Statements*; however, while we have not yet quantified the amount, we do expect the standard will have a material impact on our *Consolidated Balance Sheets* due to the recognition of additional assets and liabilities for operating leases.

In January 2016, the FASB amended its standards related to the accounting for certain financial instruments. This amendment addresses certain aspects of recognition, measurement, presentation and disclosure. The new rules will become effective for annual and interim periods beginning after December 15, 2017. Early adoption is not permitted. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*.

In May 2014, the FASB amended its standards related to revenue recognition. This amendment replaces all existing revenue recognition guidance and provides a single, comprehensive revenue recognition model for all contracts with customers. The standard contains principles that we will apply to determine the measurement of revenue and timing of when it is recognized. The underlying principle is that we will recognize revenue in a manner that depicts the transfer of goods or services to customers at an amount that we expect to be entitled to in exchange for those goods or services. The guidance provides a five-step analysis of transactions to determine when and how revenue is recognized. Other major provisions include capitalization of certain contract costs, consideration of the time value of money in the transaction price and allowing estimates of variable consideration to be recognized before contingencies are resolved in certain circumstances. The amendment also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in those judgments and assets recognized from costs incurred to fulfill a contract. The standard allows either full or modified retrospective adoption effective for annual and interim periods beginning January 1, 2018. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*. We expect to adopt the standard using the modified retrospective approach. While we have not yet completed our evaluation process, we have identified that a change will be required related to our accounting for remanufactured product sales that include an exchange of the used product, referred to as core. Revenue is not currently recognized related to the core component unless the used product is not returned. Under the new standard, the transaction will be accounted for as a gross sale and a purchase of inventory. As a result the exchange will increase both sales and cost of sales, in equal amounts, related to the used core. This will not impact gross margin dollars, but will impact the gross margin percentage. We are still quantifying the amount of this change. We have also identified transactions where revenue recognition is currently limited to the amount of billings not contingent on our future performance. With the allocation provisions of the new model, we expect to accelerate the

timing of revenue recognition for amounts related to satisfied performance obligations that would have been delayed under the current guidance. We do not expect the impact of this change to be material, but we are still quantifying the impact.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to financial risk resulting from volatility in foreign exchange rates, interest rates and commodity prices. This risk is closely monitored and managed through the use of financial derivative instruments including foreign currency forward contracts, interest rate swaps, commodity zero-cost collars and physical forward contracts. These instruments, as further described below, are accounted for as cash flow or fair value hedges or as economic hedges not designated as hedges for accounting purposes. Financial derivatives are used expressly for hedging purposes and under no circumstances are they used for speculative purposes. When material, we adjust the estimated fair value of our derivative contracts for counterparty or our credit risk. None of our derivative instruments are subject to collateral requirements. Substantially all of our derivative contracts are subject to master netting arrangements which provide us with the option to settle certain contracts on a net basis when they settle on the same day with the same currency. In addition, these arrangements provide for a net settlement of all contracts with a given counterparty in the event that the arrangement is terminated due to the occurrence of default or a termination event.

We also enter into physical forward contracts with certain suppliers to purchase minimum volumes of commodities at contractually stated prices for various periods. These arrangements, as further described below, enable us to fix the prices of portions of our normal purchases of these commodities, which otherwise are subject to market volatility.

The following describes our risk exposures and provides the results of a sensitivity analysis performed at December 31, 2016. The sensitivity analysis assumes instantaneous, parallel shifts in foreign currency exchange rates and commodity prices.

Foreign Exchange Rate Risk

As a result of our international business presence, we are exposed to foreign currency exchange rate risks. We transact business in foreign currencies and, as a result, our income experiences some volatility related to movements in foreign currency exchange rates. To help manage our exposure to exchange rate volatility, we use foreign currency forward contracts on a regular basis to hedge forecasted intercompany and third-party sales and purchases denominated in non-functional currencies. Our internal policy allows for managing anticipated foreign currency cash flows for up to 18 months. These foreign currency forward contracts are designated and qualify as foreign currency cash flow hedges under GAAP. For the years ended December 31, 2016 and 2015, there were no circumstances that would have resulted in the discontinuance of a foreign currency cash flow hedge.

To minimize the income volatility resulting from the remeasurement of net monetary assets and payables denominated in a currency other than the functional currency, we enter into foreign currency forward contracts, which are considered economic hedges. The objective is to offset the gain or loss from remeasurement with the gain or loss from the fair market valuation of the forward contract. These derivative instruments are not designated as hedges under GAAP.

At December 31, 2016, the potential gain or loss in the fair value of our outstanding foreign currency contracts, assuming a hypothetical 0 percent fluctuation in the currencies of such contracts, would be approximately \$63 million. The sensitivity analysis of the effects of changes in foreign currency exchange rates assumes the notional value to remain constant for the next 12 months. The analysis ignores the impact of foreign exchange movements on our competitive position and potential changes in sales levels. Any change in the value of the contracts, real or hypothetical, would be significantly offset by an inverse change in the value of the underlying hedged items.

Interest Rate Risk

We are exposed to market risk from fluctuations in interest rates. We manage our exposure to interest rate fluctuations through the use of interest rate swaps. The objective of the swaps is to more effectively balance our borrowing costs and interest rate risk.

In February 2014, we settled our November 2005 interest rate swap which previously converted our \$250 million debt issue, due in 2028, from a fixed rate of 7.125 percent to a floating rate based on the LIBOR plus a spread. Also, in February 2014, we entered into a series of interest rate swaps to effectively convert our September 2013 \$500 million debt issue, due in 2023, from a fixed rate of 3.65 percent to a floating rate equal to the one-month LIBOR plus a spread. The terms of the swaps mirror those of the debt, with interest paid semi-annually. The swaps were designated, and will be accounted for, as fair value hedges under GAAP. The gain or loss on these derivative instruments, as well as the offsetting gain or loss on the hedged item attributable to the hedged risk, are recognized in current income as "Interest expense." The net swap settlements that accrue each period are also reported in interest expense.

The following table summarizes these gains and losses for the years presented below:

In millions	Years ended December 31,					
	2016		2015		2014	
	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings
Interest expense ⁽¹⁾	\$ (8)	\$ 12	\$ 6	\$ (2)	\$ 23	\$ (19)

⁽¹⁾ The difference between the gain/(loss) on swaps and borrowings represents hedge ineffectiveness.

Commodity Price Risk

We are exposed to fluctuations in commodity prices due to contractual agreements with component suppliers. In order to protect ourselves against future price volatility and, consequently, fluctuations in gross margins, we periodically enter into commodity zero-cost collar contracts with designated banks to fix the cost of certain raw material purchases with the objective of minimizing changes in inventory cost due to market price fluctuations. These commodity zero-cost collar contracts that represent an economic hedge, but are not designated for hedge accounting and are marked to market through earnings. Our internal policy allows for managing our cash flow hedges for up to three years.

At December 31, 2016, the potential gain or loss related to the outstanding commodity zero-cost collar contracts, assuming a hypothetical 10 percent fluctuation in the price of such commodities, was less than \$1 million. The sensitivity analysis of the effects of changes in commodity prices assumes the notional value to remain constant for the next 12 months. The analysis ignores the impact of commodity price movements on our competitive position and potential changes in sales levels. Any change in the value of the zero-cost collar contracts, real or hypothetical, would be significantly offset by an inverse change in the value of the underlying hedged items.

We also limit our exposure to commodity price risk by entering into purchasing arrangements to fix the price of certain volumes of platinum and palladium expected to be used in our products. During 2014, we began entering into physical forward contracts with suppliers of platinum and palladium to purchase some volumes of the commodities at contractually stated prices for various periods, generally not exceeding one year. These arrangements enable us to fix the prices of a portion of our purchases of these commodities, which otherwise are subject to market volatility.

ITEM 8. Financial Statements and Supplementary Data

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 - NOTE 21 OPERATING SEGMENTS
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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Cummins Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, cash flows, and changes in equity present fairly, in all material respects, the financial position of Cummins Inc. and its subsidiaries at December 31, 2016 and 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 the accompanying "Management's Report on Internal Control over Financial Reporting." 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

Indianapolis, Indiana

February 13, 2017

CUMMINS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

In millions, except per share amounts	Years ended December 31,		
	2016	2015	2014
NET SALES ^(a)	\$ 17,509	\$ 19,110	\$ 19,221
Cost of sales	13,057	14,163	14,360
GROSS MARGIN	4,452	4,947	4,861
OPERATING EXPENSES AND INCOME			
Selling, general and administrative expenses	2,046	2,092	2,095
Research, development and engineering expenses	636	735	754
Equity, royalty and interest income from investees (Note 2)	301	315	370
Loss contingency charges (Note 12)	138	60	—
Impairment of light-duty diesel assets (Note 19)	—	211	—
Restructuring actions and other charges (Note 20)	—	90	—
Other operating expense, net	(5)	(17)	(17)
OPERATING INCOME	1,928	2,057	2,365
Interest income	23	24	23
Interest expense (Note 9)	69	65	64
Other income, net	48	9	110
INCOME BEFORE INCOME TAXES	1,930	2,025	2,434
Income tax expense (Note 3)	474	555	698
CONSOLIDATED NET INCOME	1,456	1,470	1,736
Less: Net income attributable to noncontrolling interests	62	71	85
NET INCOME ATTRIBUTABLE TO CUMMINS INC.	\$ 1,394	\$ 1,399	\$ 1,651
EARNINGS PER COMMON SHARE ATTRIBUTABLE TO CUMMINS INC. (Note 17)			
Basic	\$ 8.25	\$ 7.86	\$ 9.04
Diluted	\$ 8.23	\$ 7.84	\$ 9.02

^(a) Includes sales to nonconsolidated equity investees of \$1,028 million, \$1,209 million and \$2,063 million for the years ended December 31, 2016, 2015 and 2014, respectively.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

In millions	Years ended December 31,		
	2016	2015	2014
CONSOLIDATED NET INCOME	\$ 1,456	\$ 1,470	\$ 1,736
Other comprehensive (loss) income, net of tax (Note 14)			
Foreign currency translation adjustments	(448)	(305)	(234)
Unrealized (loss) gain on derivatives	(12)	6	(1)
Change in pension and other postretirement defined benefit plans	(31)	15	(58)
Unrealized gain (loss) on marketable securities	1	(1)	(12)
Total other comprehensive loss, net of tax	(490)	(285)	(305)
COMPREHENSIVE INCOME	966	1,185	1,431
Less: Comprehensive income attributable to noncontrolling interests	45	56	74
COMPREHENSIVE INCOME ATTRIBUTABLE TO CUMMINS INC.	\$ 921	\$ 1,129	\$ 1,357

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

In millions, except par value	December 31,	
	2016	2015
ASSETS		
Current assets		
Cash and cash equivalents	\$ 1,120	\$ 1,711
Marketable securities (Note 4)	260	100
Total cash, cash equivalents and marketable securities	1,380	1,811
Accounts and notes receivable, net		
Trade and other	2,803	2,640
Nonconsolidated equity investees	222	180
Inventories (Note 5)	2,675	2,707
Prepaid expenses and other current assets	627	609
Total current assets	7,707	7,947
Long-term assets		
Property, plant and equipment, net (Note 6)	3,800	3,745
Investments and advances related to equity method investees (Note 2)	946	975
Goodwill (Note 7)	480	482
Other intangible assets, net (Note 7)	332	328
Pension assets (Note 8)	731	735
Other assets	1,015	922
Total assets	\$ 15,011	\$ 15,134
LIABILITIES		
Current liabilities		
Accounts payable (principally trade)	\$ 1,854	\$ 1,706
Loans payable (Note 9)	41	24
Commercial paper (Note 9)	212	—
Accrued compensation, benefits and retirement costs	412	409
Current portion of accrued product warranty (Note 10)	333	359
Current portion of deferred revenue	468	403
Other accrued expenses	970	863
Current maturities of long-term debt (Note 9)	35	39
Total current liabilities	4,325	3,803
Long-term liabilities		
Long-term debt (Note 9)	1,568	1,576
Postretirement benefits other than pensions (Note 8)	329	349
Pensions (Note 8)	326	298
Other liabilities and deferred revenue (Note 11)	1,289	1,358
Total liabilities	\$ 7,837	\$ 7,384
Commitments and contingencies (Note 12)		
EQUITY		
Cummins Inc. shareholders' equity (Note 13)		
Common stock, \$2.50 par value, 500 shares authorized, 222.4 and 222.4 shares issued	\$ 2,153	\$ 2,178
Retained earnings	11,040	10,322
Treasury stock, at cost, 54.2 and 47.2 shares	(4,489)	(3,735)
Common stock held by employee benefits trust, at cost, 0.7 and 0.9 shares	(8)	(11)
Accumulated other comprehensive loss (Note 14)	(1,821)	(1,348)
Total Cummins Inc. shareholders' equity	6,875	7,406
Noncontrolling interests (Note 16)		
Total equity	\$ 7,174	\$ 7,750
Total liabilities and equity	\$ 15,011	\$ 15,134

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

In millions	Years ended December 31,		
	2016	2015	2014
CASH FLOWS FROM OPERATING ACTIVITIES			
Consolidated net income	\$ 1,456	\$ 1,470	\$ 1,736
Adjustments to reconcile consolidated net income to net cash provided by operating activities			
Loss contingency charges, net of payments (Note 12)	122	60	—
Depreciation and amortization	530	514	455
Gains on fair value adjustment for consolidated investees (Note 18)	(15)	(18)	(73)
Deferred income taxes (Note 3)	50	(108)	31
Equity in income of investees, net of dividends (Note 2)	(46)	(36)	(100)
Pension contributions in excess of expense (Note 8)	(92)	(127)	(148)
Other post-retirement benefits payments in excess of expense (Note 8)	(25)	(23)	(28)
Stock-based compensation expense (Note 15)	32	24	36
Impairment of light-duty diesel assets (Note 19)	—	211	—
Restructuring charges and other actions, net of cash payments (Note 20)	(59)	64	—
Translation and hedging activities	(55)	26	(13)
Changes in current assets and liabilities, net of acquisitions			
Accounts and notes receivable	(265)	103	(89)
Inventories	(4)	150	(256)
Other current assets	14	(151)	1
Accounts payable	184	(136)	244
Accrued expenses	(195)	(226)	168
Changes in other liabilities and deferred revenue	200	292	282
Other, net	103	(30)	20
Net cash provided by operating activities	1,935	2,059	2,266
CASH FLOWS FROM INVESTING ACTIVITIES			
Capital expenditures	(531)	(744)	(743)
Investments in internal use software	(63)	(55)	(55)
Investments in and advances to equity investees	(41)	(7)	(60)
Acquisitions of businesses, net of cash acquired (Note 18)	(94)	(117)	(436)
Investments in marketable securities—acquisitions (Note 4)	(478)	(282)	(275)
Investments in marketable securities—liquidations (Note 4)	306	270	336
Proceeds from sale of equity investees (Note 2)	60	—	4
Cash flows from derivatives not designated as hedges	(102)	8	(14)
Other, net	26	9	9
Net cash used in investing activities	(917)	(918)	(1,234)
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from borrowings	111	44	55
Net borrowings of commercial paper (Note 9)	212	—	—
Payments on borrowings and capital lease obligations	(163)	(76)	(94)
Net borrowings (payments) under short-term credit agreements	19	(41)	(40)
Distributions to noncontrolling interests	(65)	(49)	(83)
Dividend payments on common stock (Note 13)	(676)	(622)	(512)
Repurchases of common stock (Note 13)	(778)	(900)	(670)
Acquisitions of noncontrolling interests (Note 18)	(98)	(10)	(14)
Other, net	29	10	15
Net cash used in financing activities	(1,409)	(1,644)	(1,343)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	(200)	(87)	(87)
Net decrease in cash and cash equivalents	(591)	(590)	(398)
Cash and cash equivalents at beginning of year	1,711	2,301	2,699
CASH AND CASH EQUIVALENTS AT END OF PERIOD	\$ 1,120	\$ 1,711	\$ 2,301

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

In millions	Common Stock	Additional Paid-in Capital	Retained Earnings	Treasury Stock	Common Stock Held in Trust	Accumulated Other Comprehensive Loss	Total Cummins Inc. Shareholders' Equity	Noncontrolling Interests	Total Equity
BALANCE AT DECEMBER 31, 2013	\$ 556	\$ 1,543	\$ 8,406	\$ (2,195)	\$ (16)	\$ (784)	\$ 7,510	\$ 360	\$ 7,870
Net income			1,651				1,651	85	1,736
Other comprehensive loss, net of tax (Note 14)						(294)	(294)	(11)	(305)
Issuance of common stock		9					9	—	9
Employee benefits trust activity (Note 13)		24			3		27	—	27
Repurchases of common stock				(670)			(670)	—	(670)
Cash dividends on common stock (Note 13)			(512)				(512)	—	(512)
Distributions to noncontrolling interests							—	(83)	(83)
Stock based awards		(5)		21			16	—	16
Acquisition of noncontrolling interests		(7)					(7)	(7)	(14)
Other shareholder transactions		19					19	—	19
BALANCE AT DECEMBER 31, 2014	<u>\$ 556</u>	<u>\$ 1,583</u>	<u>\$ 9,545</u>	<u>\$ (2,844)</u>	<u>\$ (13)</u>	<u>\$ (1,078)</u>	<u>\$ 7,749</u>	<u>\$ 344</u>	<u>\$ 8,093</u>
Net income			1,399				1,399	71	1,470
Other comprehensive loss, net of tax (Note 14)						(270)	(270)	(15)	(285)
Issuance of common stock		9					9	—	9
Employee benefits trust activity (Note 13)		25			2		27	—	27
Repurchases of common stock				(900)			(900)	—	(900)
Cash dividends on common stock (Note 13)			(622)				(622)	—	(622)
Distributions to noncontrolling interests							—	(49)	(49)
Stock based awards		(4)		9			5	—	5
Acquisition of noncontrolling interests		(3)					(3)	(7)	(10)
Other shareholder transactions		12					12	—	12
BALANCE AT DECEMBER 31, 2015	<u>\$ 556</u>	<u>\$ 1,622</u>	<u>\$ 10,322</u>	<u>\$ (3,735)</u>	<u>\$ (11)</u>	<u>\$ (1,348)</u>	<u>\$ 7,406</u>	<u>\$ 344</u>	<u>\$ 7,750</u>
Net income			1,394				1,394	62	1,456
Other comprehensive loss, net of tax (Note 14)						(473)	(473)	(17)	(490)
Issuance of common stock		6					6	—	6
Employee benefits trust activity (Note 13)		23			3		26	—	26
Repurchases of common stock (Note 13)				(778)			(778)	—	(778)
Cash dividends on common stock (Note 13)			(676)				(676)	—	(676)
Distributions to noncontrolling interests							—	(65)	(65)
Stock based awards		(5)		24			19	—	19
Acquisition of noncontrolling interests		(73)					(73)	(25)	(98)
Other shareholder transactions		24					24	—	24
BALANCE AT DECEMBER 31, 2016	<u>\$ 556</u>	<u>\$ 1,597</u>	<u>\$ 11,040</u>	<u>\$ (4,489)</u>	<u>\$ (8)</u>	<u>\$ (1,821)</u>	<u>\$ 6,875</u>	<u>\$ 299</u>	<u>\$ 7,174</u>

The accompanying notes are an integral part of our Consolidated Financial Statements.

CUMMINS INC. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

We were founded in 1919 as Cummins Engine Company, a corporation in Columbus, Indiana. We were one of the first diesel engine manufacturers. We changed our name to Cummins Inc. in 2001. We are a global power leader that designs, manufactures, distributes and services diesel and natural gas engines and engine-related component products, including filtration, aftertreatment, turbochargers, fuel systems, controls systems, air handling systems and electric power generation systems. We sell our products to original equipment manufacturers (OEMs), distributors and other customers worldwide. We serve our customers through a network of approximately 600 wholly-owned and independent distributor locations and over 7,400 dealer locations in more than 190 countries and territories.

Principles of Consolidation

Our *Consolidated Financial Statements* include the accounts of all wholly-owned and majority-owned domestic and foreign subsidiaries where our ownership is more than 50 percent of outstanding equity interests except for majority-owned subsidiaries that are considered variable interest entities (VIEs) where we are not deemed to have a controlling financial interest. In addition, we also consolidate, regardless of our ownership percentage, VIEs for which we are deemed to have a controlling financial interest. Intercompany balances and transactions are eliminated in consolidation. Where our ownership interest is less than 100 percent, the noncontrolling ownership interests are reported in our *Consolidated Balance Sheets*. The noncontrolling ownership interest in our income, net of tax, is classified as "Net income attributable to noncontrolling interests" in our *Consolidated Statements of Income*.

We have variable interests in several businesses accounted for under the equity method of accounting that are deemed to be VIEs and are subject to generally accepted accounting principles in the United States of America (GAAP) for variable interest entities. Most of these VIEs are unconsolidated.

Reclassifications

Certain amounts for 2015 and 2014 have been reclassified to conform to the current year presentation.

Investments in Equity Investees

We use the equity method to account for our investments in joint ventures, affiliated companies and alliances in which we have the ability to exercise significant influence, generally represented by equity ownership or partnership equity of at least 20 percent but not more than 50 percent. Generally, under the equity method, original investments in these entities are recorded at cost and subsequently adjusted by our share of equity in income or losses after the date of acquisition. Investment amounts in excess of our share of an investee's net assets are amortized over the life of the related asset creating the excess. If the excess is goodwill, then it is not amortized. Equity in income or losses of each investee is recorded according to our level of ownership; if losses accumulate, we record our share of losses until our investment has been fully depleted. If our investment has been fully depleted, we recognize additional losses only when we are the primary funding source. We eliminate (to the extent of our ownership percentage) in our *Consolidated Financial Statements* the profit in inventory held by our equity method investees that has not yet been sold to a third-party. Our investments are classified as "Investments and advances related to equity method investees" in our *Consolidated Balance Sheets*. Our share of the results from joint ventures, affiliated companies and alliances is reported in our *Consolidated Statements of Income* as "Equity, royalty and interest income from investees," and is reported net of all applicable income taxes.

Our foreign equity investees are presented net of applicable foreign income taxes in our *Consolidated Statements of Income*. Our remaining United States (U.S.) equity investees are partnerships (non-taxable), thus there is no difference between gross or net of tax presentation as the investees are not taxed. See NOTE 2, "INVESTMENTS IN EQUITY INVESTEES," for additional information.

Use of Estimates in the Preparation of the Financial Statements

Preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect reported amounts presented and disclosed in our *Consolidated Financial Statements*. Significant estimates and assumptions in these *Consolidated Financial Statements* require the exercise of judgment and are used for, but not limited to, allowance for doubtful accounts, estimates of future cash flows and other assumptions associated with goodwill and long-lived asset impairment tests, useful lives for depreciation and amortization, warranty programs, determination of discount rate and

other assumptions for pension and other postretirement benefit costs, impairment charges, restructuring costs, income taxes and deferred tax valuation allowances, lease classification and contingencies. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may be different from these estimates.

Revenue Recognition

We recognize revenue, net of estimated costs of returns, allowances and sales incentives, when it is realized or realizable, which generally occurs when:

- Persuasive evidence of an arrangement exists;
- The product has been shipped and legal title and all risks of ownership have been transferred;
- The sales price is fixed or determinable;
and
- Payment is reasonably assured.

Products are generally sold on open account under credit terms customary to the geographic region of distribution. We perform ongoing credit evaluations of our customers and generally do not require collateral to secure our accounts receivable. For engines, service parts, service tools and other items sold to independent distributors and to partially-owned distributors accounted for under the equity method, revenues are recorded when title and risk of ownership transfers. This transfer is based on the agreement in effect with the respective distributor, which generally occurs when the products are shipped. To the extent of our ownership percentage, margins on sales to distributors accounted for under the equity method are deferred until the distributor sells the product to unrelated parties.

We provide various sales incentives to both our distribution network and our OEM customers. These programs are designed to promote the sale of our product in the channel or encourage the usage of our products by OEM customers. Sales incentives primarily fall into three categories:

- Volume rebates;
- Market share rebates;
and
- Aftermarket rebates.

For volume rebates, we provide certain customers with rebate opportunities for attaining specified volumes during a particular quarter or year. We accrue for the expected amount of these rebates at the time of the original sale and update our accruals quarterly based on our best estimate of the volume levels the customer will reach during the measurement period. For market share rebates, we provide certain customers with rebate opportunities based on the percentage of their production that utilizes our product. These rebates are typically measured either quarterly or annually and are accrued at the time of the original sale based on the current market shares, with adjustments made as the level changes. For aftermarket rebates, we provide incentives to promote sales to certain dealers and end-markets. These rebates are typically paid on a quarterly, or more frequent, basis and estimates are made at the end of each quarter as to the amount yet to be paid. These estimates are based on historical experience with the particular program. The incentives are classified as a reduction in sales in our *Consolidated Statements of Income*.

We classify shipping and handling billed to customers as sales in our *Consolidated Statements of Income*. Substantially all shipping and handling costs are included in "Cost of sales."

Rights of return do not exist for the majority of our sales, other than for quality issues. We do offer certain return rights in our aftermarket business, where some aftermarket customers are permitted to return small amounts of parts and filters each year and in our power systems business, which sells portable generators to retail customers. An estimate of future returns is accrued at the time of sale based on historical return rates.

Foreign Currency Transactions and Translation

We translate assets and liabilities of foreign entities to U.S. dollars, where the local currency is the functional currency, at year-end exchange rates. We translate income and expenses to U.S. dollars using weighted-average exchange rates for the year. We record adjustments resulting from translation in a separate component of accumulated other comprehensive loss (AOCL) and include the adjustments in net income only upon sale, loss of controlling financial interest or liquidation of the underlying foreign investment.

Foreign currency transaction gains and losses are included in current net income. For foreign entities where the U.S. dollar is the functional currency, including those operating in highly inflationary economies when applicable, we remeasure non-monetary balances and the related income statement using historical exchange rates. We include in income the resulting gains and losses, including the effect of derivatives in our *Consolidated Statements of Income*, which combined with transaction gains and losses amounted to a net loss of \$12 million, \$18 million and \$6 million for the years ended December 31, 2016, 2015 and 2014, respectively.

Fair Value Measurements

A three-level valuation hierarchy, based upon the observable and unobservable inputs, is used for fair value measurements. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect market assumptions based on the best evidence available. These two types of inputs create the following fair value hierarchy:

- Level 1 - Quoted prices for *identical* instruments in active markets;
- Level 2 - Quoted prices for *similar* instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-derived valuations whose significant inputs are observable; and
- Level 3 - Instruments whose significant inputs are *unobservable*.

Derivative Instruments

We make use of derivative instruments in foreign exchange, commodity price and interest rate hedging programs. Derivatives currently in use are foreign currency forward contracts, commodity physical forward contracts and zero-cost collars and interest rate swaps. These contracts are used strictly for hedging and not for speculative purposes.

We are exposed to market risk from fluctuations in interest rates. We manage our exposure to interest rate fluctuations through the use of interest rate swaps. The objective of the swaps is to more effectively balance our borrowing costs and interest rate risk. The gain or loss on these derivative instruments as well as the offsetting gain or loss on the hedged item are recognized in current income as "Interest expense." For more detail on our interest rate swaps see NOTE 9, "DEBT."

Due to our international business presence, we are exposed to foreign currency exchange risk. We transact in foreign currencies and have assets and liabilities denominated in foreign currencies. Consequently, our income experiences some volatility related to movements in foreign currency exchange rates. In order to benefit from global diversification and after considering naturally offsetting currency positions, we enter into foreign currency forward contracts to minimize our existing exposures (recognized assets and liabilities) and hedge forecasted transactions. Foreign currency forward contracts are designated and qualify as foreign currency cash flow hedges under GAAP. The effective portion of the unrealized gain or loss on the forward contract is deferred and reported as a component of AOCL. When the hedged forecasted transaction (sale or purchase) occurs, the unrealized gain or loss is reclassified into income in the same line item associated with the hedged transaction in the same period or periods during which the hedged transaction affects income.

To minimize the income volatility resulting from the remeasurement of net monetary assets and payables denominated in a currency other than the functional currency, we enter into foreign currency forward contracts, which are considered economic hedges. The objective is to offset the gain or loss from remeasurement with the gain or loss from the fair market valuation of the forward contract. These derivative instruments are not designated as hedges under GAAP.

We are exposed to fluctuations in commodity prices due to contractual agreements with component suppliers. In order to protect ourselves against future price volatility and, consequently, fluctuations in gross margins, we periodically enter into commodity physical forward contracts and zero-cost collar contracts with designated banks and other counterparties to fix the cost of certain raw material purchases with the objective of minimizing changes in inventory cost due to market price fluctuations. The physical forward contracts qualify for the normal purchases scope exceptions and are treated as purchase commitments. The commodity zero-cost collar contracts that represent an economic hedge, but are not designated for hedge accounting, are marked to market through earnings.

Income Tax Accounting

We determine our income tax expense using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax effects of temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Future tax benefits of net operating loss and credit carryforwards are also recognized as deferred tax assets. We evaluate the recoverability of our deferred tax assets each quarter by assessing the likelihood of future profitability and available tax planning strategies that could be implemented to realize our net deferred tax assets. A valuation allowance is recorded to reduce the tax assets to the net value management believes is more likely than not to be realized. In the event our operating performance deteriorates, future assessments could conclude that a larger valuation

allowance will be needed to further reduce the deferred tax assets. In addition, we operate within multiple taxing jurisdictions and are subject to tax audits in these jurisdictions. These audits can involve complex issues, which may require an extended period of time to resolve. We accrue for the estimated additional tax and interest that may result from tax authorities disputing uncertain tax positions. We have taken and we believe we have made adequate provision for income taxes for all years that are subject to audit based upon the latest information available. A more complete description of our income taxes and the future benefits of our net operating loss and credit carryforwards is disclosed in NOTE 3, "INCOME TAXES."

Cash and Cash Equivalents

Cash equivalents are defined as short-term, highly liquid investments with an original maturity of 90 days or less at the time of purchase. The carrying amounts reflected in our *Consolidated Balance Sheets* for cash and cash equivalents approximate fair value due to the short-term maturity of these investments.

In millions	Years ended December 31,		
	2016	2015	2014
Cash payments for income taxes, net of refunds	\$ 430	\$ 732	\$ 659
Cash payments for interest, net of capitalized interest	68	65	65

Marketable Securities

We account for marketable securities in accordance with GAAP for investments in debt and equity securities. We determine the appropriate classification of all marketable securities as "held-to-maturity," "available-for-sale" or "trading" at the time of purchase, and re-evaluate such classifications at each balance sheet date. At December 31, 2016 and 2015, all of our investments were classified as available-for-sale.

Available-for-sale (AFS) securities are carried at fair value with the unrealized gain or loss, net of tax, reported in other comprehensive income. Unrealized losses considered to be "other-than-temporary" are recognized currently in income. The cost of securities sold is based on the specific identification method. The fair value of most investment securities is determined by currently available market prices. Where quoted market prices are not available, we use the market price of similar types of securities that are traded in the market to estimate fair value. See NOTE 4, "MARKETABLE SECURITIES," for a detailed description of our investments in marketable securities.

Accounts Receivable and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount, which approximates net realizable value, and generally do not bear interest. The allowance for doubtful accounts is our best estimate of the amount of probable credit losses in our existing accounts receivable. We determine the allowance based on our historical collection experience and by performing an analysis of our accounts receivable in light of the current economic environment. We review our allowance for doubtful accounts on a regular basis. In addition, when necessary, we provide an allowance for the full amount of specific accounts deemed to be uncollectible. Account balances are charged off against the allowance in the period in which we determine that it is probable the receivable will not be recovered. The allowance for doubtful accounts balances for the years ended December 31, 2016 and 2015 were \$16 million and \$15 million, respectively.

Inventories

Our inventories are stated at the lower of cost or market. For the years ended December 31, 2016 and 2015, approximately 13 percent and 13 percent, respectively, of our consolidated inventories (primarily heavy-duty and high-horsepower engines and parts) were valued using the last-in, first-out (LIFO) cost method. The cost of other inventories is generally valued using the first-in, first-out (FIFO) cost method. Our inventories at interim and year-end reporting dates include estimates for adjustments related to annual physical inventory results and for inventory cost changes under the LIFO cost method. Due to significant movements of partially-manufactured components and parts between manufacturing plants, we do not internally measure, nor do our accounting systems provide, a meaningful segregation between raw materials and work-in-process. See NOTE 5, "INVENTORIES," for additional information.

Property, Plant and Equipment

We record property, plant and equipment, inclusive of assets under capital leases, at cost. We depreciate the cost of the majority of our equipment using the straight-line method with depreciable lives ranging from 20 to 40 years for buildings and 3 to 20 years for machinery, equipment and fixtures. Capital lease amortization is recorded in depreciation expense. We expense normal maintenance and repair costs as incurred. Depreciation expense totaled \$434 million, \$419 million and \$351 million for the years ended December 31, 2016, 2015 and 2014, respectively. See NOTE 6, "PROPERTY, PLANT AND EQUIPMENT," for additional information.

Impairment of Long-Lived Assets

We review our long-lived assets for possible impairment whenever events or circumstances indicate that the carrying value of an asset or asset group may not be recoverable. We assess the recoverability of the carrying value of the long-lived assets at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. An impairment of a long-lived asset or asset group exists when the expected future pre-tax cash flows (undiscounted and without interest charges) estimated to be generated by the asset or asset group is less than its carrying value. If these cash flows are less than the carrying value of such asset or asset group, an impairment loss is measured based on the difference between the estimated fair value and carrying value of the asset or asset group. Assumptions and estimates used to estimate cash flows in the evaluation of impairment and the fair values used to determine the impairment are subject to a degree of judgment and complexity. Any changes to the assumptions and estimates resulting from changes in actual results or market conditions from those anticipated may affect the carrying value of long-lived assets and could result in a future impairment charge. See NOTE 19, "IMPAIRMENT OF LIGHT-DUTY DIESEL ASSETS," for additional information.

Goodwill

Under GAAP for goodwill, we have the option to first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value as a basis for determining whether it is necessary to perform an annual two-step goodwill impairment test. We have elected this option on certain reporting units. The two-step impairment test is now only required if an entity determines through this qualitative analysis that it is more likely than not that the fair value of the reporting unit is less than its carrying value. In addition, the carrying value of goodwill must be tested for impairment on an interim basis in certain circumstances where impairment may be indicated. When we are required or opt to perform the two-step impairment test, the fair value of each reporting unit is estimated by discounting the after tax future cash flows less requirements for working capital and fixed asset additions. Our reporting units are generally defined as one level below an operating segment. However, there are two situations where we have aggregated two or more reporting units which share similar economic characteristics and thus are aggregated into a single reporting unit for testing purposes. These two situations are described further below:

- Within our Components segment, our emission solutions and filtration businesses have been aggregated into a single reporting unit.
- Our Distribution segment is considered a single reporting unit as it is managed geographically and all regions share similar economic characteristics and provide similar products and services.

Goodwill in other reporting units is immaterial for separate disclosure. Our valuation method requires us to make projections of revenue, operating expenses, working capital investment and fixed asset additions for the reporting units over a multi-year period. Additionally, management must estimate a weighted-average cost of capital, which reflects a market rate, for each reporting unit for use as a discount rate. The discounted cash flows are compared to the carrying value of the reporting unit and, if less than the carrying value, a separate valuation of the goodwill is required to determine if an impairment loss has occurred. In addition, we also perform a sensitivity analysis to determine how much our forecasts can fluctuate before the fair value of a reporting unit would be lower than its carrying amount. We performed the required procedures as of the end of our fiscal third quarter and determined that our goodwill was not impaired. At December 31, 2016, our recorded goodwill was \$480 million, approximately 79 percent of which resided in the aggregated emission solutions and filtration reporting unit. For this reporting unit, the fair value exceeded its carrying value by a substantial margin when we last performed step one of the two-step impairment test. Changes in our projections or estimates, a deterioration of our operating results and the related cash flow effect or a significant increase in the discount rate could decrease the estimated fair value of our reporting units and result in a future impairment of goodwill. See NOTE 7, "GOODWILL AND OTHER INTANGIBLE ASSETS," for additional information.

Software

We capitalize software that is developed or obtained for internal use. Software costs are amortized on a straight-line basis over their estimated useful lives generally ranging from 3 to 12 years. Software assets are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable over the remaining lives of the assets. Upgrades and enhancements are capitalized if they result in significant modifications that enable the software to perform tasks it was previously incapable of performing. Software maintenance, training, data conversion and business process reengineering costs are expensed in the period in which they are incurred. See NOTE 7, "GOODWILL AND OTHER INTANGIBLE ASSETS," for additional information.

Warranty

We charge the estimated costs of warranty programs, other than product recalls, to cost of sales at the time products are sold and revenue is recognized. We use historical experience to develop the estimated liability for our various warranty programs.

As a result of the uncertainty surrounding the nature and frequency of product recall programs, the liability for such programs is recorded when we commit to a recall action or when a recall becomes probable and estimable, which generally occurs when it is announced. The liability for these programs is reflected in the provision for warranties issued. We review and assess the liability for these programs on a quarterly basis. We also assess our ability to recover certain costs from our suppliers and record a receivable when we believe a recovery is probable. In addition to costs incurred on warranty and recall programs, from time to time we also incur costs related to customer satisfaction programs for items not covered by warranty. We accrue for these costs when agreement is reached with a specific customer. These costs are not included in the provision for warranties, but are included in cost of sales.

In addition, we sell extended warranty coverage on most of our engines. The revenue collected is initially deferred and is recognized as revenue in proportion to the costs expected to be incurred in performing services over the contract period. We compare the remaining deferred revenue balance quarterly to the estimated amount of future claims under extended warranty programs and provide an additional accrual when the deferred revenue balance is less than expected future costs. See NOTE 10, "PRODUCT WARRANTY LIABILITY," for additional information.

Research and Development

Our research and development program is focused on product improvements, product extensions, innovations and cost reductions for our customers. Research and development expenditures include salaries, contractor fees, building costs, utilities, testing, technical IT, administrative expenses and allocation of corporate costs and are expensed, net of contract reimbursements, when incurred. From time to time, we enter into agreements with customers and government agencies to fund a portion of the research and development costs of a particular project. We generally account for these reimbursements as an offset to the related research and development expenditure. Research and development expenses, net of contract reimbursements, were \$616 million in 2016, \$718 million in 2015 and \$737 million in 2014. Contract reimbursements were \$131 million in 2016, \$98 million in 2015 and \$121 million in 2014.

Related Party Transactions

In accordance with the provisions of various joint venture agreements, we may purchase products and components from our joint ventures, sell products and components to our joint ventures and our joint ventures may sell products and components to unrelated parties. Joint venture transfer prices may differ from normal selling prices. Certain joint venture agreements transfer product at cost, some transfer product on a cost-plus basis, and others transfer product at market value. Our related party sales are presented on the face of our *Consolidated Statements of Income*. Our related party purchases were not material to our financial position or results of operations.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

In August 2016, the Financial Accounting Standards Board (FASB) amended its standards related to the classification of certain cash receipts and cash payments. The new standard will make eight targeted changes to how cash receipts and cash payments are presented and classified in the statement of cash flows. The standard is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. If an entity early adopts the amendments in an interim period, any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period. An entity that elects early adoption must adopt all of the amendments in the same period. The new standard will require adoption on a retrospective basis unless it is impracticable to apply, in which case it would be required to apply the amendments prospectively as of the earliest date practicable. We are in the process of evaluating the impact this standard will have on our *Consolidated Statements of Cash Flows*.

In June 2016, the FASB amended its standards related to the accounting for credit losses on financial instruments. This amendment introduces new guidance for accounting for credit losses on instruments including trade receivables and held-to-maturity debt securities. The new rules are effective for annual and interim periods beginning after December 15, 2019. Early adoption is permitted for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*.

In March 2016, the FASB amended its standards related to the accounting for stock compensation. This amendment addresses several aspects of the accounting for share-based payment transactions that could impact us including, but not limited to, recognition of excess tax benefits or deficiencies in the income statement each period and classification of the excess tax benefits or deficiencies as operating activities in the cash flow statement. The new standard is effective for annual periods beginning after December 15, 2016. The adoption of this standard could result in future volatility in our income tax expense since all excess tax benefits and deficiencies are now recorded in the income statement. We are unable to estimate this impact since the amount of excess benefits and deficiencies are dependent on our stock price at the time a stock award vests or is exercised.

In February 2016, the FASB amended its standards related to the accounting for leases. Under the new standard, lessees will now be required to recognize substantially all leases on the balance sheet as both a right-of-use-asset and a liability. The standard will continue to have two types of leases for income statement recognition purposes: operating leases and finance leases. Operating leases will result in the recognition of a single lease expense on a straight-line basis over the lease term similar to the treatment for operating leases under today's standards. Finance leases will result in an accelerated expense similar to the accounting for capital leases under today's standards. The determination of a lease classification as operating or finance will be done in a manner similar to today's standard. The new standard also contains amended guidance regarding the identification of embedded leases in service contracts and the identification of lease and non-lease components in an arrangement. The new standard is effective on January 1, 2019, with early adoption permitted. We are still evaluating the impact the standard could have on our *Consolidated Financial Statements*; however, while we have not yet quantified the amount, we do expect the standard will have a material impact on our *Consolidated Balance Sheets* due to the recognition of additional assets and liabilities for operating leases.

In January 2016, the FASB amended its standards related to the accounting for certain financial instruments. This amendment addresses certain aspects of recognition, measurement, presentation and disclosure. The new rules will become effective for annual and interim periods beginning after December 15, 2017. Early adoption is not permitted. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*.

In May 2014, the FASB amended its standards related to revenue recognition. This amendment replaces all existing revenue recognition guidance and provides a single, comprehensive revenue recognition model for all contracts with customers. The standard contains principles that we will apply to determine the measurement of revenue and timing of when it is recognized. The underlying principle is that we will recognize revenue in a manner that depicts the transfer of goods or services to customers at an amount that we expect to be entitled to in exchange for those goods or services. The guidance provides a five-step analysis of transactions to determine when and how revenue is recognized. Other major provisions include capitalization of certain contract costs, consideration of the time value of money in the transaction price and allowing estimates of variable consideration to be recognized before contingencies are resolved in certain circumstances. The amendment also requires additional disclosure about the nature, amount, timing and uncertainty of revenue and cash flows arising from customer contracts, including significant judgments and changes in those judgments and assets recognized from costs incurred to fulfill a contract. The standard allows either full or modified retrospective adoption effective for annual and interim periods beginning January 1, 2018. We are in the process of evaluating the impact the amendment will have on our *Consolidated Financial Statements*. We expect to adopt the standard using the modified retrospective approach. While we have not yet completed our evaluation process, we have identified that a change will be required related to our accounting for remanufactured product sales that include an exchange of the used product, referred to as core. Revenue is not currently recognized related to the core component unless the used product is not returned. Under the new standard, the transaction will be accounted for as a gross sale and a purchase of inventory. As a result the exchange will increase both sales and cost of sales, in equal amounts, related to the used core. This will not impact gross margin dollars, but will impact the gross margin percentage. We are still quantifying the amount of this change. We have also identified transactions where revenue recognition is currently limited to the amount of billings not contingent on our future performance. With the allocation provisions of the new model, we expect to accelerate the timing of revenue recognition for amounts related to satisfied performance obligations that would have been delayed under the current guidance. We do not expect the impact of this change to be material, but we are still quantifying the impact.

NOTE 2. INVESTMENTS IN EQUITY INVESTEES

Investments and advances related to equity method investees and our ownership percentage was as follows:

In millions	Ownership %	December 31,	
		2016	2015
Komatsu alliances	20-50%	\$ 197	\$ 173
Beijing Foton Cummins Engine Co., Ltd.	50%	163	172
Dongfeng Cummins Engine Company, Ltd.	50%	111	118
Chongqing Cummins Engine Company, Ltd.	50%	73	80
Cummins-Scania XPI Manufacturing, LLC	50%	82	66
Tata Cummins, Ltd.	50%	63	60
North American distributors ⁽¹⁾	50%	—	15
Other	Various	257	291
Investments and advances related to equity method investees		\$ 946	\$ 975

⁽¹⁾Ownership percentage of North American distributor investments at December 31, 2015.

Equity, royalty and interest income from investees, net of applicable taxes, was as follows:

In millions	Years ended December 31,		
	2016	2015	2014
Distribution entities			
Komatsu Cummins Chile, Ltda.	\$ 34	\$ 31	\$ 29
North American distributors	21	33	107
All other distributors	—	3	4
Manufacturing entities			
Beijing Foton Cummins Engine Co., Ltd.	52	62	(2)
Dongfeng Cummins Engine Company, Ltd.	46	51	67
Chongqing Cummins Engine Company, Ltd.	38	41	51
All other manufacturers	69	52	74
Cummins share of net income	260	273	330
Royalty and interest income	41	42	40
Equity, royalty and interest income from investees	\$ 301	\$ 315	\$ 370

Distribution Entities

We have an extensive worldwide distributor and dealer network through which we sell and distribute our products and services. Generally, our distributors are divided by geographic region with some of our distributors being wholly-owned by Cummins, some partially-owned and some independently owned. We consolidate all wholly-owned distributors and partially-owned distributors where we are the primary beneficiary and account for other partially-owned distributors using the equity method of accounting.

- **Komatsu Cummins Chile, Ltda.** - Komatsu Cummins Chile, Ltda. is a joint venture with Komatsu America Corporation. The joint venture is a distributor that offers the full range of our products and services to customers and end-users in the Chilean and Peruvian markets.
- **North American Distributors** - During 2016, we acquired the remaining interest in the final unconsolidated North American distributor joint venture.

In certain cases where we own a partial interest in a distributor, we may be obligated to purchase the other equity holders' interests if certain events occur (such as the death or resignation of the distributor principal or a change in control of Cummins Inc.). The purchase consideration of the equity interests may be determined based on the fair value of the distributor's assets. Repurchase obligations and practices vary by geographic region.

All distributors that are partially-owned are considered to be related parties in our *Consolidated Financial Statements*.

Manufacturing Entities

Our manufacturing joint ventures have generally been formed with customers and generally are intended to allow us to increase our market penetration in geographic regions, reduce capital spending, streamline our supply chain management and develop technologies. Our largest manufacturing joint ventures are based in China and are included in the list below. Our engine manufacturing joint ventures are supplied by our Components segment in the same manner as it supplies our wholly-owned Engine segment and Power Systems segment manufacturing facilities. Our Components segment joint ventures and wholly owned entities provide fuel systems, filtration, aftertreatment systems and turbocharger products that are used in our engines as well as some competitors' products. The results and investments in our joint ventures in which we have 50 percent or less ownership interest are included in "Equity, royalty and interest income from investees" and "Investments and advances related to equity method investees" in our *Consolidated Statements of Income* and *Consolidated Balance Sheets*, respectively.

- **Beijing Foton Cummins Engine Co., Ltd.** - Beijing Foton Cummins Engine Co., Ltd. is a joint venture in China with Beiqi Foton Motor Co., Ltd., a commercial vehicle manufacturer, which consists of two distinct lines of business, a light-duty business and a heavy-duty business. The light-duty business produces ISF 2.8 liter and ISF 3.8 liter families of our high performance light-duty diesel engines in Beijing. These engines are used in light-duty commercial trucks, pickup trucks, buses, multipurpose and sport utility vehicles with main markets in China, Brazil and Russia. Certain types of marine, small construction equipment and industrial applications are also served by these engine families. The heavy-duty business produces ISG 10.5 liter and ISG 11.8 liter families of our high performance heavy-duty diesel engines in Beijing. These engines are used in heavy-duty commercial trucks in China and will be used in world wide markets. Certain types of construction equipment and industrial applications are also served by these engine families.

- **Dongfeng Cummins Engine Company, Ltd.** -Dongfeng Cummins Engine Company, Ltd. (DCEC) is a joint venture in China with Dongfeng Automotive Co. Ltd., a subsidiary of Dongfeng Motor Corporation, one of the largest medium-duty and heavy-duty truck manufacturers in China. DCEC produces Cummins 4- to 13-liter mechanical engines, full-electric diesel engines, with a power range from 125 to 545 horsepower, and natural gas engines.
- **Chongqing Cummins Engine Company, Ltd.** -Chongqing Cummins Engine Company, Ltd. is a joint venture in China with Chongqing Machinery and Electric Co. Ltd. This joint venture manufactures several models of our heavy-duty and high-horsepower diesel engines, primarily serving the industrial and stationary power markets in China.

Equity Investee Financial Summary

We have approximately \$525 million in our investment account at December 31,2016, that represents cumulative undistributed income in our equity investees. Dividends received from our unconsolidated equity investees were \$212 million, \$248 million and \$227 million in 2016, 2015 and 2014, respectively. Summary financial information for our equity investees was as follows:

In millions	At and for the years ended December 31,		
	2016	2015	2014
Net sales	\$ 5,654	\$ 5,946	\$ 7,426
Gross margin	1,182	1,265	1,539
Net income	499	521	630
Cummins share of net income	\$ 260	\$ 273	\$ 330
Royalty and interest income	41	42	40
Total equity, royalty and interest from investees	\$ 301	\$ 315	\$ 370
Current assets	\$ 2,602	\$ 2,458	
Non-current assets	1,377	1,539	
Current liabilities	(1,938)	(1,796)	
Non-current liabilities	(232)	(284)	
Net assets	\$ 1,809	\$ 1,917	
Cummins share of net assets	\$ 927	\$ 958	

Sale of Equity Investee

In the fourth quarter of 2016, we sold our remaining 49 percent interest in Cummins Olayan Energy for \$61 million and recognized a gain of \$17 million. We received cash of \$58 million with the remaining balance receivable in future periods.

NOTE 3. INCOME TAXES

The following table summarizes income before income taxes:

In millions	Years ended December 31,		
	2016	2015	2014
U.S. income	\$ 995	\$ 1,275	\$ 1,407
Foreign income	935	750	1,027
Income before income taxes	\$ 1,930	\$ 2,025	\$ 2,434

Income tax expense consists of the following:

In millions	Years ended December 31,		
	2016	2015	2014
Current			
U.S. federal and state	\$ 211	\$ 516	\$ 470
Foreign	213	147	197
Total current	424	663	667
Deferred			
U.S. federal and state	57	(151)	39
Foreign	(7)	43	(8)
Total deferred	50	(108)	31
Income tax expense	\$ 474	\$ 555	\$ 698

A reconciliation of the statutory U.S. federal income tax rate to the effective tax rate was as follows:

	Years ended December 31,		
	2016	2015	2014
Statutory U.S. federal income tax rate	35.0 %	35.0 %	35.0 %
State income tax, net of federal effect	0.8	1.2	1.1
Differences in rates and taxability of foreign subsidiaries and joint ventures	(7.2)	(6.6)	(5.7)
Research tax credits	(1.7)	(1.4)	(1.5)
Other, net	(2.3)	(0.8)	(0.2)
Effective tax rate	24.6 %	27.4 %	28.7 %

Our income tax rates are generally less than the 35 percent U.S. statutory income tax rate primarily because of lower taxes on foreign earnings and research tax credits. Our effective tax rate for 2016 was 24.6 percent compared to 27.4 percent for 2015. The 2.8 percent decrease in the effective tax rate from 2015 to 2016 is primarily due to favorable changes in the jurisdictional mix of pre-tax income.

Retained earnings of our U.K. domiciled subsidiaries and certain Singapore, German, Indian and Mexican subsidiaries are considered to be permanently reinvested. In addition, earnings of our China operations generated after December 31, 2011, are considered to be permanently reinvested. U.S. deferred tax is not provided on these permanently reinvested earnings. Our permanently reinvested foreign earnings are expected to be used for items such as capital expenditures and to fund joint ventures outside of the U.S. The total permanently reinvested retained earnings and related cumulative translation adjustment balances for these entities were \$3.4 billion, \$3.3 billion and \$3.8 billion for the years ended December 31, 2016, 2015 and 2014, respectively. These amounts were determined primarily based on book retained earnings balances for these subsidiaries translated at historical rates. The determination of the deferred tax liability related to these retained earnings and cumulative translation adjustment balances, which are considered to be permanently reinvested outside the U.S., is not practicable.

For our remaining subsidiary companies and joint ventures outside the U.S., we provide for the additional taxes that would be due upon the dividend distribution of the income of those foreign subsidiaries and joint ventures assuming the full utilization of foreign tax credits. Deferred tax liabilities on unremitted earnings of foreign subsidiaries and joint ventures, including those in China generated in years prior to 2012, were \$59 million and \$69 million at December 31, 2016 and 2015, respectively. We have \$616 million of retained earnings and related cumulative translation adjustments in our China operations generated prior to December 31, 2011, for which we have provided a U.S. deferred tax liability of \$139 million.

Income before income taxes included equity income of foreign joint ventures of \$225 million, \$213 million and \$212 million for the years ended December 31, 2016, 2015 and 2014, respectively. This equity income is recorded net of foreign taxes. Additional U.S. income taxes of \$13 million, \$20 million and \$14 million for the years ended December 31, 2016, 2015 and 2014, respectively, were provided for the additional U.S. taxes that will ultimately be due upon the distribution of the foreign joint venture equity income.

Carryforward tax benefits and the tax effect of temporary differences between financial and tax reporting that give rise to net deferred tax assets were as follows:

In millions	December 31,	
	2016	2015
Deferred tax assets		
U.S. state carryforward benefits	\$ 159	\$ 133
Foreign carryforward benefits	154	103
Employee benefit plans	401	377
Warranty expenses	405	369
Accrued expenses	107	76
Other	64	78
Gross deferred tax assets	1,290	1,136
Valuation allowance	(307)	(209)
Total deferred tax assets	983	927
Deferred tax liabilities		
Property, plant and equipment	(319)	(269)
Unremitted income of foreign subsidiaries and joint ventures	(59)	(69)
Employee benefit plans	(213)	(212)
Other	(48)	(21)
Total deferred tax liabilities	(639)	(571)
Net deferred tax assets	\$ 344	\$ 356

Our 2016 U.S. carryforward benefits include \$159 million of state credit and net operating loss carryforward benefits that begin to expire in 2017. Our foreign carryforward benefits include \$154 million of net operating loss carryforwards that begin to expire in 2017. A valuation allowance is recorded to reduce the gross deferred tax assets to an amount we believe is more likely than not to be realized. The valuation allowance increased in 2016 by a net \$98 million and increased in 2015 by a net \$65 million. The valuation allowance is primarily attributable to the uncertainty regarding the realization of a portion of the U.S. state and foreign net operating loss and tax credit carryforward benefits.

Our *Consolidated Balance Sheets* contain the following tax related items:

In millions	December 31,	
	2016	2015
Prepaid and other current assets		
Refundable income taxes	\$ 192	\$ 176
Other assets		
Deferred tax assets	420	390
Long-term refundable income taxes	22	18
Other liabilities and deferred revenue		
Deferred tax liabilities	76	34

A reconciliation of unrecognized tax benefits for the years ended December 31, 2016, 2015 and 2014 was as follows:

In millions	December 31,		
	2016	2015	2014
Balance at beginning of year	\$ 135	\$ 174	\$ 169
Additions to current year tax positions	10	8	8
Additions to prior years tax positions	18	24	5
Reductions to prior years tax positions	—	—	(2)
Reductions for tax positions due to settlements with taxing authorities	(104)	(71)	(5)
Reductions for tax positions due to lapse of statute of limitations	—	—	(1)
Balance at end of year	\$ 59	\$ 135	\$ 174

Included in the December 31, 2016 and 2015, balances are \$31 million and \$78 million, respectively, related to tax positions that, if recognized, would favorably impact the effective tax rate in future periods. Also, we had accrued interest expense related to the unrecognized tax benefits of \$3 million, \$8 million and \$7 million as of December 31, 2016, 2015 and 2014, respectively. We recognize potential accrued interest and penalties related to unrecognized tax benefits in income tax expense. For the years ended December 31, 2016, 2015 and 2014, we recognized \$2 million, \$5 million and \$4 million in net interest expense, respectively.

Audit outcomes and the timing of audit settlements are subject to significant uncertainty. Although we believe that adequate provision has been made for such issues, there is the possibility that the ultimate resolution of such issues could have an adverse effect on our earnings. Conversely, if these issues are resolved favorably in the future, the related provision would be reduced, thus having a positive impact on earnings.

As a result of our global operations, we file income tax returns in various jurisdictions including U.S. federal, state and foreign jurisdictions. We are routinely subject to examination by taxing authorities throughout the world, including Australia, Belgium, Brazil, Canada, China, France, India, Mexico, the U.K. and the U.S. With few exceptions, our U.S. federal, major state and foreign jurisdictions are no longer subject to income tax assessments for years before 2012. The U.S. examinations related to tax years 2011-2012 concluded during 2016. The U.S. examinations related to tax years 2013-2015 commenced during 2016.

NOTE 4. MARKETABLE SECURITIES

A summary of marketable securities, all of which are classified as current, was as follows:

In millions	December 31,					
	2016			2015		
	Cost	Gross unrealized gains/(losses)	Estimated fair value	Cost	Gross unrealized gains/(losses)	Estimated fair value
Available-for-sale ⁽¹⁾						
Debt mutual funds	\$ 132	\$ —	\$ 132	\$ 88	\$ —	\$ 88
Bank debentures	114	—	114	—	—	—
Equity mutual funds	12	—	12	11	(1)	10
Government debt securities	2	—	2	2	—	2
Total marketable securities	\$ 260	\$ —	\$ 260	\$ 101	\$ (1)	\$ 100

⁽¹⁾ All marketable securities are classified as Level 2 securities. The fair value of Level 2 securities is estimated using actively quoted prices for similar instruments from brokers and observable inputs where available, including market transactions and third-party pricing services, or net asset values provided to investors. We do not currently have any Level 3 securities and there were no transfers between Level 2 or 3 during 2016 and 2015.

A description of the valuation techniques and inputs used for our Level 2 fair value measures was as follows:

- *Debt mutual funds*— The fair value measure for these investments is the daily net asset value published on a regulated governmental website. Daily quoted prices are available from the issuing brokerage and are used on a test basis to corroborate this Level 2 input.

- *Bank debentures*— These investments provide us with a contractual rate of return and generally range in maturity from three months to five years. The counterparties to these investments are reputable financial institutions with investment grade credit ratings. Since these instruments are not tradable and must be settled directly by us with the respective financial institution, our fair value measure is the financial institutions' month-end statement.
- *Equity mutual funds*— The fair value measure for these investments is the net asset value published by the issuing brokerage. Daily quoted prices are available from reputable third party pricing services and are used on a test basis to corroborate this Level 2 input measure.
- *Government debt securities*— The fair value measure for these securities is broker quotes received from reputable firms. These securities are infrequently traded on a national stock exchange and these values are used on a test basis to corroborate our Level 2 input measure.

The proceeds from sales and maturities of marketable securities and gross realized gains from the sale of AFS securities were as follows:

In millions	Years ended December 31,		
	2016	2015	2014
Proceeds from sales and maturities of marketable securities	\$ 306	\$ 270	\$ 336
Gross realized gains from the sale of available-for-sale securities ⁽¹⁾	—	1	14

⁽¹⁾ Gross realized losses from the sale of available-for-sale securities were immaterial.

At December 31, 2016, the fair value of AFS investments in debt securities that utilize a Level 2 fair value measure is shown by contractual maturity below:

Maturity date	(in millions)
1 year or less	\$ 247
5 - 10 years	1
Total	\$ 248

NOTE 5. INVENTORIES

Inventories are stated at the lower of cost or market. Inventories included the following:

In millions	December 31,	
	2016	2015
Finished products	\$ 1,779	\$ 1,796
Work-in-process and raw materials	1,005	1,022
Inventories at FIFO cost	2,784	2,818
Excess of FIFO over LIFO	(109)	(111)
Total inventories	\$ 2,675	\$ 2,707

NOTE 6. PROPERTY, PLANT AND EQUIPMENT

Details of our property, plant and equipment balance were as follows:

In millions	December 31,	
	2016	2015
Land and buildings	\$ 2,075	\$ 1,978
Machinery, equipment and fixtures	4,898	4,739
Construction in process	662	605
Property, plant and equipment, gross	7,635	7,322
Less: Accumulated depreciation	(3,835)	(3,577)
Property, plant and equipment, net	\$ 3,800	\$ 3,745

NOTE 7. GOODWILL AND OTHER INTANGIBLE ASSETS

The following table summarizes the changes in the carrying amount of goodwill for the years ended December 31, 2016 and 2015:

In millions	Components	Distribution	Power Systems	Engine	Total
Balance at December 31, 2014	\$ 400	\$ 62	\$ 11	\$ 6	\$ 479
Acquisitions	—	12	—	—	12
Translation and other	(9)	1	(1)	—	(9)
Balance at December 31, 2015	391	75	10	6	482
Acquisitions	—	4	—	—	4
Translation and other	(5)	—	(1)	—	(6)
Balance at December 31, 2016	\$ 386	\$ 79	\$ 9	\$ 6	\$ 480

Intangible assets that have finite useful lives are amortized over their estimated useful lives. The following table summarizes our other intangible assets with finite useful lives that are subject to amortization:

In millions	December 31,	
	2016	2015
Software	\$ 617	\$ 536
Less: Accumulated amortization	(330)	(269)
Software, net	287	267
Trademarks, patents and other	164	165
Less: Accumulated amortization	(119)	(104)
Trademarks, patents and other, net	45	61
Total other intangible assets, net	\$ 332	\$ 328

Amortization expense for software and other intangibles totaled \$92 million, \$90 million and \$99 million for the years ended December 31, 2016, 2015 and 2014, respectively. Internal and external software costs (excluding those related to research, re-engineering and training), trademarks and patents are amortized generally over a 3 to 12 year period. The projected amortization expense of our intangible assets, assuming no further acquisitions or dispositions, is as follows:

In millions	2017	2018	2019	2020	2021
Projected amortization expense	\$ 83	\$ 66	\$ 56	\$ 43	\$ 28

NOTE 8. PENSION AND OTHER POSTRETIREMENT BENEFITS

Pension Plans

We sponsor several contributory and noncontributory pension plans covering substantially all employees. Generally, hourly employee pension benefits are earned based on years of service and compensation during active employment while future benefits for salaried employees are determined using a cash balance formula. However, the level of benefits and terms of vesting may vary among plans. Pension plan assets are administered by trustees and are principally invested in fixed income securities and equity securities. It is our policy to make contributions to our various qualified plans in accordance with statutory and contractual funding requirements and any additional contributions we determine are appropriate.

Obligations, Assets and Funded Status

Benefit obligation balances presented below reflect the projected benefit obligation (PBO) for our pension plans. The changes in the benefit obligations, the various plan assets, the funded status of the plans and the amounts recognized in our *Consolidated Balance Sheets* for our significant pension plans at December 31 were as follows:

In millions	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
	2016	2015	2016	2015
Change in benefit obligation				
Benefit obligation at the beginning of the year	\$ 2,533	\$ 2,579	\$ 1,390	\$ 1,522
Service cost	90	80	21	27
Interest cost	109	102	50	56
Actuarial loss (gain)	111	(76)	316	(88)
Benefits paid from fund	(175)	(139)	(55)	(53)
Benefits paid directly by employer	(16)	(13)	—	—
Plan amendments	9	—	—	—
Exchange rate changes	—	—	(271)	(74)
Benefit obligation at end of year	\$ 2,661	\$ 2,533	\$ 1,451	\$ 1,390
Change in plan assets				
Fair value of plan assets at beginning of year	\$ 2,636	\$ 2,713	\$ 1,712	\$ 1,724
Actual return on plan assets	200	(8)	402	20
Employer contributions	90	70	28	107
Benefits paid	(175)	(139)	(55)	(53)
Exchange rate changes	—	—	(334)	(86)
Fair value of plan assets at end of year	\$ 2,751	\$ 2,636	\$ 1,753	\$ 1,712
Funded status (including underfunded and nonfunded plans) at end of year	\$ 90	\$ 103	\$ 302	\$ 322
Amounts recognized in consolidated balance sheets				
Pension assets - long-term	\$ 429	\$ 413	\$ 302	\$ 322
Accrued compensation, benefits and retirement costs - current liabilities	(13)	(12)	—	—
Pensions - long-term liabilities	(326)	(298)	—	—
Net amount recognized	\$ 90	\$ 103	\$ 302	\$ 322
Amounts recognized in accumulated other comprehensive loss				
Net actuarial loss	\$ 770	\$ 689	\$ 172	\$ 228
Prior service cost (credit)	9	(1)	—	—
Net amount recognized	\$ 779	\$ 688	\$ 172	\$ 228

In addition to the pension plans in the above table, we also maintain less significant defined benefit pension plans primarily in 4 other countries outside of the U.S. and the U.K. that comprise approximately 3 percent and 4 percent of our pension plan assets and obligations at December 31, 2016 and 2015, respectively. These plans are reflected in "Other liabilities and deferred revenue" on our *Consolidated Balance Sheets*. In 2016, we made \$54 million of contributions to these plans including a contribution of \$44 million to our German plans.

The following table presents information regarding total accumulated benefit obligation, PBO's and underfunded pension plans that are included in the preceding table:

In millions	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
	2016	2015	2016	2015
Total accumulated benefit obligation	\$ 2,625	\$ 2,499	\$ 1,366	\$ 1,311
Plans with accumulated benefit obligation in excess of plan assets				
Accumulated benefit obligation	304	276	—	—
Plans with projected benefit obligation in excess of plan assets				
Projected benefit obligation	339	311	—	—

Components of Net Periodic Pension Cost

The following table presents the net periodic pension cost under our plans for the years ended December 31:

In millions	Qualified and Non-Qualified Pension Plans					
	U.S. Plans			U.K. Plans		
	2016	2015	2014	2016	2015	2014
Service cost	\$ 90	\$ 80	\$ 66	\$ 21	\$ 27	\$ 24
Interest cost	109	102	105	50	56	63
Expected return on plan assets	(201)	(189)	(173)	(71)	(91)	(84)
Amortization of prior service credit	—	(1)	(1)	—	—	—
Recognized net actuarial loss	29	45	31	15	34	26
Net periodic pension cost	\$ 27	\$ 37	\$ 28	\$ 15	\$ 26	\$ 29

Other changes in benefit obligations and plan assets recognized in other comprehensive income for the years ended December 31 were as follows:

In millions	2016	2015	2014
Amortization of prior service credit	\$ —	\$ 1	\$ 1
Recognized net actuarial loss	(44)	(79)	(57)
Incurred actuarial loss	107	105	133
Foreign exchange translation adjustments	(28)	(7)	(18)
Total recognized in other comprehensive income	\$ 35	\$ 20	\$ 59
Total recognized in net periodic pension cost and other comprehensive income	\$ 77	\$ 83	\$ 116

The amount in accumulated other comprehensive loss expected to be recognized as a component of net periodic pension cost during the next fiscal year is a net actuarial loss of \$77 million.

Assumptions

The table below presents various assumptions used in determining the PBO for each year and reflects weighted-average percentages for the various plans as follows:

	Qualified and Non-Qualified Pension Plans			
	U.S. Plans		U.K. Plans	
	2016	2015	2016	2015
Discount rate	4.12%	4.47%	2.70%	3.95%
Compensation increase rate	4.87%	4.88%	3.75%	3.75%

The table below presents various assumptions used in determining the net periodic pension cost and reflects weighted-average percentages for the various plans as follows:

	Qualified and Non-Qualified Pension Plans					
	U.S. Plans			U.K. Plans		
	2016	2015	2014	2016	2015	2014
Discount rate	4.47%	4.07%	4.83%	3.95%	3.80%	4.60%
Expected return on plan assets	7.50%	7.50%	7.50%	4.70%	5.80%	5.80%
Compensation increase rate	4.87%	4.88%	4.91%	3.75%	4.25%	4.50%

Plan Assets

Our investment policies in the U.S. and U.K. provide for the rebalancing of assets to maintain our long-term strategic asset allocation. We are committed to its long-term strategy and do not attempt to time the market given empirical evidence that asset allocation is more critical than individual asset or investment manager selection. Rebalancing of the assets has and continues to occur. The rebalancing is critical to having the proper weighting of assets to achieve the expected total portfolio returns. We believe that our portfolio is highly diversified and does not have any significant exposure to concentration risk. The plan assets for our defined benefit pension plans do not include any of our common stock.

U.S. Plan Assets

For the U.S. qualified pension plans, our assumption for the expected return on assets was 7.5 percent in 2016. Projected returns are based primarily on broad, publicly traded equity and fixed income indices and forward-looking estimates of active portfolio and investment management. We expect additional positive returns from this active investment management. Based on the historical returns and forward-looking return expectations in a rising interest rate environment, we have elected to reduce our assumption to 7.25 percent in 2017.

The primary investment objective is to exceed, on a net-of-fee basis, the rate of return of a policy portfolio comprised of the following:

Asset Class	Target	Range
U.S. equities	13.0%	+/-5.0%
Non-U.S. equities	5.0%	+/-3.0%
Global equities	6.0%	+/-3.0%
Total equities	24.0%	
Real estate	7.5%	+2.5/-7.5%
Private equity/venture capital	7.5%	+2.5/-7.5%
Opportunistic credit	4.0%	+6.0/-4.0%
Fixed income	57.0%	+/-5.0%
Total	100.0%	

The fixed income component is structured to represent a custom bond benchmark that will closely hedge the change in the value of our liabilities. This component is structured in such a way that its benchmark covers approximately 100 percent of the plan's exposure to changes in its discount rate (AA corporate bond yields). In order to achieve a hedge on more than the targeted 57 percent of plan assets invested in fixed income securities, our Benefits Policy Committee (BPC) permits the fixed income managers, other managers or the custodian/trustee to utilize derivative securities, as part of a liability driven investment strategy to further reduce the plan's risk of declining interest rates. However, all managers hired to manage assets for the trust are prohibited from using leverage unless specifically discussed with the BPC and approved in their guidelines.

U.K. Plan Assets

For the U.K. qualified pension plans, our assumption for the expected return on assets was 4.7 percent in 2016. The methodology used to determine the rate of return on pension plan assets in the U.K. was based on establishing an equity-risk premium over current long-term bond yields adjusted based on target asset allocations. Our strategy with respect to our investments in these assets is to be invested in a suitable mixture of return-seeking assets such as equities and real estate and liability matching assets such as bonds with a long-term outlook. Therefore, the risk and return balance of our U.K. asset portfolio should reflect a long-term horizon. To achieve these objectives we have established the following targets:

Asset Class	Target
Global equities	23.0%
Real estate	5.0%
Re-insurance	8.0%
Corporate credit instruments	7.5%
Fixed income	56.5%
Total	100.0%

As part of our strategy in the U.K. we have not prohibited the use of any financial instrument, including derivatives. Based on the above discussion, we have elected an assumption of 4.5 percent in 2017.

Fair Value of U.S. Plan Assets

The fair values of U.S. pension plan assets by asset category were as follows:

In millions	Fair Value Measurements at December 31, 2016			Total
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
Equities				
U.S.	\$ 145	\$ —	\$ —	\$ 145
Non-U.S.	125	—	—	125
Fixed income				
Government debt	—	570	—	570
Corporate debt				
U.S.	—	497	—	497
Non-U.S.	—	84	—	84
Asset/mortgaged backed securities	—	58	—	58
Net cash equivalents ⁽¹⁾	18	20	—	38
Derivative instruments ⁽²⁾	—	9	—	9
Private equity and real estate ⁽³⁾	—	—	212	212
Net plan assets subject to leveling	\$ 288	\$ 1,238	\$ 212	\$ 1,738
Pending trade/purchases/sales				(83)
Accruals ⁽⁴⁾				12
Investments measured at net asset value				1,084
Net plan assets				\$ 2,751

In millions	Fair Value Measurements at December 31, 2015			Total
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
Equities				
U.S.	\$ 96	\$ —	\$ —	\$ 96
Non-U.S.	130	—	—	130
Fixed income				
Government debt	—	533	—	533
Corporate debt				
U.S.	—	406	—	406
Non-U.S.	—	80	—	80
Asset/mortgaged backed securities	—	56	—	56
Net cash equivalents ⁽¹⁾	42	10	—	52
Derivative instruments ⁽²⁾	—	3	—	3
Private equity and real estate ⁽³⁾	—	—	203	203
Net plan assets subject to leveling	\$ 268	\$ 1,088	\$ 203	\$ 1,559
Pending trade/purchases/sales				(27)
Accruals ⁽⁴⁾				10
Investments measured at net asset value				1,094
Net plan assets				\$ 2,636

⁽¹⁾ Cash equivalents include commercial paper, short-term government/agency, mortgage and credit instruments.

⁽²⁾ Derivative instruments include interest rate swaps and credit default swaps.

⁽³⁾ The instruments in private equity, real estate and insurance funds, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by audited financial statement of the funds.

⁽⁴⁾ Accruals include interest or dividends that were not settled at December 31.

Certain of our assets are valued based on their respective net asset value (NAV) (or its equivalent), as an alternative to estimated fair value due to the absence of readily available market prices. The fair value of each such investment category was as follows:

- *U.S. and Non-U.S. Equities* (\$511 million and \$335 million at December 31, 2016 and 2015, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.
- *Government Debt* (\$178 million and \$287 million at December 31, 2016 and 2015, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.
- *U.S. and Non-U.S. Corporate Debt* (\$265 million and \$346 million at December 31, 2016 and 2015, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.
- *Real Estate* (\$129 million and \$119 million at December 31, 2016 and 2015, respectively) - This asset type represents different types of real estate including development property, industrial property, individual mortgages, office property, property investment companies, and retail property. These funds are valued using NAVs and allow quarterly or more frequent redemptions.
- *Asset/Mortgage Backed Securities* (\$1 million and \$7 million at December 31, 2016 and 2015, respectively) - This asset type represents investments in fixed- and floating-rate loans. These funds are valued using NAVs and allow quarterly or more frequent redemptions.

The reconciliation of Level 3 assets was as follows:

In millions	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)		
	Private Equity	Real Estate	Total
Balance at December 31, 2014	\$ 148	\$ 54	\$ 202
Actual return on plan assets			
Unrealized gains on assets still held at the reporting date	17	8	25
Purchases, sales and settlements, net	(22)	(2)	(24)
Balance at December 31, 2015	143	60	203
Actual return on plan assets			
Unrealized gains on assets still held at the reporting date	6	6	12
Purchases, sales and settlements, net	(1)	(2)	(3)
Balance at December 31, 2016	\$ 148	\$ 64	\$ 212

Fair Value of U.K. Plan Assets

In July 2012, the U.K. pension plan purchased an insurance contract that will guarantee payment of specified pension liabilities. The contract defers payment for 0 years and is included in the table below in Level 3 for years ended December 31, 2016 and 2015 at a value of \$439 million and \$445 million, respectively.

The fair values of U.K. pension plan assets by asset category were as follows:

In millions	Fair Value Measurements at December 31, 2016			Total
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
Equities				
U.S.	\$ —	\$ 174	\$ —	\$ 174
Non-U.S.	—	193	—	193
Fixed income				
Net cash equivalents ⁽¹⁾	24	—	—	24
Private equity, real estate and insurance ⁽²⁾	—	—	613	613
Net plan assets subject to leveling	\$ 24	\$ 367	\$ 613	\$ 1,004
Investments measured at net asset value				749
Net plan assets				\$ 1,753

In millions	Fair Value Measurements at December 31, 2015			Total
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
Equities				
U.S.	\$ —	\$ 250	\$ —	\$ 250
Non-U.S.	—	269	—	269
Fixed income				
Corporate debt non-U.S.	—	45	—	45
Net cash equivalents ⁽¹⁾	33	—	—	33
Private equity, real estate and insurance ⁽²⁾	—	—	601	601
Net plan assets subject to leveling	\$ 33	\$ 564	\$ 601	\$ 1,198
Investments measured at net asset value				514
Net plan assets				\$ 1,712

⁽¹⁾ Cash equivalents include commercial paper, short-term government/agency, mortgage and credit instruments.

⁽²⁾ The instruments in private equity, real estate and insurance funds, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by audited financial statement of the funds.

Certain of our assets are valued based on their respective NAV (or its equivalent), as an alternative to estimated fair value due to the absence of readily available market prices. The fair value of each such investment category was as follows:

- *U.S. and Non-U.S. Corporate Debt* (\$655 million and \$458 million at December 31, 2016 and 2015, respectively) - These commingled funds have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.
- *Re-insurance* (\$56 million and \$56 million at December 31, 2016 and 2015, respectively) - This commingled fund has a NAVs that is determined on a monthly basis and the investment may be sold at that value.
- *Managed Futures Funds* (\$38 million and \$0 million at December 31, 2016 and 2015, respectively) - These commingled funds invest in commodities, fixed income and equity securities. They have observable NAVs provided to investors and provide for liquidity either immediately or within a couple of days.

The reconciliation of Level 3 assets was as follows:

In millions	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)			
	Insurance	Real Estate	Private Equity	Total
Balance at December 31, 2014	\$ 462	\$ 61	\$ 81	\$ 604
Actual return on plan assets				
Unrealized gains on assets still held at the reporting date	6	7	10	23
Purchases, sales and settlements, net	(23)	(11)	8	(26)
Balance at December 31, 2015	445	57	99	601
Actual return on plan assets				
Unrealized (losses) gains on assets still held at the reporting date	(6)	(7)	15	2
Purchases, sales and settlements, net	—	7	3	10
Balance at December 31, 2016	\$ 439	\$ 57	\$ 117	\$ 613

Level 3 Assets

The investments in an insurance contract, venture capital, private equity, opportunistic credit and real estate funds, for which quoted market prices are not available, are valued at their estimated fair value as determined by applicable investment managers or by quarterly financial statements of the funds. These financial statements are audited at least annually. In conjunction with our investment consultant, we monitor the fair value of the insurance contract as periodically reported by our insurer and their counterparty risk. The fair value of all real estate properties, held in the partnerships, are valued at least once per year by an independent professional real estate valuation firm. Fair value generally represents the fund's proportionate share of the net assets of the investment partnerships as reported by the general partners of the underlying partnerships. Some securities with no readily available market are initially valued at cost, utilizing independent professional valuation firms as well as market comparisons with subsequent adjustments to values which reflect either the basis of meaningful third-party transactions in the private market or the fair value deemed appropriate by the general partners of the underlying investment partnerships. In such instances, consideration is also given to the financial condition and operating results of the issuer, the amount that the investment partnerships can reasonably expect to realize upon the sale of the securities and any other factors deemed relevant. The estimated fair values are subject to uncertainty and therefore may differ from the values that would have been used had a ready market for such investments existed and such differences could be material.

Estimated Future Contributions and Benefit Payments

We plan to contribute approximately \$134 million to our defined benefit pension plans in 2017. The table below presents expected future benefit payments under our pension plans:

In millions	Qualified and Non-Qualified Pension Plans					
	2017	2018	2019	2020	2021	2022 - 2026
Expected benefit payments	\$ 241	\$ 237	\$ 243	\$ 249	\$ 254	\$ 1,322

Other Pension Plans

We also sponsor defined contribution plans for certain hourly and salaried employees. Our contributions to these plans were \$68 million, \$74 million and \$73 million for the years ended December 31, 2016, 2015 and 2014.

Other Postretirement Benefits

Our other postretirement benefit plans provide various health care and life insurance benefits to eligible employees, who retire and satisfy certain age and service requirements, and their dependents. The plans are contributory and contain cost-sharing features such as caps, deductibles, coinsurance and spousal contributions. Employer contributions are limited by formulas in each plan. Retiree contributions for health care benefits are adjusted annually, and we reserve the right to change benefits covered under these plans. There were no plan assets for the postretirement benefit plans as our policy is to fund benefits and expenses for these plans as claims and premiums are incurred.

Obligations and Funded Status

Benefit obligation balances presented below reflect the accumulated postretirement benefit obligations (APBO) for our other postretirement benefit plans. The changes in the benefit obligations, the funded status of the plans and the amounts recognized in our *Consolidated Balance Sheets* for our significant other postretirement benefit plans were as follows:

In millions	Years ended December 31,	
	2016	2015
Change in benefit obligation		
Benefit obligation at the beginning of the year	\$ 385	\$ 408
Interest cost	16	15
Plan participants' contributions	14	10
Actuarial loss	9	5
Benefits paid directly by employer	(60)	(53)
Benefit obligation at end of year	\$ 364	\$ 385
Funded status at end of year	\$ (364)	\$ (385)
Amounts recognized in consolidated balance sheets		
Accrued compensation, benefits and retirement costs - current liabilities	\$ (35)	\$ (36)
Postretirement benefits other than pensions-long-term liabilities	(329)	(349)
Net amount recognized	\$ (364)	\$ (385)
Amounts recognized in accumulated other comprehensive loss:		
Net actuarial loss	\$ 69	\$ 66
Prior service credit	(5)	(5)
Net amount recognized	\$ 64	\$ 61

In addition to the other postretirement plans in the above table, we also maintain less significant postretirement plans in four other countries outside the U.S. that comprise approximately 5 percent and 3 percent of our postretirement obligations at December 31, 2016 and 2015, respectively. These plans are reflected in "Other liabilities and deferred revenue" in our *Consolidated Balance Sheets*.

Components of Net Periodic Other Postretirement Benefits Cost

The following table presents the net periodic other postretirement benefits cost under our plans:

In millions	Years ended December 31,		
	2016	2015	2014
Interest cost	\$ 16	\$ 15	\$ 17
Recognized net actuarial loss	5	5	—
Net periodic other postretirement benefit cost	\$ 21	\$ 20	\$ 17

Other changes in benefit obligations recognized in other comprehensive income for the years ended December 31 were as follows:

In millions	Years ended December 31,		
	2016	2015	2014
Recognized net actuarial loss	\$ (6)	\$ (5)	\$ —
Incurred actuarial loss	9	6	38
Total recognized in other comprehensive income	\$ 3	\$ 1	\$ 38
Total recognized in net periodic other postretirement benefit cost and other comprehensive income	\$ 24	\$ 21	\$ 55

The amount in accumulated other comprehensive loss expected to be recognized as a component of net periodic other postretirement benefit cost during the next fiscal year is \$7 million.

Assumptions

The table below presents assumptions used in determining the other postretirement benefit obligation for each year and reflects weighted-average percentages for our other postretirement plans as follows:

	2016	2015
Discount rate	4.00%	4.35%

The table below presents assumptions used in determining the net periodic other postretirement benefits cost and reflects weighted-average percentages for the various plans as follows:

	2016	2015	2014
Discount rate	4.35%	3.90%	4.55%

Our consolidated other postretirement benefit obligation is determined by application of the terms of health care and life insurance plans, together with relevant actuarial assumptions and health care cost trend rates. For measurement purposes, a 7.63 percent annual rate of increase in the per capita cost of covered health care benefits was assumed in 2016. The rate is assumed to decrease on a linear basis to 5.00 percent through 2024 and remain at that level thereafter. An increase in the health care cost trends of 1 percent would increase our APBO by \$19 million at December 31, 2016 and the net periodic other postretirement benefit cost for 2017 by \$1 million. A decrease in the health care cost trends of 1 percent would decrease our APBO by \$16 million at December 31, 2016 and the net periodic other postretirement benefit cost for 2017 by \$1 million.

Estimated Benefit Payments

The table below presents expected benefit payments under our other postretirement benefit plans:

In millions	2017	2018	2019	2020	2021	2022 - 2026
Expected benefit payments	\$ 35	\$ 33	\$ 32	\$ 30	\$ 29	\$ 126

NOTE 9. DEBT

Loans Payable and Commercial Paper

Loans payable at December 31, 2016 and 2015 were \$41 million and \$24 million, respectively, and consisted primarily of notes payable to financial institutions. The weighted-average interest rate for notes payable, bank overdrafts and current maturities of long-term debt at December 31 was as follows:

	2016	2015	2014
Weighted average interest rate	4.20%	3.65%	3.70%

In February 2016, the Board of Directors authorized the issuance of up to \$1.75 billion of unsecured short-term promissory notes ("commercial paper") pursuant to a commercial paper program. The program will facilitate the private placement of unsecured short-term debt through third party brokers. We intend to use the net proceeds from the commercial paper program for general corporate purposes. We had \$212 million in outstanding borrowings under our commercial paper program at December 31, 2016, with a weighted-average interest rate of 0.79 percent.

Interest

For the years ended December 31, 2016, 2015 and 2014, total interest incurred was \$75 million, \$68 million and \$71 million, respectively, and interest capitalized was \$6 million, \$3 million and \$7 million, respectively.

Revolving Credit Facility

On November 13, 2015, we entered into an amended and restated five-year revolving credit agreement with a syndicate of lenders. The credit agreement provides us with a \$1.75 billion senior unsecured revolving credit facility, the proceeds of which are to be used for working capital or other general corporate purposes. Amounts payable under our revolving credit facility will rank pro rata with all of our unsecured, unsubordinated indebtedness. Up to \$300 million under our credit facility is available for swingline loans. Advances under the facility bear interest at (i) a base rate or (ii) a rate equal to the LIBOR rate plus an applicable margin based on the credit ratings of our outstanding senior unsecured long-term debt. Based on our current long-term debt ratings, the applicable margin on LIBOR rate loans was 0.75 percent per annum at December 31, 2016. Advances under the facility may be prepaid without premium or penalty, subject to customary breakage costs.

The credit agreement includes various covenants, including, among others, maintaining a leverage ratio of no more than 3.5 to 1.0. At December 31, 2016, we were in compliance with the covenants.

There were no outstanding borrowings under this facility at December 31, 2016. The revolving credit facility is maintained primarily to provide backup liquidity for our commercial paper borrowings and general corporate purposes. At December 31, 2016, we had \$212 million of commercial paper outstanding, which effectively reduced the \$1.75 billion available capacity under our revolving credit facility to \$1.54 billion.

At December 31, 2016, we also had \$128 million available for borrowings under our international and other domestic credit facilities, net of outstanding letters of credit of \$27 million.

Long-term Debt

In millions	December 31,	
	2016	2015
Long-term debt		
Senior notes, 3.65%, due 2023	\$ 500	\$ 500
Debentures, 6.75%, due 2027	58	58
Debentures, 7.125%, due 2028	250	250
Senior notes, 4.875%, due 2043	500	500
Debentures, 5.65%, due 2098 (effective interest rate 7.48%)	165	165
Other debt	51	55
Unamortized discount	(56)	(57)
Fair value adjustments due to hedge on indebtedness	47	63
Capital leases	88	81
Total long-term debt	1,603	1,615
Less: Current maturities of long-term debt	35	39
Long-term debt	\$ 1,568	\$ 1,576

Principal payments required on long-term debt during the next five years are as follows:

In millions	2017	2018	2019	2020	2021
Principal payments	\$ 35	\$ 33	\$ 29	\$ 8	\$ 4

As a well-known seasoned issuer, we filed an automatic shelf registration for an undetermined amount of debt and equity securities with the Securities and Exchange Commission on February 16, 2016. Under this shelf registration we may offer, from time to time, debt securities, common stock, preferred and preference stock, depository shares, warrants, stock purchase contracts and stock purchase units.

In September 2013, we issued \$1 billion aggregate principal amount of senior notes consisting of \$500 million aggregate principal amount of 3.65% senior unsecured notes due in 2023 and \$500 million aggregate principal amount of 4.875% senior unsecured notes due in 2043. The senior notes pay interest semi-annually on April 1 and October 1.

Interest on the 6.75% debentures is payable on February 15 and August 15 each year.

Interest on the \$250 million 7.125% debentures and \$165 million 5.65% debentures is payable on March 1 and September 1 of each year. The debentures are unsecured and are not subject to any sinking fund requirements. We can redeem the 7.125% debentures and the 5.65% debentures at any time prior to maturity at the greater of par plus accrued interest or an amount designed to ensure that the debenture holders are not penalized by the early redemption.

Our debt agreements contain several restrictive covenants. The most restrictive of these covenants applies to our revolving credit facility which will upon default, among other things, limit our ability to incur additional debt or issue preferred stock, enter into sale-leaseback transactions, sell or create liens on our assets, make investments and merge or consolidate with any other entity. In addition, we are subject to a maximum debt-to-EBITDA ratio financial covenant. At December 31, 2016, we were in compliance with all of the covenants under our borrowing agreements.

Interest Rate Risk

We are exposed to market risk from fluctuations in interest rates. We manage our exposure to interest rate fluctuations through the use of interest rate swaps. The objective of the swaps is to more effectively balance our borrowing costs and interest rate risk.

In February 2014, we settled our November 2005 interest rate swap which previously converted our \$250 million debt issue, due in 2028, from a fixed rate to a floating rate based on the LIBOR spread. We are amortizing the \$52 million gain realized upon settlement over the remaining 14-year term of related debt.

Also, in February 2014, we entered into a series of interest rate swaps to effectively convert our September 2013, \$500 million debt issue, due in 2023, from a fixed rate of 3.65 percent to a floating rate equal to the one-month LIBOR plus a spread. The terms of the swaps mirror those of the debt, with interest paid semi-annually. The swaps were designated, and will be accounted for, as fair value hedges under GAAP. The gain or loss on these derivative instruments, as well as the offsetting gain or loss on the hedged item attributable to the hedged risk, are recognized in current income as "Interest expense." The net swap settlements that accrue each period are also reported in interest expense.

The following table summarizes these gains and losses for the years presented below:

In millions	Years ended December 31,					
	2016		2015		2014	
	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings	Gain/(Loss) on Swaps	Gain/(Loss) on Borrowings
Interest expense ⁽¹⁾	\$ (8)	\$ 12	\$ 6	\$ (2)	\$ 23	\$ (19)

⁽¹⁾ The difference between the gain/(loss) on swaps and borrowings represents hedge ineffectiveness.

Fair Value of Debt

Based on borrowing rates currently available to us for bank loans with similar terms and average maturities, considering our risk premium, the fair value and carrying value of total debt, including current maturities, was as follows:

In millions	December 31,	
	2016	2015
Fair value of total debt ⁽¹⁾	\$ 2,077	\$ 1,821
Carrying value of total debt	1,856	1,639

⁽¹⁾ The fair value of debt is derived from Level 2 inputs.

NOTE 10. PRODUCT WARRANTY LIABILITY

A tabular reconciliation of the product warranty liability, including the deferred revenue related to our extended warranty coverage and accrued recall programs was as follows:

In millions	December 31,	
	2016	2015
Balance, beginning of year	\$ 1,404	\$ 1,283
Provision for warranties issued	334	391
Deferred revenue on extended warranty contracts sold	231	290
Payments	(385)	(389)
Amortization of deferred revenue on extended warranty contracts	(201)	(179)
Changes in estimates for pre-existing warranties	44	20
Foreign currency translation	(13)	(12)
Balance, end of year	\$ 1,414	\$ 1,404

Warranty related deferred revenue and the long-term portion of the warranty liability on our *Consolidated Balance Sheets* were as follows:

In millions	December 31,		Balance Sheet Location
	2016	2015	
Deferred revenue related to extended coverage programs			
Current portion	\$ 218	\$ 189	Current portion of deferred revenue
Long-term portion	527	529	Other liabilities and deferred revenue
Total	\$ 745	\$ 718	
Long-term portion of warranty liability	\$ 336	\$ 327	Other liabilities and deferred revenue

NOTE 11. OTHER LIABILITIES AND DEFERRED REVENUE

Other liabilities and deferred revenue included the following:

In millions	December 31,	
	2016	2015
Deferred revenue	\$ 589	\$ 583
Accrued warranty	336	327
Accrued compensation	151	199
Other long-term liabilities	213	249
Other liabilities and deferred revenue	\$ 1,289	\$ 1,358

NOTE 12. COMMITMENTS AND CONTINGENCIES

We are subject to numerous lawsuits and claims arising out of the ordinary course of our business, including actions related to product liability; personal injury; the use and performance of our products; warranty matters; product recalls; patent, trademark or other intellectual property infringement; contractual liability; the conduct of our business; tax reporting in foreign jurisdictions; distributor termination; workplace safety; and environmental matters. We also have been identified as a potentially responsible party at multiple waste disposal sites under U.S. federal and related state environmental statutes and regulations and may have joint and several liability for any investigation and remediation costs incurred with respect to such sites. We have denied liability with respect to many of these lawsuits, claims and proceedings and are vigorously defending such lawsuits, claims and proceedings. We carry various forms of commercial, property and casualty, product liability and other forms of insurance; however, such insurance may not be applicable or adequate to cover the costs associated with a judgment against us with respect to these lawsuits, claims and proceedings. We do not believe that these lawsuits are material individually or in the aggregate. While we believe we have also established adequate accruals pursuant to GAAP for our expected future

liability with respect to pending lawsuits, claims and proceedings, where the nature and extent of any such liability can be reasonably estimated based upon then presently available information, there can be no assurance that the final resolution of any existing or future lawsuits, claims or proceedings will not have a material adverse effect on our business, results of operations, financial condition or cash flows.

We conduct significant business operations in Brazil that are subject to the Brazilian federal, state and local labor, social security, tax and customs laws. While we believe we comply with such laws, they are complex, subject to varying interpretations and we are often engaged in litigation regarding the application of these laws to particular circumstances.

Loss Contingency Charges

Engine systems sold in the U.S. must be certified to comply with the Environmental Protection Agency (EPA) and California Air Resources Board (CARB) emission standards. EPA and CARB regulations require that in-use testing be performed on vehicles by the emission certificate holder and reported to the EPA and CARB in order to ensure ongoing compliance with these emission standards. We are the holder of this emission certificate for our engines, including engines installed in certain vehicles with one customer on which we did not also manufacture or sell the emission aftertreatment system. During 2015, a quality issue in certain of these third party aftertreatment systems caused some of our inter-related engines to fail in-use emission testing. In the fourth quarter of 2015, the vehicle manufacturer made a request that we assist in the design and bear the financial cost of a field campaign (Campaign) to address the technical issue purportedly causing some vehicles to fail the in-use testing.

While we are not responsible for the warranty issues related to a component that we did not manufacture or sell, as the emission compliance certificate holder, we are responsible for proposing a remedy to the EPA and CARB. As a result, we have proposed actions to the agencies that we believe will address the emission failures. As the certificate holder, we expect to participate in the cost of the proposed voluntary Campaign and recorded a charge of \$60 million in 2015. The Campaign design was finalized with our OEM customer, reviewed with the EPA and submitted for final approval in 2016. We concluded based upon additional in-use emission testing performed in 2016, that the Campaign should be expanded to include a larger population of vehicles manufactured by this one OEM. We recorded additional charges of \$138 million in 2016 to reflect the estimated cost of our participation in the Campaign. We continue to work with our OEM customer to resolve the allocation of costs for the Campaign, including pending litigation between the parties. The Campaign is not expected to be completed for some time and our final cost could differ from the amount we have recorded.

We do not currently expect any fines or penalties from the EPA or CARB related to this matter.

The accrual related to the Campaign is included in "Other accrued expenses" in our *Consolidated Balance Sheets*.

Guarantees and Commitments

From time to time we enter into guarantee arrangements, including guarantees of non-U.S. distributor financings, residual value guarantees on equipment under operating leases and other miscellaneous guarantees of joint ventures or third-party obligations. At December 31, 2016, the maximum potential loss related to these guarantees was \$24 million.

We have arrangements with certain suppliers that require us to purchase minimum volumes or be subject to monetary penalties. At December 31, 2016, if we were to stop purchasing from each of these suppliers, the aggregate amount of the penalty would be approximately \$90 million, of which \$47 million relates to a contract with a components supplier that extends to 2018. Most of these arrangements enable us to secure critical components. We do not currently anticipate paying any penalties under these contracts.

We enter into physical forward contracts with suppliers of platinum, palladium and copper to purchase minimum volumes of the commodities at contractually stated prices for various periods, not to exceed two years. At December 31, 2016, the total commitments under these contracts were \$45 million. These arrangements enable us to fix the prices of these commodities, which otherwise are subject to market volatility.

We have guarantees with certain customers that require us to satisfactorily honor contractual or regulatory obligations, or compensate for monetary losses related to nonperformance. These performance bonds and other performance-related guarantees were \$85 million at December 31, 2016.

Periodically, we enter into various contractual arrangements where we agree to indemnify a third-party against certain types of losses. Common types of indemnities include:

- product liability and license, patent or trademark indemnifications;

- asset sale agreements where we agree to indemnify the purchaser against future environmental exposures related to the asset sold; and
- any contractual agreement where we agree to indemnify the counterparty for losses suffered as a result of a misrepresentation in the contract.

We regularly evaluate the probability of having to incur costs associated with these indemnities and accrue for expected losses that are probable. Because the indemnifications are not related to specified known liabilities and due to their uncertain nature, we are unable to estimate the maximum amount of the potential loss associated with these indemnifications.

Leases

We lease certain manufacturing equipment, facilities, warehouses, office space and equipment, aircraft and automobiles for varying periods under lease agreements. Most of the leases are non-cancelable operating leases with fixed rental payments, expire over the next 10 years and contain renewal provisions. Rent expense under these leases was as follows:

In millions	Years ended December 31,		
	2016	2015	2014
Rent expense	\$ 210	\$ 205	\$ 195

The following is a summary of the leased property under capital leases by major classes:

In millions	December 31,	
	2016	2015
Building	\$ 113	\$ 113
Equipment	109	86
Land	15	15
Less: Accumulated depreciation	(133)	(112)
Total	\$ 104	\$ 102

Following is a summary of the future minimum lease payments due under capital and operating leases, including leases in our rental business, with terms of more than one year at December 31, 2016, together with the net present value of the minimum payments due under capital leases:

In millions	Capital Leases	Operating Leases
2017	\$ 25	\$ 141
2018	22	101
2019	19	81
2020	7	59
2021	6	44
After 2021	39	93
Total minimum lease payments	\$ 118	\$ 519
Interest	(30)	
Present value of net minimum lease payments	\$ 88	

In addition, we have subleased certain facilities under operating leases to third parties. The future minimum lease payments due from lessees under those arrangements are less than \$1 million per year for the next five years.

NOTE 13. SHAREHOLDERS' EQUITY

Preferred and Preference Stock

We are authorized to issue one million shares each of zero par value preferred and preference stock with preferred shares being senior to preference shares. We can determine the number of shares of each series, and the rights, preferences and limitations of each series. At December 31, 2016, there was no preferred or preference stock outstanding.

Common Stock

Changes in shares of common stock, treasury stock and common stock held in trust for employee benefit plans were as follows:

In millions	Common Stock	Treasury Stock	Common Stock Held in Trust
Balance at December 31, 2013	222.3	35.6	1.3
Shares acquired	—	4.8	—
Shares issued	0.1	(0.3)	(0.2)
Other shareholder transactions	(0.1)	—	—
Balance at December 31, 2014	222.3	40.1	1.1
Shares acquired	—	7.2	—
Shares issued	0.1	(0.1)	(0.2)
Balance at December 31, 2015	222.4	47.2	0.9
Shares acquired	—	7.3	—
Shares issued	—	(0.3)	(0.2)
Balance at December 31, 2016	222.4	54.2	0.7

Treasury Stock

Shares of common stock repurchased by us are recorded at cost as treasury stock and result in a reduction of shareholders' equity in our *Consolidated Balance Sheets*. Treasury shares may be reissued as part of our stock-based compensation programs. When shares are reissued, we use the weighted-average cost method for determining cost. The gains between the cost of the shares and the issuance price are added to additional paid-in-capital. The losses are deducted from additional paid-in capital to the extent of the gains. Thereafter, the losses are deducted from retained earnings. Treasury stock activity for the three-year period ended December 31, 2016, consisting of shares issued and repurchased is presented in our *Consolidated Statements of Changes in Equity*.

In December 2016, our Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon completion of the 2015 repurchase plan. In November 2015, the Board of Directors authorized the acquisition of up to \$1 billion of additional common stock upon completion of the 2014 repurchase program. In 2016, we made the following purchases under the respective purchase programs:

In millions (except per share amounts) For each quarter ended	2016 Shares Purchased	Average Cost Per Share	Total Cost of Repurchases	Cash Paid for Shares Not Received	Remaining Authorized Capacity ⁽¹⁾
July 2014, \$1 billion repurchase program					
April 3	2.7	\$ 100.12	\$ 274	\$ —	\$ —
November 2015, \$1 billion repurchase program					
April 3	2.2	\$ 105.50	\$ 229	\$ 100	\$ 671
July 3	1.8	109.79	192	(100)	579
October 2	0.4	126.13	50	—	529
December 31	0.2	130.70	33	—	496
Subtotal	4.6	110.29	504	—	
Total	7.3	\$ 106.48	\$ 778	\$ —	

⁽¹⁾ The remaining authorized capacity under the 2015 Plan was calculated based on the cost to purchase the shares but excludes commission expenses in accordance with the authorized Plan.

In 2016, we entered into an accelerated share repurchase agreement with a third party financial institution to repurchase \$500 million of our common stock under our previously announced share repurchase plans and received 4.7 million shares at an average purchase price of \$105.50 per share.

We repurchased \$778 million and \$900 million of our common stock in the years ended December 31, 2016 and 2015, respectively.

Quarterly Dividends

Total dividends paid to common shareholders in 2016, 2015 and 2014 were \$676 million, \$622 million and \$512 million, respectively. Declaration and payment of dividends in the future depends upon our income and liquidity position, among other factors, and is subject to declaration by our Board of Directors, who meet quarterly to consider our dividend payment. We expect to fund dividend payments with cash from operations.

In July 2016, the Board of Directors authorized an increase to our quarterly dividend of 5.1 percent from \$0.975 per share to \$1.025. In July 2015, the Board of Directors authorized a 25 percent increase to our quarterly cash dividend on our common stock from \$0.78 per share to \$0.975 per share. In July 2014, the Board of Directors approved a 25 percent increase to our quarterly dividend on our common stock from \$0.625 per share to \$0.78 per share. Cash dividends per share paid to common shareholders for the last three years were as follows:

	Quarterly Dividends		
	2016	2015	2014
First quarter	\$ 0.975	\$ 0.78	\$ 0.625
Second quarter	0.975	0.78	0.625
Third quarter	1.025	0.975	0.78
Fourth quarter	1.025	0.975	0.78
Total	\$ 4.00	\$ 3.51	\$ 2.81

Employee Benefits Trust

In 1997, we established the Employee Benefits Trust (EBT) funded with common stock for use in meeting our future obligations under employee benefit and compensation plans. The primary sources of cash for the EBT are dividends received on unallocated shares of our common stock held by the EBT. The EBT may be used to fund matching contributions to employee accounts in the 401(k) Retirement Savings Plan (RSP) made in proportion to employee contributions under the terms of the RSP. In addition, we may direct the trustee to sell shares of the EBT on the open market to fund other non-qualified employee benefit plans. Matching contributions charged to income for the years ended December 31, 2016, 2015 and 2014 were \$23 million, \$25 million and \$24 million, respectively.

NOTE 14. ACCUMULATED OTHER COMPREHENSIVE LOSS

Following are the changes in accumulated other comprehensive income (loss) by component:

In millions	Change in pensions and other postretirement defined benefit plans	Foreign currency translation adjustment	Unrealized gain (loss) on marketable securities	Unrealized gain (loss) on derivatives	Total attributable to Cummins Inc.	Noncontrolling interests	Total
Balance at December 31, 2013	\$ (611)	\$ (179)	\$ 7	\$ (1)	\$ (784)		
Other comprehensive income before reclassifications							
Before tax amount	(196)	(241)	2	2	(433)	\$ (7)	\$ (440)
Tax benefit (expense)	92	14	(1)	(1)	104	—	104
After tax amount	(104)	(227)	1	1	(329)	(7)	(336)
Amounts reclassified from accumulated other comprehensive income ⁽¹⁾⁽²⁾	46	—	(9)	(2)	35	(4)	31
Net current period other comprehensive income (loss)	(58)	(227)	(8)	(1)	(294)	\$ (11)	\$ (305)
Balance at December 31, 2014	\$ (669)	\$ (406)	\$ (1)	\$ (2)	\$ (1,078)		
Other comprehensive income before reclassifications							
Before tax amount	(81)	(366)	—	17	(430)	\$ (15)	\$ (445)
Tax benefit (expense)	35	76	—	(1)	110	—	110
After tax amount	(46)	(290)	—	16	(320)	(15)	(335)
Amounts reclassified from accumulated other comprehensive income ⁽¹⁾⁽²⁾	61	—	(1)	(10)	50	—	50
Net current period other comprehensive income (loss)	15	(290)	(1)	6	(270)	\$ (15)	\$ (285)
Balance at December 31, 2015	\$ (654)	\$ (696)	\$ (2)	\$ 4	\$ (1,348)		
Other comprehensive income before reclassifications							
Before tax amount	(111)	(469)	1	(38)	(617)	\$ (17)	\$ (634)
Tax benefit	44	38	—	6	88	—	88
After tax amount	(67)	(431)	1	(32)	(529)	(17)	(546)
Amounts reclassified from accumulated other comprehensive income ⁽¹⁾⁽²⁾	36	—	—	20	56	—	56
Net current period other comprehensive income (loss)	(31)	(431)	1	(12)	(473)	\$ (17)	\$ (490)
Balance at December 31, 2016	\$ (685)	\$ (1,127)	\$ (1)	\$ (8)	\$ (1,821)		

⁽¹⁾ Amounts are net of tax.

⁽²⁾ See reclassifications out of accumulated other comprehensive (loss) income disclosure below for further details.

Following are the items reclassified out of accumulated other comprehensive (loss) income and the related tax effects:

In millions (Gain)/Loss Components	Years ended December 31,			Statement of Income Location
	2016	2015	2014	
Change in pensions and other postretirement defined benefit plans				
Recognized actuarial loss	\$ 53	\$ 87	\$ 63	(1)
Tax effect	(17)	(26)	(17)	Income tax expense
Net change in pensions and other postretirement defined benefit plans	36	61	46	
Realized gain on marketable securities				
Realized gain on marketable securities	—	(1)	(14)	Other income (expense), net
Tax effect	—	—	1	Income tax expense
Net realized gain on marketable securities	—	(1)	(13)	
Realized loss (gain) on derivatives				
Foreign currency forward contracts	27	(11)	(5)	Net sales
Commodity swap contracts	—	—	2	Cost of sales
Total before taxes	27	(11)	(3)	
Tax effect	(7)	1	1	Income tax expense
Net realized loss (gain) on derivatives	20	(10)	(2)	
Total reclassifications for the period	\$ 56	\$ 50	\$ 31	

(1) These accumulated other comprehensive income components are included in the computation of net periodic pension cost (see Note 8, "PENSION AND OTHER POSTRETIREMENT BENEFITS").

NOTE 15. STOCK INCENTIVE AND STOCK OPTION PLANS

We have a shareholder approved stock incentive plan (the Plan) which allows for the granting of equity awards covering up to 8.5 million shares to executives, employees and non-employee directors. Awards available for grant under the Plan include, but are not limited to, stock options, stock appreciation rights, performance shares and other stock awards. Shares issued under the Plan may be newly issued shares or reissued treasury shares.

Stock options are generally granted with a strike price equal to the fair market value of the stock on the date of grant and a life of 10 years. Stock options granted have a three-year vesting period. The strike price may be higher than the fair value of the stock on the date of the grant, but cannot be lower. Compensation expense is recorded on a straight-line basis over the vesting period beginning on the grant date. The compensation expense is based on the fair value of each option grant using the Black-Scholes option pricing model. Options granted to employees eligible for retirement under our retirement plan are fully expensed at the grant date.

Stock options are also awarded through the Key Employee Stock Investment Plan (KESIP) which allows certain employees, other than officers, to purchase shares of common stock on an installment basis up to an established credit limit. For every even block of 100 KESIP shares purchased by the employee 50 stock options are granted. The options granted through the KESIP program are considered awards under the Plan and are vested immediately. Compensation expense for stock options granted through the KESIP program is recorded based on the fair value of each option grant using the Black-Scholes option pricing model.

Performance shares are granted as target awards and are earned based on our return on equity (ROE) performance. A payout factor has been established ranging from 0 to 200 percent of the target award based on our actual ROE performance. Shares have a three-year performance period. The fair value of the award is equal to the average market price, adjusted for the present value of dividends over the vesting period, of our stock on the grant date. Compensation expense is recorded ratably over the period beginning on the grant date until the shares become unrestricted and is based on the amount of the award that is expected to be earned under the plan formula, adjusted each reporting period based on current information.

Restricted common stock is awarded from time to time at no cost to certain employees. Participants are entitled to cash dividends and voting rights. Restrictions limit the sale or transfer of the shares during a defined period. Generally, one-third of the shares become vested and free from restrictions after two years and one-third of the shares issued become vested and free from restrictions each year thereafter on the anniversary of the grant date, provided the participant remains an employee. The fair value of the award is equal to the average market price of our stock on the grant date. Compensation expense is determined at the grant date and is recognized over the restriction period on a straight-line basis.

Employee compensation expense (net of estimated forfeitures) related to our share-based plans for the years ended December 31, 2016, 2015 and 2014, was approximately \$31 million, \$22 million and \$35 million, respectively. In addition, non-employee director share-based compensation expense for the years ended December 31, 2016, 2015 and 2014, was approximately \$1 million, \$2 million and \$1 million, respectively. Shares granted to non-employee directors vest immediately and have no restrictions or performance conditions. The excess tax benefit associated with our employee share-based plans for the years ended December 31, 2016, 2015 and 2014, was \$1 million, \$1 million and \$5 million, respectively. The total unrecognized compensation expense (net of estimated forfeitures) related to nonvested awards for our employee share-based plans was approximately \$28 million at December 31, 2016, and is expected to be recognized over a weighted-average period of less than two years.

The tables below summarize the employee share-based activity in the Plan:

	Options	Weighted-average Exercise Price	Weighted-average Remaining Contractual Life (in years)	Aggregate Intrinsic Value (in millions)
Balance at December 31, 2013	1,462,336	\$ 95.35		
Granted	350,630	148.98		
Exercised	(175,526)	82.06		
Forfeited	(10,716)	102.56		
Balance at December 31, 2014	1,626,724	108.30		
Granted	476,205	135.21		
Exercised	(53,545)	82.89		
Forfeited	(19,698)	135.89		
Balance at December 31, 2015	2,029,686	115.02		
Granted	984,430	109.24		
Exercised	(215,890)	87.27		
Forfeited	(63,462)	119.56		
Balance at December 31, 2016	2,734,764	\$ 115.02	7.12	\$ 64
Exercisable, December 31, 2014	903,059	\$ 92.18	6.05	\$ 48
Exercisable, December 31, 2015	1,318,101	\$ 100.55	5.73	\$ 13
Exercisable, December 31, 2016	1,149,549	\$ 104.19	4.81	\$ 38

The weighted-average grant date fair value of options granted during the years ended December 31, 2016, 2015 and 2014, was \$25.28, \$35.25 and \$49.16, respectively. The total intrinsic value of options exercised during the years ended December 31, 2016, 2015 and 2014, was approximately \$9 million, \$3 million and \$12 million, respectively.

The weighted-average grant date fair value of performance and restricted shares was as follows:

Nonvested	Performance Shares		Restricted Shares	
	Shares	Weighted-average Fair Value	Shares	Weighted-average Fair Value
Balance at December 31, 2013	475,913	\$ 109.93	32,541	\$ 81.49
Granted	206,031	130.38	—	—
Vested	(207,093)	107.64	(21,266)	65.88
Forfeited	(8,158)	121.18	—	—
Balance at December 31, 2014	466,693	119.78	11,275	110.94
Granted	133,975	128.48	—	—
Vested	(112,901)	115.48	(7,021)	110.66
Forfeited	(67,398)	118.71	—	—
Balance at December 31, 2015	420,369	123.88	4,254	111.40
Granted	169,150	98.26	8,089	117.69
Vested	(115,680)	106.55	(2,502)	114.57
Forfeited	(69,345)	110.52	—	—
Balance at December 31, 2016	404,494	\$ 120.41	9,841	\$ 115.76

The total vesting date fair value of performance shares vested during the years ended December 31, 2016, 2015 and 2014 was \$12 million, \$11 million and \$30 million, respectively. The total fair value of restricted shares vested was less than \$1 million, \$1 million and \$3 million for the years ended December 31, 2016, 2015 and 2014, respectively.

The fair value of each option grant was estimated on the grant date using the Black-Scholes option pricing model with the following assumptions:

	2016	2015	2014
Expected life (years)	5	5	5
Risk-free interest rate	1.34%	1.41%	1.80%
Expected volatility	30.96%	33.06%	41.17%
Dividend yield	2.10%	1.69%	1.61%

Expected life—The expected life of employee stock options represents the weighted-average period the stock options are expected to remain outstanding based upon our historical data.

Risk-free interest rate—The risk-free interest rate assumption is based upon the observed U.S. treasury security rate appropriate for the expected life of our employee stock options.

Expected volatility—The expected volatility assumption is based upon the weighted-average historical daily price changes of our common stock over the most recent period equal to the expected option life of the grant, adjusted for activity which is not expected to occur in the future.

Dividend yield—The dividend yield assumption is based on our history and expectation of dividend payouts.

NOTE 16. NONCONTROLLING INTERESTS

Noncontrolling interests in the equity of consolidated subsidiaries were as follows:

In millions	December 31,	
	2016	2015
Cummins India Ltd.	\$ 285	\$ 271
Wuxi Cummins Turbo Technologies Co. Ltd. ⁽¹⁾	—	54
Other	14	19
Total	\$ 299	\$ 344

⁽¹⁾ In December 2016, we purchased the remaining interest in Wuxi Cummins Turbo Technologies Co. Ltd. See Note 18, "ACQUISITIONS," for additional information.

NOTE 17. EARNINGS PER SHARE

We calculate basic earnings per share (EPS) of common stock by dividing net income attributable to Cummins Inc. by the weighted-average number of common shares outstanding for the period. The calculation of diluted EPS assumes the issuance of common stock for all potentially dilutive share equivalents outstanding. We exclude shares of common stock held in the EBT (see Note 13, "SHAREHOLDERS' EQUITY") from the calculation of the weighted-average common shares outstanding until those shares are distributed from the EBT to the RSP. Following are the computations for basic and diluted earnings per share:

Dollars in millions, except per share amounts	Years ended December 31,		
	2016	2015	2014
Net income attributable to Cummins Inc.	\$ 1,394	\$ 1,399	\$ 1,651
Weighted-average common shares outstanding			
Basic	169,038,410	178,037,581	182,637,568
Dilutive effect of stock compensation awards	298,206	369,247	441,727
Diluted	169,336,616	178,406,828	183,079,295
Earnings per common share attributable to Cummins Inc.			
Basic	\$ 8.25	\$ 7.86	\$ 9.04
Diluted	8.23	7.84	9.02

The weighted-average diluted common shares outstanding excludes the anti-dilutive effect of certain stock options since such options had an exercise price in excess of the monthly average market value of our common stock. The options excluded from diluted earnings per share were as follows:

	Years ended December 31,		
	2016	2015	2014
Options excluded	1,091,799	866,262	165,840

NOTE 18. ACQUISITIONS

In 2016, we completed the acquisition of the last two partially-owned North American distributors. The joint venture acquisitions for the years ended December 31, 2016, 2015 and 2014 were as follows:

Entity Acquired (Dollars in millions)	Date of Acquisition	Additional Percent Interest Acquired	Payments to Former Owners	Acquisition Related Debt Retirements	Total Purchase Consideration	Type of Acquisition ⁽¹⁾	Gain Recognized ⁽¹⁾	Goodwill Acquired	Intangibles Recognized ⁽²⁾	Net Sales Previous Fiscal Year Ended ⁽³⁾
2016										
Wuxi Cummins Turbo Technologies Co. Ltd	12/05/16	45%	\$ 86	\$ —	\$ 86	EQUITY	\$ —	\$ —	\$ —	\$ —
Cummins Pacific LLC	10/04/16	50%	30	67	99 ⁽⁴⁾	COMB	15	4	8	391
Cummins Northeast LLC	01/01/16	35%	12	—	12	EQUITY	—	—	—	—
2015										
Cummins Crosspoint LLC	08/03/15	50%	\$ 29	\$ 36	\$ 65	COMB	\$ 10	\$ 7	\$ 2	\$ 258
Cummins Atlantic LLC	08/03/15	51%	21	28	49	COMB	8	5	6	245
Cummins Central Power LLC	06/29/15	20.01%	8	—	8	EQUITY	—	—	—	—
2014										
Cummins Bridgeway LLC	11/03/14	54%	\$ 32	\$ 45	\$ 77	COMB	\$ 13	\$ 4	\$ 15	\$ 331
Cummins NPower LLC	09/29/14	50%	39	34	73	COMB	15	7	8	374
Cummins Power South LLC	09/29/14	50%	19	16	35	COMB	7	8	1	239
Cummins Eastern Canada LP	08/04/14	50%	30	32	62	COMB	18	5	4	228
Cummins Power Systems LLC	05/05/14	30%	14	—	14	EQUITY	—	—	—	—
Cummins Southern Plains LLC	03/31/14	50%	44	48	92	COMB	13	1	11	433
Cummins Mid-South LLC	02/14/14	62.2%	57	61	118	COMB	7	4	8	368

- ⁽¹⁾ All results from acquired entities were included in segment results subsequent to the acquisition date. Previously consolidated entities were accounted for as equity transactions (EQUITY). Newly consolidated entities were accounted for as business combinations (COMB) with gains recognized based on the requirement to remeasure our pre-existing ownership to fair value in accordance with GAAP and are included in the *Consolidated Statements of Income* as "Other income, net."
- ⁽²⁾ Intangible assets acquired in business combinations were mostly customer related, the majority of which will be amortized over a period of up to five years from the date of the acquisition.
- ⁽³⁾ Sales amounts are not fully incremental to our consolidated sales as the amount would be reduced by the elimination of sales to the previously unconsolidated entity.
- ⁽⁴⁾ The "Total Purchase Consideration" represents the total amount that will or is estimated to be paid to complete the acquisition. In some instances a portion of the acquisition payment has not yet been made and will be paid in future periods in accordance with the purchase contract. The total outstanding consideration at December 31, 2016, was \$2 million.

The final purchase price allocations for the significant acquisitions in 2016 and 2014 were as follows:

In millions	Pacific	Southern Plains	Mid-South
Accounts receivable	\$ 65	\$ 63	\$ 71
Inventory	35	59	70
Fixed assets	56	47	37
Intangible assets	8	11	8
Goodwill	4	1	4
Other current assets	10	8	10
Current liabilities	(46)	(53)	(43)
Other long-term liability	—	—	(4)
Total business valuation	132	136	153
Fair value of pre-existing interest	(33)	(44)	(35)
Total purchase consideration	\$ 99	\$ 92	\$ 118

North American distributor acquisitions excluded from the table were deemed immaterial individually and in the aggregate for additional disclosure.

NOTE 19. IMPAIRMENT OF LIGHT-DUTY DIESEL ASSETS

We began development of a new North American light-duty diesel engine (LDD) platform in July of 2006 for use in a variety of on- and off-highway applications. Since that time, and as of December 31, 2015, we capitalized investments of approximately \$279 million, with a net book value prior to the impairment of \$246 million (\$235 million of which was in our Engine segment and \$11 million of which was in our Components segment). Market uncertainty due to the global recession in 2008/2009 resulted in some customers delaying or canceling their vehicle programs, while others remained active. We announced an agreement with Nissan Motor Co. Ltd. in 2013 to supply our light-duty diesel engine and began commercial shipment in 2015. In the fourth quarter of 2015, we learned that we were not successful in our bid to supply this product for an additional customer. In addition, the recent deterioration in global economic conditions and excess manufacturing capacity in other markets made it unlikely that we would manufacture additional products on the LDD line to utilize its excess capacity during the asset recovery period. As a result, we concluded that the combination of these events presented a triggering event requiring an assessment of the recoverability of these assets in the fourth quarter of 2015. The assessment indicated that the projected undiscounted cash flows related to this asset group were not sufficient to recover its carrying value. Consequently, we were required to write down the LDD asset group to fair value. Our 2015 fourth quarter results included an impairment charge of \$211 million (\$133 million after-tax), of which \$202 million was in the Engine segment and \$9 million was in the Components segment, to reflect the assets at fair value. We remain committed to servicing existing contracts and are not exiting this product line.

The fair value of the asset group was estimated to be \$35 million (\$33 million for the Engine segment and \$2 million for the Components segment) at December 31, 2015 and was calculated primarily using a cost approach with consideration of a market approach where secondary market information was available for the type and age of these assets. In the application of the market approach, we determined that the liquidation value in-place reflected the best estimate of fair value. In the application of the cost approach we considered the current cost of replacing the assets with a reduction for physical deterioration given the age of the assets and a reduction for functional and economic obsolescence in the form of a discount reflecting the current and projected under-utilization of the assets. The fair value of these assets are considered Level 3 under the fair value hierarchy as they are either derived from unobservable inputs or have significant adjustments to the observable inputs.

NOTE 20. RESTRUCTURING ACTIONS AND OTHER CHARGES

We executed restructuring actions primarily in the form of professional voluntary and involuntary employee separation programs in the fourth quarter of 2015. These actions were in response to the continued deterioration in our global markets in the second half of 2015, as well as expected reductions in orders in most U.S. and global markets in 2016. We reduced our worldwide workforce by approximately 1,900 employees, including approximately 370 employees accepting voluntary retirement packages with the remainder of the reductions being involuntary. We incurred a charge of \$90 million (\$61 million after-tax) in the fourth quarter of 2015, of which \$86 million related to severance costs for both voluntary and involuntary terminations and \$4 million for asset impairments and other charges.

Employee termination and severance costs were recorded based on approved plans developed by the businesses and corporate management which specified positions to be eliminated, benefits to be paid under existing severance plans or statutory requirements and the expected timetable for completion of the plan. Estimates of restructuring costs and benefits were made based on information available at the time charges were recorded. Due to the inherent uncertainty involved, actual amounts paid for such activities may differ from amounts initially recorded and we may need to revise previous estimates.

Restructuring actions and other charges were included in each segment in our operating results as follows:

In millions ⁽¹⁾	Year ended December 31, 2015
Power Systems	\$ 26
Distribution	23
Engine	17
Components	13
Corporate	11
Restructuring actions and other charges	<u>\$ 90</u>

⁽¹⁾The charges by segment were revised in conjunction with our segment realignment in the second quarter of 2016. See Note 21, "OPERATING SEGMENTS," for additional information.

At December 31, 2016, substantially all terminations have been completed.

The table below summarizes the activity and balance of accrued restructuring charges, which is included in "Other accrued expenses" in our *Consolidated Balance Sheets*:

In millions	Restructuring Accrual
Workforce reductions	\$ 86
Cash payments	(26)
Balance at December 31, 2015	60
Cash payments	(58)
Change in estimate	(1)
Balance at December 31, 2016	<u>\$ 1</u>

NOTE 21. OPERATING SEGMENTS

Operating segments under GAAP are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the Chief Operating Decision Maker (CODM), or decision-making group, in deciding how to allocate resources and in assessing performance. Our CODM is the Chief Operating Officer.

We use segment EBIT (defined as earnings before interest expense, income taxes and noncontrolling interests) as a primary basis for the CODM to evaluate the performance of each of our operating segments. Segment amounts exclude certain expenses not specifically identifiable to segments.

As previously announced, beginning with the second quarter of 2016, we realigned certain of our reportable segments to be consistent with changes to our organizational structure and how the CODM monitors the performance of our segments. We reorganized our business to combine our Power Generation segment and our high-horsepower engine business to create the new Power Systems segment. Our reportable operating segments consist of Engine, Distribution, Components and Power Systems. We began to report results for our new reporting structure in the second quarter of 2016 and also reflected this change for historical periods.

We allocate certain common costs and expenses, primarily corporate functions, among segments. These include certain costs and expenses of shared services, such as information technology, human resources, legal, finance and supply chain management. In addition to the reorganization noted above, we reevaluated the allocation of these costs, considering the new segment structure created in April 2016 and adjusted our allocation methodology accordingly. The revised methodology, which is based on a combination of relative segment sales and relative service usage levels, is effective for the periods beginning after January 1, 2016 and resulted in the revision of our segment operating results, including segment EBIT, for all four segments for the first quarter of 2016 with a greater share of costs allocated to the Distribution and Components segments than in previous years. Prior periods were not revised for the new allocation methodology. These changes had no impact on our consolidated results.

Our new reporting structure is organized according to the products and markets each segment serves. The Engine segment produces engines (15 liters and less in size) and associated parts for sale to customers in on-highway and various off-highway markets. Our engines are used in trucks of all sizes, buses and recreational vehicles, as well as in various industrial applications, including construction, agriculture, power generation systems and other off-highway applications. The Distribution segment includes wholly-owned and partially-owned distributorships engaged in wholesaling engines, generator sets and service parts, as well as performing service and repair activities on our products and maintaining relationships with various OEMs throughout the world. The Components segment sells filtration products, aftertreatment systems, turbochargers and fuel systems. The Power Systems segment is an integrated power provider, which designs, manufactures and sells engines (16 liters and larger) for industrial applications (including mining, oil and gas and marine), standby and prime power generator sets, alternators and other power components.

The accounting policies of our operating segments are the same as those applied in our *Consolidated Financial Statements*. We prepared the financial results of our operating segments on a basis that is consistent with the manner in which we internally disaggregate financial information to assist in making internal operating decisions. As noted above, we allocate certain common costs and expenses, primarily corporate functions, among segments. We do not allocate debt-related items, actuarial gains or losses, prior service costs or credits, changes in cash surrender value of corporate owned life insurance or income taxes to individual segments. Segment EBIT may not be consistent with measures used by other companies.

Summarized financial information regarding our reportable operating segments at December 31, is shown in the table below:

In millions	Engine	Distribution	Components	Power Systems	Intersegment Eliminations	Total
2016						
External sales	\$ 5,774	\$ 6,157	\$ 3,514	\$ 2,064	\$ —	\$ 17,509
Intersegment sales	2,030	24	1,322	1,453	(4,829)	—
Total sales	7,804	6,181	4,836	3,517	(4,829)	17,509
Depreciation and amortization ⁽¹⁾	163	116	133	115	—	527
Research, development and engineering expenses	226	13	208	189	—	636
Equity, royalty and interest income from investees	148	70	41	42	—	301
Interest income	10	4	4	5	—	23
Loss contingency charges ⁽²⁾	138	—	—	—	—	138
Segment EBIT	686	392 ⁽³⁾	641	263 ⁽⁴⁾	17	1,999
Net assets	1,620	2,604	1,868	2,629	—	8,721
Investments and advances to equity investees	427	204	176	139	—	946
Capital expenditures	200	96	143	92	—	531
2015						
External sales	\$ 6,733	\$ 6,198	\$ 3,745	\$ 2,434	\$ —	\$ 19,110
Intersegment sales	1,937	31	1,427	1,633	(5,028)	—
Total sales	8,670	6,229	5,172	4,067	(5,028)	19,110
Depreciation and amortization ⁽¹⁾	187	105	109	110	—	511
Research, development and engineering expenses	263	10	236	226	—	735
Equity, royalty and interest income from investees	146	78	35	56	—	315
Interest income	11	4	4	5	—	24
Loss contingency charge ⁽²⁾	60	—	—	—	—	60
Impairment of light-duty diesel assets ⁽⁵⁾	202	—	9	—	—	211
Restructuring actions and other charges ⁽⁶⁾	17	23	13	26	11	90
Segment EBIT	636	412 ⁽³⁾	727	335	(20)	2,090
Net assets	2,107	2,330	1,891	2,736	—	9,064
Investments and advances to equity investees	445	192	150	188	—	975
Capital expenditures	345	125	137	137	—	744
2014						
External sales	\$ 7,462	\$ 5,135	\$ 3,791	\$ 2,833	\$ —	\$ 19,221
Intersegment sales	1,505	39	1,327	1,581	(4,452)	—
Total sales	8,967	5,174	5,118	4,414	(4,452)	19,221
Depreciation and amortization ⁽¹⁾	163	86	106	97	—	452
Research, development and engineering expenses	265	9	230	250	—	754
Equity, royalty and interest income from investees	118	148	36	68	—	370
Interest income	9	4	4	6	—	23
Segment EBIT	1,031	491 ⁽³⁾	684	361 ⁽⁷⁾	(69)	2,498
Net assets	2,401	2,441	2,152	2,743	—	9,737
Investments and advances to equity investees	415	209	164	193	—	981
Capital expenditures	268	89	162	224	—	743

⁽¹⁾ Depreciation and amortization as shown on a segment basis excludes the amortization of debt discount and deferred costs that are included in the *Consolidated Statements of Income* as "Interest expense." The amortization of debt discount and deferred costs were \$3 million, \$3 million and \$3 million for the years ended December 31, 2016, 2015 and 2014, respectively.

⁽²⁾ See Note 12, "COMMITMENTS AND CONTINGENCIES," for additional information.

⁽³⁾ Distribution segment EBIT included gains on the fair value adjustment resulting from the acquisition of controlling interests in North American distributors of \$15 million, \$18 million and \$73 million for the years ended December 31, 2016, 2015 and 2014, respectively. See Note 18, "ACQUISITIONS," for additional information.

⁽⁴⁾ Power Systems segment EBIT included a \$17 million gain on the sale of an equity investee.

⁽⁵⁾ See Note 19, "IMPAIRMENT OF LIGHT-DUTY DIESEL ASSETS," for additional information.

⁽⁶⁾ See Note 20, "RESTRUCTURING ACTIONS AND OTHER CHARGES," for additional information.

⁽⁷⁾ Power Systems segment EBIT included \$32 million of restructuring charges primarily related to the closure of a plant in Germany.

A reconciliation of our segment information to the corresponding amounts in the *Consolidated Statements of Income* is shown in the table below:

In millions	Years ended December 31,		
	2016	2015	2014
Total segment EBIT	\$ 1,999	\$ 2,090	\$ 2,498
Less: Interest expense	69	65	64
Income before income taxes	\$ 1,930	\$ 2,025	\$ 2,434

In millions	December 31,		
	2016	2015	2014
Net assets for operating segments	\$ 8,721	\$ 9,064	\$ 9,737
Liabilities deducted in arriving at net assets	6,152	5,920	6,009
Pension and other postretirement benefit adjustments excluded from net assets	(284)	(242)	(319)
Deferred tax assets not allocated to segments	420	390	314
Deferred debt costs not allocated to segments	2	2	23
Total assets	\$ 15,011	\$ 15,134	\$ 15,764

The tables below present certain segment information by geographic area. Net sales attributed to geographic areas were based on the location of the customer.

In millions	Years ended December 31,		
	2016	2015	2014
<i>Net Sales</i>			
United States	\$ 9,476	\$ 10,757	\$ 10,058
International	8,033	8,353	9,163
Total net sales	\$ 17,509	\$ 19,110	\$ 19,221

Long-lived assets include property, plant and equipment, net of depreciation, investments and advances to equity investees and other assets, excluding deferred tax assets, refundable taxes and deferred debt expenses.

In millions	December 31,		
	2016	2015	2014
<i>Long-lived assets</i>			
United States	\$ 3,092	\$ 2,968	\$ 2,949
China	652	668	692
India	475	450	391
United Kingdom	254	349	339
Netherlands	197	172	156
Brazil	149	124	161
Canada	132	133	126
Mexico	131	108	96
Other international countries	236	261	274
Total long-lived assets	\$ 5,318	\$ 5,233	\$ 5,184

Our largest customer is PACCAR Inc. Worldwide sales to this customer were \$2,359 million in 2016, \$2,949 million in 2015 and \$2,706 million in 2014, representing 13 percent, 15 percent and 14 percent, respectively, of our consolidated net sales. No other customer accounted for more than 10 percent of consolidated net sales.

SELECTED QUARTERLY FINANCIAL DATA
UNAUDITED

In millions, except per share amounts	First	Second	Third	Fourth
	Quarter	Quarter	Quarter	Quarter
	2016			
Net sales	\$ 4,291	\$ 4,528	\$ 4,187	\$ 4,503
Gross margin	1,056	1,197	1,079	1,120
Net income attributable to Cummins Inc.	321	406 ⁽¹⁾	289 ⁽¹⁾	378
Earnings per common share attributable to Cummins Inc.—basic ⁽²⁾	\$ 1.87	\$ 2.41 ⁽¹⁾	\$ 1.72 ⁽¹⁾	\$ 2.26
Earnings per common share attributable to Cummins Inc.—diluted ⁽²⁾	1.87	2.40 ⁽¹⁾	1.72 ⁽¹⁾	2.25
Cash dividends per share	0.975	0.975	1.025	1.025
Stock price per share				
High	\$ 111.29	\$ 120.00	\$ 128.60	\$ 147.10
Low	79.88	104.30	107.51	121.22
	2015			
Net sales	\$ 4,709	\$ 5,015	\$ 4,620	\$ 4,766
Gross margin	1,195	1,332	1,208	1,212
Net income attributable to Cummins Inc.	387	471	380	161 ⁽³⁾
Earnings per common share attributable to Cummins Inc.—basic ⁽²⁾	\$ 2.14	\$ 2.63	\$ 2.15	\$ 0.92 ⁽³⁾
Earnings per common share attributable to Cummins Inc.—diluted ⁽²⁾	2.14	2.62	2.14	0.92 ⁽³⁾
Cash dividends per share	0.78	0.78	0.975	0.975
Stock price per share				
High	\$ 148.04	\$ 143.40	\$ 132.96	\$ 115.37
Low	133.50	133.36	108.27	84.99

⁽¹⁾ The second quarter of 2016, included an additional \$39 million loss contingency charge (\$24 million after-tax). The third quarter of 2016 included an additional \$99 million loss contingency charge (\$50 million net of favorable compensation impact and after-tax).

⁽²⁾ Earnings per share in each quarter is computed using the weighted-average number of shares outstanding during that quarter while earnings per share for the full year is computed using the weighted-average number of shares outstanding during the year. Thus, the sum of the four quarters earnings per share may not equal the full year earnings per share.

⁽³⁾ The fourth quarter of 2015, included a \$211 million impairment of light-duty diesel assets (\$133 million after-tax), a \$90 million restructuring charge (\$61 million after-tax) and a \$60 million charge for a loss contingency (\$38 million after-tax).

At December 31, 2016, there were approximately 3,536 holders of record of Cummins Inc.'s \$2.50 par value common stock.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this Annual Report on Form 10-K, our management evaluated, with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of the design and operation of our disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15d-15(e). Based upon that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during the quarter ended December 31, 2016, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

The information required by Item 9A relating to Management's Annual Report on Internal Control Over Financial Reporting and Attestation Report of the Registered Public Accounting Firm is incorporated herein by reference to the information set forth under the captions "Management's Report on Internal Control Over Financial Reporting" and "Report of Independent Registered Public Accounting Firm," respectively, under Item 8.

ITEM 9B. Other Information

None.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 is incorporated by reference to the relevant information under the captions "Corporate Governance," "Election of Directors" and "Other Information—Section 16(a) Beneficial Ownership Reporting Compliance" in our 2017 Proxy Statement, which will be filed within 120 days after the end of 2016. Information regarding our executive officers may be found in Part 1 of this annual report under the caption "Executive Officers of the Registrant." Except as otherwise specifically incorporated by reference, our Proxy Statement is not deemed to be filed as part of this annual report.

ITEM 11. Executive Compensation

The information required by Item 11 is incorporated by reference to the relevant information under the caption "Executive Compensation" in our 2017 Proxy Statement, which will be filed within 120 days after the end of 2016.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Information concerning our equity compensation plans at December 31, 2016, was as follows:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights ⁽¹⁾	Weighted-average exercise price of outstanding options, warrants and rights ⁽²⁾	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)
Equity compensation plans approved by security holders	3,149,099	\$ 115.02	4,249,124
Equity compensation plans not approved by security holders	—	—	—
Total	3,149,099	\$ 115.02	4,249,124

⁽¹⁾ The number is comprised of 2,734,764 stock options, 404,494 performance shares and 9,841 restricted shares. See NOTE 15, "STOCK INCENTIVE AND STOCK OPTION PLANS," to the *Consolidated Financial Statements* for a description of how options and shares are awarded.

⁽²⁾ The weighted-average exercise price relates only to the 2,734,764 stock options. Performance and restricted shares do not have an exercise price and, therefore, are not included in this calculation.

The remaining information required by Item 12 is incorporated by reference to the relevant information under the caption "Stock Ownership of Directors, Management and Others" in our 2017 Proxy Statement, which will be filed within 120 days after the end of 2016.

ITEM 13. Certain Relationships, Related Transactions and Director Independence

The information required by Item 13 is incorporated by reference to the relevant information under the captions "Corporate Governance" and "Other Information—Related Party Transactions" in our 2017 Proxy Statement, which will be filed within 120 days after the end of 2016.

ITEM 14. Principal Accounting Fees and Services

The information required by Item 14 is incorporated by reference to the relevant information under the caption "Selection of Independent Public Accountants" in our 2017 Proxy Statement, which will be filed within 120 days after the end of 2016.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

(a) The following *Consolidated Financial Statements* and schedules filed as part of this report can be found in Item 8 "Financial Statements and Supplementary Data":

- **Management's Report to Shareholders**
- **Report of Independent Registered Public Accounting Firm**
- **Consolidated Statements of Income for the years ended December 31, 2016, 2015 and 2014**
- **Consolidated Statements of Comprehensive Income for the years ended December 31, 2016, 2015 and 2014**
- **Consolidated Balance Sheets at December 31, 2016 and 2015**
- **Consolidated Statements of Cash Flows for the years ended December 31, 2016, 2015 and 2014**
- **Consolidated Statements of Changes in Equity for the years ended December 31, 2016, 2015 and 2014**
- **Notes to Consolidated Financial Statements**
- **Selected Quarterly Financial Data (Unaudited)**

(b) See Exhibit Index at the end of this Annual Report on Form 10-K.

ITEM 16. Form 10-K Summary (optional)

Not Applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CUMMINS INC.

By: /s/ PATRICK J. WARD
 Patrick J. Ward
 Vice President and Chief Financial Officer
 (Principal Financial Officer)

By: /s/ MARSHA L. HUNT
 Marsha L. Hunt
 Vice President—Corporate Controller
 (Principal Accounting Officer)

Date: February 13, 2017

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

<u>Signatures</u>	<u>Title</u>	<u>Date</u>
<u>/s/ N. THOMAS LINEBARGER</u> N. Thomas Linebarger	Chairman of the Board of Directors and Chief Executive Officer (Principal Executive Officer)	February 13, 2017
<u>/s/ PATRICK J. WARD</u> Patrick J. Ward	Vice President and Chief Financial Officer (Principal Financial Officer)	February 13, 2017
<u>/s/ MARSHA L. HUNT</u> Marsha L. Hunt	Vice President—Corporate Controller (Principal Accounting Officer)	February 13, 2017
<u> * </u> Robert J. Bernhard	Director	February 13, 2017
<u> * </u> Franklin R. ChangDiaz	Director	February 13, 2017
<u> * </u> Bruno V. Di Leo Allen	Director	February 13, 2017
<u> * </u> Stephen B. Dobbs	Director	February 13, 2017
<u> * </u> Robert K. Herdman	Director	February 13, 2017
<u> * </u> Alexis M. Herman	Director	February 13, 2017
<u> * </u> Thomas J. Lynch	Director	February 13, 2017
<u> * </u> William I. Miller	Director	February 13, 2017
<u> * </u> Georgia R. Nelson	Director	February 13, 2017

*By: /s/ PATRICK J. WARD
 Patrick J. Ward
 Attorney-in-fact

**CUMMINS INC.
EXHIBIT INDEX**

Exhibit No.	Description of Exhibit
3 (a)	Restated Articles of Incorporation, as amended (incorporated by reference to Exhibit 3(a) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 28, 2009).
3 (b)	By-laws, as amended and restated effective as of October 11, 2016 (incorporated by reference to Exhibit 3.1 to Cummins Inc.'s Current Report on Form 8-K filed within the Securities and Exchange Commission on October 17, 2016).
4 (a)	Indenture, dated as of September 16, 2013, by and between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-3 filed with the Securities and Exchange Commission on September 16, 2013 (Registration Statement No. 333-191189)).
4 (b)	First Supplemental Indenture, dated as of September 24, 2013, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.1 of the Current Report on 8-K, filed by Cummins Inc. with the Securities and Exchange Commission on September 24, 2013 (File No. 001-04949)).
4 (c)	Second Supplemental Indenture, dated as of September 24, 2013, between Cummins Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.2 of the Current Report on 8-K, filed by Cummins Inc. with the Securities and Exchange Commission on September 24, 2013 (File No. 001-04949)).
10 (a)#	2003 Stock Incentive Plan, as amended (incorporated by reference to Exhibit 10(a) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (b)#	Target Bonus Plan (incorporated by reference to Exhibit 10(b) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (c)#	Deferred Compensation Plan, as amended (incorporated by reference to Exhibit 10(c) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 27, 2015).
10 (d)#	Supplemental Life Insurance and Deferred Income Plan, as amended (incorporated by reference to Exhibit 10(d) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011).
10 (e)	Amended and Restated Credit Agreement, dated as of November 13, 2015, by and among Cummins Inc., the subsidiary borrowers referred to therein and the Lenders party thereto (incorporated by reference to Exhibit 10 to Cummins Inc.'s Current Report on Form 8-K dated November 13, 2015).
10 (f)#	Deferred Compensation Plan for Non-Employee Directors, as amended (incorporated by reference to Exhibit 10(f) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013).
10 (g)#	Excess Benefit Retirement Plan, as amended (incorporated by reference to Exhibit 10(g) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 28, 2014).
10 (h)#	Employee Stock Purchase Plan, as amended (incorporated by reference to Annex B to Cummins Inc.'s definitive proxy statement filed with the Securities and Exchange Commission on Schedule 14A on March 27, 2012 (File No. 001-04949)).
10 (i)#	Longer Term Performance Plan (incorporated by reference to Exhibit 10(i) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (j)#	2006 Executive Retention Plan, as amended (incorporated by reference to Exhibit 10(j) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011).
10 (k)#	Senior Executive Target Bonus Plan (incorporated by reference to Exhibit 10(k) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (l)#	Senior Executive Longer Term Performance Plan (incorporated by reference to Exhibit 10(l) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (m)#	Form of Stock Option Agreement under the 2003 Stock Incentive Plan (incorporated by reference to Exhibit 10(m) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2009).
10 (n)#	Form of Long-Term Grant Notice under the 2012 Omnibus Incentive Plan (incorporated by reference to Exhibit 10(n) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 29, 2015).
10 (o)#	2012 Omnibus Incentive Plan (incorporated by reference to Annex A to Cummins Inc.'s definitive proxy statement filed with the Securities and Exchange Commission on Schedule 14A on March 27, 2012 (File No. 001-04949)).
10 (p)#	Form of Stock Option Agreement under the 2012 Omnibus Incentive Plan (incorporated by reference to Exhibit 10(p) to Cummins Inc.'s Annual Report on Form 10-K for the year ended December 31, 2013).
10 (q)#	Key Employee Stock Investment Plan (incorporated by reference to Exhibit 10(q) to Cummins Inc.'s Quarterly Report on Form 10-Q for the quarter ended September 28, 2014).
12	Calculation of Ratio of Earnings to Fixed Charges (filed herewith).
21	Subsidiaries of the Registrant (filed herewith).
23	Consent of PricewaterhouseCoopers LLP (filed herewith).
24	Powers of Attorney (filed herewith).
31 (a)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
31 (b)	Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (filed herewith).
32	Certifications Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith).
101 .INS	XBRL Instance Document.
101 .SCH	XBRL Taxonomy Extension Schema Document.
101 .CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101 .DEF	XBRL Taxonomy Extension Definition Linkbase Document.

**CUMMINS INC.
EXHIBIT INDEX**

101	.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101	.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.

A management contract or compensatory plan or arrangement.

CUMMINS INC. AND SUBSIDIARIES
COMPUTATION OF RATIO OF EARNINGS TO FIXED CHARGES

In millions	Years ended December 31,				
	2016	2015	2014	2013	2012
Earnings					
Income before income taxes ⁽¹⁾	\$ 1,930	\$ 2,025	\$ 2,434	\$ 2,119	\$ 2,271
Add					
Fixed charges	148	140	138	112	104
Amortization of capitalized interest	2	2	1	1	2
Distributed income of equity investees	212	248	228	271	329
Less					
Equity in earnings of investees	260	273	330	325	347
Capitalized interest	6	3	7	7	7
Earnings before fixed charges	<u>\$ 2,026</u>	<u>\$ 2,139</u>	<u>\$ 2,464</u>	<u>\$ 2,171</u>	<u>\$ 2,352</u>
Fixed charges					
Interest expense ⁽²⁾	\$ 69	\$ 65	\$ 64	\$ 41	\$ 32
Capitalized interest	6	3	7	7	7
Amortization of debt discount and deferred costs	3	3	3	2	6
Interest portion of rental expense ⁽³⁾	70	69	64	62	59
Total fixed charges	<u>\$ 148</u>	<u>\$ 140</u>	<u>\$ 138</u>	<u>\$ 112</u>	<u>\$ 104</u>
Ratio of earnings to fixed charges ⁽⁴⁾	13.7	15.3	17.9	19.4	22.6

⁽¹⁾ For the year ended December 31, 2016, income before income taxes included a \$138 million charge related to a loss contingency. For the year ended December 31, 2015, income before income taxes included a \$211 million charge related to impairment of light-duty diesel assets, \$90 million of restructuring actions and other charges and a \$60 million charge related to a loss contingency. For the year ended December 31, 2012, consolidated net income included \$52 million of restructuring and other charges, a \$6 million gain related to adjustments from our 2011 divestitures and a \$20 million charge related to legal matters.

⁽²⁾ The interest amount in the table above does not include interest expense associated with uncertain tax positions. In 2015, we adopted new rules related to balance sheet debt issuance costs, which resulted in the reclassification of our December 31, 2014, debt balance, reducing our long-term debt by \$12 million. In September 2013, we issued \$1 billion of senior unsecured debt.

⁽³⁾ Amounts represent those portions of rent expense that are reasonable approximations of interest costs.

⁽⁴⁾ We have not issued preferred stock. Therefore, the ratio of earnings to combined fixed charges and preferred stock dividends are the same as the ratios presented above.

CUMMINS INC.
SUBSIDIARIES OF THE REGISTRANT

EXHIBIT 21

Entity Name	Country or State of Organization
35601 Cummins Canada ULC.	Canada
4077652 Canada Inc.	Canada
4249739 Canada Inc.	Canada
665217 B.C. Ltd.	Canada
968392 Alberta Ltd.	Canada
Angus Werks Ltd.	Canada
Cal Pacific Engineering, Inc.	California
Center of Excellence Singapore Pte. Ltd.	Singapore
Cherry Island Renewable Energy, LLC	Delaware
CIFC Worldwide Partner C.V.	The Netherlands
CMI Africa Holdings BV	The Netherlands
CMI Canada Financing Ltd.	Canada
CMI Canada LP	Canada
CMI CGT Holdings LLC	Indiana
CMI Foreign Holdings B.V.	The Netherlands
CMI Global Equity Holdings B.V.	The Netherlands
CMI Global Equity Holdings C.V.	The Netherlands
CMI Global Holdings B.V.	The Netherlands
CMI Global Partner 2 C.V.	The Netherlands
CMI Global Partners B.V.	The Netherlands
CMI Group Holdings Cooperatief U.A.	The Netherlands
CMI International Finance Partner 1 LLC	Indiana
CMI International Finance Partner 2 LLC	Indiana
CMI International Finance Partner 3 LLC	Indiana
CMI International Finance Partner 4 LLC	Indiana
CMI International Finance Partner 5 LLC	Indiana
CMI Mexico LLC	Indiana
CMI PGI Holdings LLC	Indiana
CMI PGI International Holdings LLC	Indiana
CMI Turkish Holdings B.V.	The Netherlands
CMI UK Finance LP	United Kingdom
CMI UK Financing LP	United Kingdom
Consolidated Diesel Company	North Carolina
Consolidated Diesel of North Carolina Inc.	North Carolina
Consolidated Diesel, Inc.	Delaware
Cummins (China) Investment Co. Ltd.	China
Cummins Africa Proprietary Limited	South Africa
Cummins Afrique de l'Ouest	Senegal
Cummins Americas, Inc.	Indiana
Cummins Angola Lda.	Angola
Cummins Argentina-Servicios Mineros S.A.	Argentina
Cummins Asia Pacific Pte. Ltd.	Singapore
Cummins Atlantic LLC	North Carolina

CUMMINS INC.
SUBSIDIARIES OF THE REGISTRANT

Cummins Aust Technologies Pty. Ltd.	Australia
Cummins Belgium N.V.	Belgium
Cummins Botswana (Pty.) Ltd.	Botswana
Cummins Brasil Ltda.	Brazil
Cummins Bridgeway LLC	Delaware
Cummins Bridgeway Columbus, LLC	Ohio
Cummins Bridgeway Grove City, LLC	Ohio
Cummins Bridgeway Real Estate, LLC	Michigan
Cummins Bridgeway Toledo, LLC	Ohio
Cummins Burkina Faso SARL	Burkina Faso
Cummins Canada Limited	Canada
Cummins Caribbean LLC	Puerto Rico
Cummins CDC Holding Inc.	Indiana
Cummins Central Power, LLC	Nebraska
Cummins Centroatamerica Holding S.de R.L.	Panama
Cummins Child Development Center, Inc.	Indiana
Cummins Colombia S.A.S.	Colombia
Cummins Comercializadora S. de R.L. de C.V.	Mexico
Cummins Corporation	Indiana
Cummins Cote d'Ivoire SARL	Cote d'Ivoire
Cummins Crosspoint LLC	Indiana
Cummins CV Member LLC	Indiana
Cummins Czech Republic s.r.o.	Czech Republic
Cummins Deutschland GmbH	Germany
Cummins Diesel International Ltd.	Barbados
Cummins Digital Ventures Inc.	Delaware
Cummins Distribution Holdco Inc.	Indiana
Cummins East Asia Research & Development Co. Ltd.	China
Cummins Eastern Canada LP	Canada
Cummins Eastern Canada Management Inc.	Canada
Cummins Eastern Marine, Inc.	Canada
Cummins EMEA Holdings Limited	United Kingdom
Cummins Emission Solutions (China) Co., Ltd.	China
Cummins Emission Solutions Inc.	Indiana
Cummins Energetica Ltda.	Brazil
Cummins Energy Solutions Business North Europe NV/SA	Belgium
Cummins Energy Solutions Business Iberia, S.L.	Spain
Cummins Energy Ventures Canada Ltd.	Canada
Cummins Engine (Beijing) Co. Ltd.	China
Cummins Engine (Shanghai) Co. Ltd.	China
Cummins Engine (Shanghai) Trading & Services Co. Ltd.	China
Cummins Engine Holding Company, Inc.	Indiana
Cummins Engine IP, Inc.	Delaware
Cummins Engine Venture Corporation	Indiana
Cummins Filter Co. Ltd.	Korea

CUMMINS INC.
SUBSIDIARIES OF THE REGISTRANT

Cummins Filtration (Shanghai) Co. Ltd.	China
Cummins Filtration GmbH	Germany
Cummins Filtration Inc.	Indiana
Cummins Filtration International Corp.	Indiana
Cummins Filtration International Corp. External Profit Company	South Africa
Cummins Filtration IP, Inc.	Delaware
Cummins Filtration SARL	France
Cummins Filtration Trading (Shanghai) Co., Ltd.	China
Cummins Filtros Ltda.	Brazil
Cummins Franchise Holdco LLC	Indiana
Cummins Fuel Systems (Wuhan) Co. Ltd.	China
Cummins Generator Technologies Americas Inc.	Pennsylvania
Cummins Generator Technologies (China) Co., Ltd.	China
Cummins Generator Technologies Germany GmbH	Germany
Cummins Generator Technologies India Private Ltd.	India
Cummins Generator Technologies Italy SRL	Italy
Cummins Generator Technologies Limited	United Kingdom
Cummins Generator Technologies Romania S.A.	Romania
Cummins Generator Technologies Singapore Pte Ltd.	Singapore
Cummins Ghana Limited	Ghana
Cummins Ghana Mining Limited	Ghana
Cummins Global Financing LP	United Kingdom
Cummins Global Technologies LLP	United Kingdom
Cummins Grupo Comercial Y. de Servicios, S. de R.L. de C.V.	Mexico
Cummins Grupo Industrial S. de R.L. de C.V.	Mexico
Cummins Holland B.V.	The Netherlands
Cummins Hong Kong Ltd.	Hong Kong
Cummins India Ltd.	India
Cummins Intellectual Property, Inc.	Delaware
Cummins International Finance LLC	Indiana
Cummins International Holdings Coopertief U.A.	The Netherlands
Cummins International Holdings LLC	Colorado
Cummins International Holdings LLC	Indiana
Cummins Italia S.P.A.	Italy
Cummins Japan Ltd.	Japan
Cummins Korea Co. Ltd.	Korea
Cummins LLC Member, Inc.	Delaware
Cummins Ltd.	United Kingdom
Cummins Mid-South LLC	Tennessee
Cummins Middle East FZE	Dubai
Cummins Mining Services S. de R.L. de C.V.	Mexico
Cummins Mobility Services Inc.	Indiana
Cummins Mongolia Investment LLC	Mongolia
Cummins Mozambique Ltda.	Mozambique
Cummins Namibia Engine Sales and Service PTY LTD	Namibia

CUMMINS INC.
SUBSIDIARIES OF THE REGISTRANT

Cummins Natural Gas Engines, Inc.	Delaware
Cummins New Zealand Limited	New Zealand
Cummins Nigeria Ltd.	Nigeria
Cummins Norte de Colombia S.A.S.	Colombia
Cummins North Africa Regional Office SARL	Morocco
Cummins Northeast, LLC	Delaware
Cummins Norway AS	Norway
Cummins Npower LLC	Delaware
Cummins NV	Belgium
Cummins Pacific LLC	Delaware
Cummins PGI Holdings Ltd.	United Kingdom
Cummins Power (Construction) Inc.	Canada
Cummins Power Generation (China) Co., Ltd.	China
Cummins Power Generation (S) Pte. Ltd.	Singapore
Cummins Power Generation (U.K.) Limited	United Kingdom
Cummins Power Generation Deutschland GmbH	Germany
Cummins Power Generation Inc.	Delaware
Cummins Power Generation Limited	United Kingdom
Cummins Power Generation Mali S.A.	South Africa
Cummins Power Systems LLC	Delaware
Cummins PowerGen IP, Inc.	Delaware
Cummins Research and Technology India Private Ltd.	India
Cummins Rocky Mountain LLC	Colorado
Cummins Romania Srl	Romania
Cummins S. de R.L. de C.V.	Mexico
Cummins Sales and Service Korea Co., Ltd.	Korea
Cummins Sales and Service Philippines Inc.	Philippines
Cummins Sales and Service Private Limited	India
Cummins Sales and Service Singapore Pte. Ltd.	Singapore
Cummins Sales and Service Sdn. Bhd.	Malaysia
Cummins Sinai ve Otomotiv Urunleri Sanayi ve Ticaret Limited Sirketi	Turkey
Cummins South Africa (Pty.) Ltd.	South Africa
Cummins Southern Plains LLC	Texas
Cummins South Pacific Pty. Limited	Australia
Cummins Spain, S.L.	Spain
Cummins Sweden AB	Sweden
Cummins Technologies India Private Limited	India
Cummins Trade Receivables, LLC	Delaware
Cummins Turbo Technologies B.V.	The Netherlands
Cummins Turbo Technologies Limited	United Kingdom
Cummins Turkey Motor Güç Sistemleri Satış Servis Limited Şirketi	Turkey
Cummins U.K. Holdings Ltd.	United Kingdom
Cummins U.K. Pension Plan Trustee Ltd.	United Kingdom
Cummins UK Holdings LLC	Indiana
Cummins Vendas e Servicos de Motores e Geradores Ltda.	Brazil

CUMMINS INC.
SUBSIDIARIES OF THE REGISTRANT

Cummins Venture Corporation	Delaware
Cummins West Africa Limited	Nigeria
Cummins West Balkans d.o.o. Nova Pasova	Serbia
Cummins Western Canada Limited Partnership	Canada
Cummins (Xiangyang) Machining Co. Ltd.	China
Cummins Zambia Ltd.	Zambia
Cummins Zimbabwe Pvt. Ltd.	Zimbabwe
CWC General Partner Ltd.	Canada
Distribuidora Cummins Centroamerica Costa Rica, S.de R.L.	Costa Rica
Distribuidora Cummins Centroamerica El Salvador, S.de R.L.	El Salvador
Distribuidora Cummins Centroamerica Guatemala, Ltda.	Guatemala
Distribuidora Cummins Centroamerica Honduras, S.de R.L.	Honduras
Distribuidora Cummins de Panama, S. de R.L.	Panama
Distribuidora Cummins S.A.	Argentina
Distribuidora Cummins S.A. Sucursal Bolivia	Bolivia
Distribuidora Cummins Sucursal Paraguay SRL	Paraguay
Dynamo Insurance Company, Inc.	Vermont
ICDC Ltd.	Vermont
Markon Engineering Company Ltd.	United Kingdom
Nelson Burgess Ltd.	United Kingdom
Newage Engineers GmbH	Germany
Newage Ltd. (U.K.)	United Kingdom
Newage Machine Tools Ltd.	United Kingdom
OOO Cummins	Russia
Petbow Limited	United Kingdom
Power Group International (Overseas Holdings) B.V.	Holland
Power Group International (Overseas Holdings) Ltd.	United Kingdom
Power Group International Ltd.	United Kingdom
Quickstart Energy Projects SpA	Chili
Shanghai Cummins Trading Co., Ltd.	China
Shenzhen Chongfa Cummins Engine Co., Ltd.	Hong Kong
TOO Cummins	Kazakhstan
Turbo Drive Ltd.	Hong Kong
Worldwide Partner CV Member LLC	Indiana
Wuxi Cummins Turbo Technologies Co. Ltd.	China

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-209544) and Form S-8 (Nos. 003-46097, 033-56115, 333-67391, 333-123368, 333-172650, 333-181927 (as amended by Post-Effective Amendment No. 1) and 333-184786) of Cummins Inc. of our report dated February 13, 2017 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PRICEWATERHOUSECOOPERS LLP

PricewaterhouseCoopers LLP

Indianapolis, Indiana

February 13, 2017

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ ROBERT J. BERNHARD

Robert J. Bernhard

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ FRANKLIN R. CHANG DIAZ

Franklin R. Chang Diaz

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ BRUNO V. DI LEO ALLEN

Bruno V. Di Leo Allen

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ STEPHEN B. DOBBS

Stephen B. Dobbs

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ ROBERT K. HERDMAN

Robert K. Herdman

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ ALEXIS M. HERMAN

Alexis M. Herman

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ THOMAS J. LYNCH

Thomas J. Lynch

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ WILLIAM I. MILLER

William I. Miller

Director

CUMMINS INC.

2016 Form 10-K

POWER OF ATTORNEY

I hereby legally appoint each of Patrick J. Ward and Marsha L. Hunt as my attorneys-in-fact and agents, with full power of substitution and re-substitution, to sign on my behalf the Annual Report on Form 10-K, and any and all amendments thereto, of Cummins Inc. (the "Company") for the Company's year ended December 31, 2016 and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, and to do anything else that said attorneys-in-fact and agents or any of them, or his or her substitute or substitutes, may lawfully do or cause to be done consistent herewith.

Dated: February 13, 2017

/s/ GEORGIA R. NELSON

Georgia R. Nelson

Director

Certification

I, N. Thomas Linebarger, certify that:

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

Date: February 13, 2017

/s/ N. THOMAS LINEBARGER

N. Thomas Linebarger

Chairman and Chief Executive Officer

Certification

I, Patrick J. Ward, certify that:

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

Date: February 13, 2017

/s/ PATRICK J. WARD

Patrick J. Ward

Vice President and Chief Financial Officer

Cummins Inc.
CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Cummins Inc. (the "Company") on Form 10-K for the period ended December 31, 2016, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, N. Thomas Linebarger, Chairman and Chief Executive Officer of the Company, and Patrick J. Ward, Vice President and Chief Financial Officer, certify, pursuant to 18 U.S.C. ss. 1350, as adopted pursuant to ss. 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

February 13, 2017

/s/ N. THOMAS LINEBARGER

N. Thomas Linebarger
Chairman and Chief Executive Officer

February 13, 2017

/s/ PATRICK J. WARD

Patrick J. Ward
Vice President and Chief Financial Officer