

**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, 2018

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

For the transition period from _____ to _____

Commission File Number 001-07349

Ball Corporation

State of Indiana
(State or other jurisdiction of
incorporation or organization)

35-0160610
(I.R.S. Employer
Identification No.)

10 Longs Peak Drive, P.O. Box 5000
Broomfield, Colorado
(Address of registrant's principal executive office)

80021-2510
(Zip Code)

Registrant's telephone number, including area code: (303) 469-3131

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

Title of each class	Name of each exchange on which registered
Common Stock, without 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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months. 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, or a non-accelerated filer. See definitions of "large accelerated filer", "accelerated filer", "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
Emerging growth company

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES NO

The aggregate market value of voting stock held by non-affiliates of the registrant was \$12.3 billion based upon the closing market price and common shares outstanding as of June 30, 2018.

Number of shares and rights outstanding as of the latest practicable date.

Class	Outstanding at February 20, 2019
Common Stock, without par value	334,338,125 shares

DOCUMENTS INCORPORATED BY REFERENCE

1. Proxy statement to be filed with the Commission within 120 days after December 31, 2018, to the extent indicated in Part III.

Ball Corporation
ANNUAL REPORT ON FORM 10-K
For the year ended December 31, 2018

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PART I.

Item 1. Business

Ball Corporation and its consolidated subsidiaries (collectively, Ball, the company, we or our) is one of the world's leading suppliers of metal packaging to the beverage, personal care and household products industries. The company was organized in 1880 and incorporated in the state of Indiana, United States of America (U.S.), in 1922. Our packaging products are produced for a variety of end uses and are manufactured in facilities around the world. We also provide aerospace and other technologies and services to governmental and commercial customers within our aerospace segment. In 2018, our total consolidated net sales were \$12 billion. Our packaging businesses were responsible for 90 percent of our net sales, with the remaining 10 percent contributed by our aerospace business.

Our largest product line is aluminum beverage containers. We also produce aerosol containers, extruded aluminum aerosol containers and aluminum slugs.

We sell our packaging products mainly to large multinational beverage, personal care and household products companies with which we have developed long-term relationships. This is evidenced by our high customer retention and large number of long-term supply contracts. While we have a diversified customer base, we sell a significant portion of our packaging products to major companies and brands, as well as to numerous regional customers. Our significant customers include: The Coca-Cola Company and its affiliated bottlers, Anheuser-Busch InBev n.v./s.a., Molson Coors Brewing Company and Unilever N.V.

Our aerospace business is a leader in the design, development and manufacture of innovative aerospace systems for civil, commercial and national cyber security aerospace markets. It produces spacecraft, instruments and sensors, radio frequency systems and components, data exploitation solutions and a variety of advanced aerospace technologies and products that enable deep space missions.

We are headquartered in Broomfield, Colorado, and our stock is listed for trading on the New York Stock Exchange under the ticker symbol BLL.

Our Strategy

Our overall business strategy is defined by our Drive for 10 vision, which at its highest level, is a mindset around perfection, with a greater sense of urgency around our future success. Launched in 2011, our Drive for 10 vision encompasses five strategic levers that are key to growing our businesses and achieving long-term success. These five levers are:

- Maximizing value in our existing businesses
- Expanding into new products and capabilities
- Aligning ourselves with the right customers and markets
- Broadening our geographic reach and
- Leveraging our know-how and technological expertise to provide a competitive advantage

We also maintain a clear and disciplined financial strategy focused on improving shareholder returns through:

- Seeking to deliver comparable diluted earnings per share growth of 10 percent to 15 percent per annum over the long-term
- Maximizing free cash flow generation
- Increasing Economic Value Added (EVA®) dollars

The cash generated by our businesses is used primarily: (1) to finance the company's operations, (2) to fund strategic capital investments, (3) to service the company's debt and (4) to return value to our shareholders via stock buy-backs and dividend payments. From time to time, we have evaluated and expect to continue to evaluate possible transactions that we believe will benefit the company and our shareholders, which may include strategic acquisitions, divestitures of parts of our company or joint ventures. At any time we may be engaged in discussions or negotiations with respect to possible transactions or may have entered into non-binding letters of intent. There can be no assurance if or when we will enter into any such transactions or the terms of such transactions. The compensation of many of our employees is tied directly to the company's performance through our EVA®-based incentive programs.

Sustainability

Sustainability is a key part of our business strategy at Ball. By enhancing the unique sustainability credentials of our products along their life cycles, we position our metal containers as the most sustainable packaging choice and help our customers grow their businesses. Aluminum is an infinitely recyclable material. It also has the highest scrap value of all commonly used packaging substrates. These qualities make cans an increasingly attractive option for sustainability-conscious consumers and brands who acknowledge that metal packaging is a true enabler of a circular economy in terms of economic value, recyclability, real recycling and the avoidance of down cycling. In 2017, Resource Recycling Systems recognized aluminum beverage cans as the most recycled beverage package in the world, with a global weighted average recycling rate for aluminum of 69 percent. This finding solidifies the aluminum can as the leader in real recycling, where the package is collected and then transformed into an item of equal value (product to product or material to material recycling). In comparison, only 43 percent of PET and 46 percent of glass bottles were collected for recycling, although not necessarily recycled.

In some of Ball's markets such as Brazil, China and several European countries, recycling rates for aluminum beverage cans are at or above 90 percent. The most recently available recycling rates for aluminum beverage cans are 97 percent in Brazil in 2017, 74 percent in Europe in 2015, and 49 percent in the U.S. in 2016.

We focus our sustainability efforts on product stewardship, operational excellence, talent management and community engagement. In our global operations, we work on continuous improvement of employee safety, energy and water efficiency, waste generation and air emissions.

Because metal recycling saves resources and uses significantly less energy than primary metal production, the biggest opportunity to further enhance the positive environmental attributes of metal packaging is to increase recycling rates. In markets where recycling rates are below where we believe they should be, we help establish and financially support packaging collection and recycling initiatives. These initiatives typically focus on collaborating with public and private partners to create effective collection and recycling systems, including education of consumers about the sustainability benefits of metal packaging.

Our Reportable Segments

Ball Corporation reports its financial performance in four reportable segments: (1) beverage packaging, North and Central America; (2) beverage packaging, South America; (3) beverage packaging, Europe and (4) aerospace. Ball also has investments in the U.S., Guatemala, Panama, South Korea and Vietnam that are accounted for using the equity method of accounting and, accordingly, those results are not included in segment sales or earnings. Financial information related to each of our segments is included in Note 3 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K (annual report).

On July 31, 2018, Ball sold its U.S. steel food and steel aerosol packaging business and formed a joint venture, Ball Metalpack. See Note 4 to the consolidated financial statements within Item 8 of this annual report for further information. As a result of the sale, the remaining global aluminum aerosol and Argentine steel aerosol businesses of the legacy food and aerosol packaging segment are now a non-reportable segment that manufactures and sells aerosol containers, extruded aluminum aerosol containers and aluminum slugs (aerosol packaging). For comparative periods, the entire former food and aerosol packaging segment is now presented within other.

Beverage Packaging, North and Central America, Segment

Beverage packaging, North and Central America is Ball's largest segment, accounting for 40 percent of consolidated net sales in 2018. Metal beverage containers are primarily sold under multi-year supply contracts to fillers of carbonated soft drinks, beer, energy drinks and other beverages.

Metal beverage containers and ends are produced at 17 manufacturing facilities in the U.S., one in Canada and two in Mexico. The beverage packaging, North and Central America, segment also includes interests in three joint ventures that are accounted for using the equity method.

The North American beverage container manufacturing industry is relatively mature. Where growth or contractions are projected in certain markets or for certain products, Ball undertakes selected capacity increases or decreases primarily in its existing facilities to meet market demand. A meaningful portion of the industry-wide reduction in demand for standard 12-ounce aluminum cans for the carbonated soft drink market is being offset with growing demand for specialty container volumes from new and existing customers and consumer demand. During 2016, we began production at our newly constructed beverage can and end manufacturing facility in Monterrey, Mexico. In order to serve growing customer demand for specialty cans in the southwestern U.S., the company constructed a four line beverage packaging facility in Goodyear, Arizona, which began production in the second quarter of 2018.

According to publicly available information and company estimates, the North American beverage container industry represents approximately 112 billion units. Five companies manufacture substantially all of the metal beverage containers in the U.S., Canada and Mexico. Ball produced approximately 46 billion recyclable aluminum beverage containers in North America in 2018, which represented approximately 44 percent of the aggregate production in these countries. Historically, sales volumes of metal beverage containers in North America tend to be highest during the period from April through September. All of the beverage containers produced by Ball in the U.S., Canada and Mexico are made of aluminum. In North and Central America, five suppliers provide the majority of our aluminum can and end sheet requirements.

Beverage containers are sold based on price, quality, service, innovation and sustainability in a highly competitive market, which is relatively capital intensive and characterized by facilities that run more or less continuously in order to operate profitably. In addition, the metal beverage container competes aggressively with other packaging materials which include meaningful industry positions by the glass bottle in the packaged beer industry and the polyethylene terephthalate (PET) bottle in the carbonated soft drink and water industries.

We believe we have limited our exposure to changes in the cost of aluminum ingot as a result of the inclusion of provisions in most metal beverage container sales contracts to pass through aluminum price changes, as well as through the use of derivative instruments.

Our beverage can manufacturing facility in Reidsville, North Carolina, ceased production at the end of June 2017, the Birmingham, Alabama, facility ceased production during the second quarter of 2018 and the Chatsworth, California, and Longview, Texas, facilities ceased production during the third quarter of 2018. These facilities produced beverage cans in a variety of sizes and their customers are now supplied by the company's other U.S. facilities.

Beverage Packaging, South America, Segment

The beverage packaging, South America, segment accounted for 15 percent of Ball's consolidated net sales in 2018. Our operations consist of 12 facilities, 10 in Brazil and one each in Argentina and Chile. For the countries where we operate, the South American beverage container market is approximately 31 billion containers, and we are the largest producer in this region with an estimated 53 percent of South American shipments in 2018. Four companies currently manufacture substantially all of the metal beverage containers in Brazil.

The company's South American beverage facilities produced approximately 16 billion aluminum beverage containers in 2018. Historically, sales volumes of beverage containers in South America tend to be highest during the period from September through December. In South America, two suppliers provide virtually all our aluminum sheet requirements with certain requirements also being imported from Asia.

In order to support contracted volumes for aluminum beverage packaging across Paraguay, Argentina, Chile and Bolivia, the company is constructing a one-line beverage can and end manufacturing facility in Paraguay and will add capacity to its Buenos Aires, Argentina, and Santiago, Chile, facilities. The Paraguay facility is expected to begin production in the second half of 2019. The company ceased operations at its Cuiabá, Brazil, beverage packaging facility in July 2018 and has relocated equipment from the Cuiabá facility to other existing facilities in South America.

We believe we have limited our exposure to changes in the cost of aluminum ingot as a result of the inclusion of provisions in most metal beverage container sales contracts to pass through aluminum ingot price changes, as well as through the use of derivative instruments.

Beverage Packaging, Europe, Segment

The beverage packaging, Europe, segment accounted for 23 percent of Ball's consolidated net sales in 2018. Our European operations consist of 20 facilities throughout Europe. The European beverage container market is approximately 67 billion containers, including Russia and excluding Turkey, and we are the largest producer with an estimated 43 percent of European shipments. The European market is highly regional in terms of sales growth rates and packaging mix. Four companies manufacture substantially all of the metal beverage containers in Europe. Our European beverage facilities produced 30 billion beverage containers in 2018, the vast majority of which were produced from aluminum.

Historically, sales volumes of metal beverage containers in Europe tend to be highest during the period from May through August with a smaller increase in demand leading up to the winter holiday season in the U.K. offset by much lower demand in Russia. Much like other parts of the world, the metal beverage container competes aggressively with other packaging materials used by the European beer and carbonated soft drink industries. The glass bottle is heavily utilized in the packaged beer industry, while the PET container is utilized in the carbonated soft drink, beer, juice and water industries.

European raw material supply contracts generally have longer term agreements. In Europe, five aluminum suppliers and one steel supplier provide almost all of our requirements. Aluminum is traded primarily in U.S. dollars, while the functional currencies of our European operations are various other currencies. The company minimizes its exchange rate risk using derivative and supply contracts in local currencies. Purchase and sales contracts generally include fixed-price, floating or pass-through aluminum ingot component pricing arrangements.

In order to support growth for beverage cans in the Iberian Peninsula, the company constructed a two-line, aluminum beverage can manufacturing facility near Madrid, Spain, with a majority of the facility's capacity secured under a long-term customer contract. The facility is fully operational and produces multiple can sizes utilizing both lines. In the third quarter of 2017, our beverage packaging container and end production facilities in Recklinghausen, Germany, ceased production, and the capacity was transitioned to existing European Ball facilities. In December 2018, we closed a one-line beverage packaging facility located in San Martino, Italy.

Aerospace Segment

Ball's aerospace segment, which accounted for 10 percent of consolidated net sales in 2018, includes national defense hardware, antenna and video tactical solutions, civil and operational space hardware and systems engineering services. The segment develops spacecraft, sensors and instruments, radio frequency systems and other advanced technologies for the civil, commercial and national security aerospace markets. The majority of the aerospace business involves work under contracts, generally from one to five years in duration, as a prime contractor or subcontractor for the U.S. Department of Defense (DoD), the National Aeronautics and Space Administration (NASA) and other U.S. government agencies. The company competes against both large and small prime contractors and subcontractors for these contracts. Contracts funded by the various agencies of the federal government represented 99 percent of segment sales in 2018.

Intense competition and long operating cycles are key characteristics of both the company's business and the aerospace and defense industry. It is common in the aerospace and defense industry for work on major programs to be shared among a number of companies. A company competing to be a prime contractor may, upon ultimate award of the contract to a competitor, become a subcontractor for the ultimate prime contracting company. It is not unusual to compete for a contract award with a peer company and, simultaneously, perform as a supplier to or a customer of that same competitor on other contracts, or vice versa.

Geopolitical events and shifting executive and legislative branch priorities have resulted in an increase in opportunities over the past decade in areas matching our aerospace segment's core capabilities in space hardware. The businesses include hardware and services sold primarily to U.S. customers, with emphasis on space science and exploration, environmental and earth sciences, and defense and intelligence applications. Major activities frequently involve the design, manufacture and testing of satellites, remote sensors and ground station control hardware and software, as well as related services such as launch vehicle integration and satellite operations.

Other hardware activities include target identification, warning and attitude control systems and components; cryogenic systems for reactant storage, and associated sensor cooling devices; star trackers, which are general-purpose stellar attitude sensors; and fast-steering mirrors. Additionally, the aerospace segment provides diversified technical services and products to government agencies, prime contractors and commercial organizations for a broad range of information warfare, electronic warfare, avionics, intelligence, training and space system needs.

Contracted backlog in the aerospace segment was \$2.2 billion and \$1.75 billion at December 31, 2018 and 2017, respectively, and consisted of the aggregate contract value of firm orders, excluding amounts previously recognized as revenue. The 2018 contracted backlog includes \$1.1 billion expected to be recognized in revenues during 2019, with the remainder expected to be recognized in revenues in the years thereafter. Unfunded amounts included in backlog for certain firm government orders, which are subject to annual funding, were \$1.4 billion and \$1.3 billion at December 31, 2018 and 2017, respectively. Year-over-year comparisons of backlog are not necessarily indicative of the trend of future operations due to the nature of varying delivery and milestone schedules on contracts, funding of programs and the uncertainty of timing of future contract awards. Uncertainties in the federal government budgeting process could delay the funding, or even result in cancellation of certain programs currently in our reported backlog.

Other

Other consists of non-reportable segments located in Africa, Middle East and Asia (beverage packaging, AMEA) and Asia Pacific (beverage packaging, Asia Pacific) that manufacture and sell metal beverage containers; a non-reportable segment that manufactures and sells aerosol containers, extruded aluminum aerosol containers and aluminum slugs (aerosol packaging); undistributed corporate expenses; intercompany eliminations and other business activities.

Beverage Packaging, AMEA

Our metal beverage container operations in the AMEA region consist of five aluminum container and end manufacturing facilities—two in India and one each in Egypt, Saudi Arabia and Turkey. The beverage container market in these regions produced 27 billion cans in 2018, and we are one of six major producers in this region with 15 percent of shipments. Our manufacturing facility in Saudi Arabia, Rexam United Arab Can Manufacturing Limited, is a joint venture 51 percent owned by Ball and consolidated in our results. Additionally, Ball has an ownership interest in an equity method joint venture in South Korea.

The company opened a metal beverage container facility in Sri City, India, near Chennai, which began production in the second quarter of 2017.

Beverage Packaging, Asia Pacific

The metal beverage container market in the People's Republic of China (PRC) is 44 billion containers, of which Ball's operations represented an estimated 12 percent in 2018. Our percentage of the industry makes us one of the largest manufacturers of metal beverage containers in the PRC. We, along with five other manufacturers, account for approximately 75 percent of the production. Our operations include the manufacture of aluminum containers and ends in four facilities in the PRC and one aluminum container facility in Myanmar. Our aluminum can and end sheet requirements are provided by several suppliers.

Ball has ownership interests in beverage packaging manufacturing operations in Vietnam and Thailand.

On December 13, 2018, we announced an agreement to sell our beverage packaging facilities in China for upfront consideration of approximately \$225 million plus potential additional consideration related to the future relocation of an existing facility in China. The transaction is subject to customary regulatory approvals and is expected to close during the second half of 2019.

Aerosol Packaging

Our aerosol packaging operations manufacture and sell extruded aluminum aerosol containers, steel aerosol containers and aluminum slugs, which represented less than 5 percent of Ball's consolidated net sales in 2018. There are 10 manufacturing facilities that manufacture these products – four in Europe, two in Argentina, one each in the U.S., Canada, Mexico and India. The aerosol packaging market in these countries produced approximately 5 billion aluminum aerosol units in 2018 and we are one of the major producers in this combined area with shipments of 1.1 billion aluminum aerosol packaging containers, representing approximately 20 percent of total shipments in these markets. Our aluminum and steel aerosol sheet requirements are provided by several suppliers.

Patents

In the opinion of the company's management, none of our active patents or groups of patents is material to the successful operation of our business as a whole. We manage our intellectual property portfolio to obtain the durations necessary to achieve our business objectives.

Research and Development

Research and development (R&D) efforts in our packaging segments are primarily directed toward packaging innovation, specifically the development of new features, sizes, shapes and types of containers, as well as new uses for existing containers. Other R&D efforts in these segments seek to improve manufacturing efficiencies and the overall sustainability of our products. Our packaging R&D activities are primarily conducted in a technical center located in Westminster, Colorado.

In our aerospace business, we continue to focus our R&D activities on the design, development and manufacture of innovative aerospace products and systems. This includes the production of spacecraft, instruments and sensors, radio frequency and system components, data exploitation solutions and a variety of advanced aerospace technologies and products that enable deep space missions. Our aerospace R&D activities are conducted at various locations in the U.S.

Additional information regarding company R&D activity is contained in Note 1 to the consolidated financial statements within Item 8 of this annual report, as well as in Item 2, "Properties."

Employee Relations

At the end of 2018, the company and its subsidiaries employed approximately 17,500 employees, including approximately 7,300 employees in the U.S. Details of collective bargaining agreements are included within Item 1A, Risk Factors, of this annual report.

Where to Find More Information

Ball Corporation is subject to the reporting and other information requirements of the Securities Exchange Act of 1934, as amended (Exchange Act). Reports and other information filed with the Securities and Exchange Commission (SEC) pursuant to the Exchange Act may be inspected and copied at the public reference facility maintained by the SEC in Washington, D.C. The SEC maintains a website at www.sec.gov containing our reports, proxy materials and other items. The company also maintains a website at www.ball.com/investors on which it provides a link to access Ball's SEC reports free of charge, under the link "Financials."

The company has established written Ball Corporation Corporate Governance Guidelines; a Ball Corporation Executive Officers and Board of Directors Business Ethics Statement; a Business Ethics Code of Conduct; and charters for its Audit Committee, Nominating/Corporate Governance Committee, Human Resources Committee and Finance Committee. These documents are on the company's website at www.ball.com/investors, under the link "Corporate Governance." A copy may also be obtained upon request from the company's corporate secretary. The company's sustainability report and updates on Ball's progress are available at www.ball.com/sustainability.

The company intends to post on its website the nature of any amendments to the company's codes of ethics that apply to executive officers and directors, including the chief executive officer, chief financial officer and controller, and the nature of any waiver or implied waiver from any code of ethics granted by the company to any executive officer or director. These postings will appear on the company's website at www.ball.com/investors, under the link "Corporate Governance."

Item 1A. Risk Factors

Any of the following risks could materially and adversely affect our business, financial condition or results of operations.

We may not realize all of the anticipated benefits of the acquisition of Rexam, or those benefits may take longer to realize than expected. We may also encounter significant unexpected difficulties in integrating the two businesses.

Our ability to realize the anticipated benefits of the acquisition of Rexam will depend, to a large extent, on our ability to integrate our beverage packaging business with Rexam's business. Combining two independent businesses is a complex, costly and time-consuming process. As a result, we are required to devote significant management attention and resources to integrating the business practices and operations of the company and the Rexam business we acquired. The integration process may disrupt the combined business and, if implemented ineffectively, could preclude the realization of the full benefits of the acquisition that are currently expected. Our failure to meet the challenges involved in integrating the two businesses and to realize the anticipated benefits of the acquisition could cause an interruption of, or a loss of momentum in, the activities of the company and could adversely affect the company's results of operations. In addition, the overall integration of the businesses may result in material unanticipated problems, expenses, liabilities, competitive responses, loss of customer relationships and diversion of management's attention. The possible difficulties of combining the operations of the companies also include, among others:

- difficulties in achieving anticipated cost savings, synergies, business opportunities and growth prospects from combining our business with that of Rexam;
- difficulties in integrating operations, business practices and systems;
- difficulties in assimilating and retaining employees;
- difficulties in managing the expanded operations of a significantly larger and more complex combined company;
- challenges in retaining existing customers and suppliers;
- challenges in obtaining new customers and suppliers;
- potential unknown liabilities and unforeseen increased expenses associated with the acquisition; and
- challenges in retaining and attracting key personnel.

Many of these factors are or will be outside of our control and any one of them could result in increased costs, decreases in the amount of expected revenues and diversion of management's time and energy, which could materially impact the business, financial condition and results of operations of the company. In addition, even if the operations of the businesses of the company and Rexam are integrated successfully, we may not realize the full benefits of the acquisition, including the synergies, cost savings or sales or growth opportunities that we expect, or the full benefits may not be achieved within the anticipated time frame, or at all. Additional unanticipated costs may be incurred in the integration of the businesses of the company and Rexam. All of these factors could adversely affect the earnings of the company, decrease or delay the expected accretive effect of the acquisition, or negatively impact the price of the company's common stock. As a result, we cannot assure that the combination of the company's and Rexam's beverage packaging businesses will result in the realization of the full benefits anticipated from the acquisition.

In connection with satisfying requirements under the antitrust laws of the U.S., the European Union and Brazil, and obtaining associated approvals and clearances, we were required to effect significant divestitures. As a result of the required divestitures, we may not realize all or a significant portion of the anticipated benefits of the Rexam acquisition, including anticipated synergies, and the company may otherwise suffer other negative consequences that may materially and adversely affect the company's business, financial condition and results of operations and, to the extent that the current price of the company's common stock reflects an assumption that the anticipated benefits of the acquisition will be realized, the price per share for the company's common stock could be negatively impacted.

We have a significant level of debt that could have important consequences for our business and any investment in our securities.

The company had \$6.7 billion of interest-bearing debt at December 31, 2018. Such indebtedness could have significant consequences for our business and any investment in our securities, including:

- increasing our vulnerability to adverse economic, industry or competitive developments;
- requiring more of our cash flows from operations to be dedicated to the payment of principal and interest on our indebtedness, limiting our cash flow available to fund our operations, capital expenditures and future business opportunities or returning additional cash to our shareholders;
- restricting us from making additional acquisitions;
- limiting our ability to obtain additional financing for working capital, capital expenditures, product development, debt service requirements, acquisitions and general corporate or other purposes; and
- limiting our flexibility in planning for, or reacting to, changes in our business or market conditions and placing us at a competitive disadvantage compared to our competitors who may be less leveraged and who, therefore, may be able to take advantage of opportunities that our leverage prevents us from exploiting.

Our business, operating results and financial condition are subject to particular risks in certain regions of the world.

We may experience an operating loss in one or more regions of the world for one or more periods, which could have a material adverse effect on our business, operating results or financial condition. Moreover, overcapacity, which often leads to lower prices, exists in certain regions in which we operate and may persist even if demand grows. Our ability to manage such operational fluctuations and to maintain adequate long-term strategies in the face of such developments will be critical to our continued growth and profitability.

The loss of a key customer, or a reduction in its requirements, could have a significant negative impact on our sales.

We sell a majority of our packaging products to a relatively limited number of major beverage, personal care and household product companies, some of which operate in multiple geographical markets we serve.

Although the majority of our customer contracts are long-term, these contracts, unless they are renewed, expire in accordance with their respective terms and are terminable under certain circumstances, such as our failure to meet quality, volume or market pricing requirements. Because we depend on a relatively limited number of major customers, our business, financial condition or results of operations could be adversely affected by the loss of any of these customers, a reduction in the purchasing levels of these customers, a strike or work stoppage by a significant number of these customers' employees or an adverse change in the terms of the supply agreements with these customers.

The primary customers for our aerospace segment are U.S. government agencies or their prime contractors. Our contracts with these customers are subject to several risks, including funding cuts and delays, technical uncertainties, budget changes, government shutdowns, competitive activity and changes in scope.

We face competitive risks from many sources that may negatively impact our profitability.

Competition within the packaging and aerospace industries is intense. Increases in productivity, combined with existing or potential surplus capacity in the industry, have maintained competitive pricing pressures. The principal methods of competition in the general packaging industry are price, innovation, sustainability, service and quality. In the aerospace industry, they are technical capability, cost and schedule. Some of our competitors may have greater financial, technical and marketing resources, and some may currently have excess capacity. Our current or potential competitors may offer products at a lower price or products that are deemed superior to ours. The global economic environment has resulted in reductions in demand for our products in some instances, which, in turn, could increase these competitive pressures.

We are subject to competition from alternative products, which could result in lower profits and reduced cash flows.

Our metal packaging products are subject to significant competition from substitute products, particularly plastic carbonated soft drink bottles made from PET, single serve beer bottles and other beverage containers made of glass, cardboard or other materials. Competition from plastic carbonated soft drink bottles is particularly intense in the U.S., Europe and the PRC. Certain of our aerospace products are also subject to competition from alternative products and solutions. There can be no assurance that our products will successfully compete against alternative products, which could result in a reduction in our profits or cash flow.

Our packaging businesses have a narrow product range, and our business would suffer if usage of our products decreased or if decreases occur in the demand for the beverages and other goods filled in our products.

The majority of our consolidated net sales were from the sale of beverage containers, and we expect to derive a significant portion of our future revenues and cash flows from the sale of beverage containers. Our business would suffer if the use of beverage containers decreased. Accordingly, broad acceptance by consumers of aluminum containers for a wide variety of beverages is critical to our future success. If demand for glass and PET bottles increases relative to metal containers, or the demand for aluminum containers does not develop as expected, our business, financial condition or results of operations could be materially adversely affected.

Changes in laws and governmental regulations may adversely affect our business and operations.

We and our customers and suppliers are subject to various federal, state, provincial and local laws and regulations, which have been increasing in number and complexity. Each of our, and their, facilities is subject to federal, state, provincial and local licensing and regulation by health, environmental, workplace safety and other agencies in multiple jurisdictions. Requirements of worldwide governmental authorities with respect to manufacturing, manufacturing facility locations within the jurisdiction, product content and safety, climate change, workplace safety and health, environmental, expropriation of assets and other standards could adversely affect our ability to manufacture or sell our products, and the ability of our customers and suppliers to manufacture and sell their products. In addition, we face risks arising from compliance with and enforcement of numerous and complex federal, state, provincial and local laws and regulations.

Enacted regulatory developments regarding the reporting and use of “conflict minerals” mined from the Democratic Republic of the Congo and adjoining countries could affect the sourcing, availability and price of minerals used in the manufacture of certain of our products. As a result, there may only be a limited pool of suppliers who provide conflict-free materials, and we cannot give assurance that we will be able to obtain such products in sufficient quantities or at competitive prices. Also, because our supply chains are complex, we may face reputational challenges with our customers and other stakeholders if we are unable to sufficiently verify the origins of all materials used in the products that we sell. The compliance and reporting aspects of these regulations may result in incremental costs to the company. While deposit systems and other container-related legislation have been adopted in some jurisdictions, similar legislation has been defeated in public referenda and legislative bodies in many others. We anticipate that continuing efforts will be made to consider and adopt such legislation in the future. The packages we produce are widely used and perform well in U.S. states, Canadian provinces and European countries that have deposit systems, as well as in other countries worldwide.

Significant environmental, employment-related and other legislation and regulatory requirements exist and are also evolving. The compliance costs associated with current and proposed laws and potential regulations could be substantial, and any failure or alleged failure to comply with these laws or regulations could lead to litigation or governmental action, all of which could adversely affect our financial condition or results of operations.

Our business, financial condition and results of operations are subject to risks resulting from broader geographic operations.

We derived more than 50 percent of our consolidated net sales from outside of the U.S. for the year ended December 31, 2018. The sizeable scope of operations outside of the U.S. may lead to more volatile financial results and make it more difficult for us to manage our business. Reasons for this include, but are not limited to, the following:

- political and economic instability;
- governments' restrictive trade policies;
- the imposition or rescission of duties, taxes or government royalties;
- exchange rate risks;
- difficulties in enforcement of contractual obligations and intellectual property rights; and
- the geographic, language and cultural differences between personnel in different areas of the world.

We are exposed to exchange rate fluctuations.

The financial results of the company are exposed to currency exchange rate fluctuations and an increased proportion of assets, liabilities and earnings denominated in non-U.S. dollar currencies. The company presents its financial statements in U.S. dollars and has a significant proportion of its net assets, debt and income in non-U.S. dollar currencies, primarily the euro, as well as the Russian ruble and other emerging market currencies. The company's financial results and capital ratios are therefore sensitive to movements in foreign exchange rates.

We manage our exposure to currency fluctuations, particularly our exposure to fluctuations in the euro to U.S. dollar exchange rate to attempt to mitigate the effect of cash flow and earnings volatility associated with exchange rate changes. We primarily use forward contracts and options to manage our currency exposures and, as a result, we experience gains and losses on these derivative positions offset, in part, by the impact of currency fluctuations on existing assets and liabilities.

If we fail to retain key management and personnel, we may be unable to implement our key objectives.

We believe our future success depends, in part, on our experienced management team. Unforeseen losses of key members of our management team without appropriate succession and/or compensation planning could make it difficult for us to manage our business and meet our objectives.

Decreases in our ability to develop or apply new technology and know-how may affect our competitiveness.

Our success depends partially on our ability to improve production processes and services. We must also introduce new products and services to meet changing customer needs. If we are unable to implement better production processes or to develop new products through research and development or licensing of new technology, we may not be able to remain competitive with other manufacturers. As a result, our business, financial condition or results of operations could be adversely affected.

Adverse weather and climate changes may result in lower sales.

We manufacture packaging products primarily for beverages. Unseasonably cool weather can reduce demand for certain beverages packaged in our containers. Climate change could have various effects on the demand for our products and the costs of inputs to our production in different regions around the world.

We are vulnerable to fluctuations in the supply and price of raw materials.

We purchase aluminum, steel and other raw materials and packaging supplies from several sources. While all such materials are available from independent suppliers, raw materials are subject to fluctuations in price and availability attributable to a number of factors, including general economic conditions, commodity price fluctuations (particularly aluminum on the London Metal Exchange), the demand by other industries for the same raw materials and the availability of complementary and substitute materials. Although we enter into commodities purchase agreements from time to time and sometimes use derivative instruments to seek to manage our risk, we cannot ensure that our current suppliers of raw materials will be able to supply us with sufficient quantities at reasonable prices. Economic, operational and financial factors, as well as governmental action, could impact our suppliers, thereby causing supply shortages. Increases in raw material costs, including potential increases due to tariffs, sanctions, or other trade actions, could have a material adverse effect on our business, financial condition or results of operations. In the Americas, Europe and Asia, some contracts do not allow us to pass along increased raw material costs and we generally use derivative agreements to seek to manage this risk. Our hedging procedures may be insufficient and our results could be materially impacted if costs of materials increase. Due to the fixed-price contracts and derivative activities, while increasing raw material costs may not impact our near-term profitability, increased prices could decrease our sales volume over time.

Prolonged work stoppages at facilities with union employees could jeopardize our financial position.

As of December 31, 2018, 14 percent of our North American packaging facility employees and 56 percent of our European employees were covered by collective bargaining agreements. These collective bargaining agreements have staggered expirations during the next several years. Although we consider our employee relations to be generally good, a prolonged work stoppage or strike at any facility with union employees could have a material adverse effect on our business, financial condition or results of operations. In addition, we cannot ensure that upon the expiration of existing collective bargaining agreements, new agreements will be reached without union action or that any such new agreements will be on terms satisfactory to us.

Our aerospace segment is subject to certain risks specific to that business.

In our aerospace business, U.S. government contracts are subject to reduction or modification in the event of changes in requirements, and the government may also terminate contracts at its convenience pursuant to standard termination provisions. In such instances, Ball may be entitled to reimbursement for allowable costs and profits on authorized work that has been performed through the date of termination.

In addition, budgetary constraints and government shutdowns may result in further reductions to projected spending levels by the U.S. government. In particular, government expenditures are subject to the potential for automatic reductions, generally referred to as “sequestration.” Sequestration may occur in any given year, resulting in significant additional reductions to spending by various U.S. government defense and aerospace agencies on both existing and new contracts, as well as the disruption of ongoing programs. Even if sequestration does not occur, we expect that budgetary constraints and ongoing concerns regarding the U.S. national debt will continue to place downward pressure on agency spending levels. Due to these and other factors, overall spending on various programs could decline, which could result in significant reductions to revenue, cash flows, net earnings and backlog primarily in our aerospace segment.

We use estimates in accounting for many of our programs in our aerospace business, and changes in our estimates could adversely affect our future financial results.

We account for sales and profits on a portion of long-term contracts in our aerospace business in accordance with the percentage-of-completion method of accounting, using the cost-to-cost method to account for updates in estimates. The percentage-of-completion method of accounting involves the use of various estimating techniques to project revenues and costs at completion and various assumptions and projections relative to the outcome of future events, including the quantity and timing of product deliveries, future labor performance and rates, and material and overhead costs. These assumptions involve various levels of expected performance improvements. Under the cost-to-cost method, the impact of updates in our estimates related to units shipped to date or progress made to date is recognized immediately.

Because of the significance of the judgments and estimates described above, it is likely that we could record materially different amounts if we used different assumptions or if the underlying circumstances or estimates were to change.

Our backlog includes both cost-type and fixed-price contracts. Cost-type contracts generally have lower profit margins than fixed-price contracts. Our earnings and margins may vary depending on the types of government contracts undertaken, the nature of the work performed under those contracts, the costs incurred in performing the work, the achievement of other performance objectives and their impact on our ability to receive fees. The fixed-price contracts could subject us to losses if we have cost overruns or if increases in our costs exceed the applicable escalation rate.

As a U.S. government contractor, we could be adversely affected by changes in regulations or any negative findings from a U.S. government audit or investigation.

Our aerospace business operates in a highly regulated environment and is routinely audited and reviewed by the U.S. government and its agencies, such as the Defense Contract Audit Agency (DCAA) and Defense Contract Management Agency (DCMA). These agencies review performance under our contracts, our cost structure and our compliance with applicable laws, regulations and standards, as well as the adequacy of, and our compliance with, our internal control systems and policies. Business systems that are subject to review under the DoD Federal Acquisition Regulation Supplement (DFARS) are purchasing, estimating, material management and accounting, as well as property and earned value management. Any costs ultimately found to be unallowable or improperly allocated to a specific contract will not be reimbursed or must be refunded if already reimbursed. If an audit uncovers improper or illegal activities, we may be subject to civil and criminal penalties, sanctions or suspension or debarment from doing business with the U.S. government. Whether or not illegal activities are alleged, the U.S. government also has the ability to decrease or withhold certain payments when it deems systems subject to its review to be inadequate. If such actions were to result in suspension or debarment, this could have a material adverse effect on our business.

Our business is subject to substantial environmental remediation and compliance costs.

Our operations are subject to federal, state, provincial and local laws and regulations in multiple jurisdictions relating to environmental hazards, such as emissions to air, discharges to water, the handling and disposal of hazardous and solid wastes and the clean-up of hazardous substances. We have been designated, along with numerous other companies, as a potentially responsible party for the clean-up of several hazardous waste sites. Based on available information, we do not believe that any costs incurred in connection with such sites will have a material adverse effect on our financial condition, results of operations, capital expenditures or competitive position. There is increased focus on the regulation of greenhouse gas emissions and other environmental issues worldwide.

Our business faces the potential of increased regulation on some of the raw materials utilized in our packaging operations.

Our operations are subject to federal, state, provincial and local laws and regulations in multiple jurisdictions relating to some of the raw materials, such as epoxy-based coatings utilized in our container making process. Epoxy-based coatings may contain Bisphenol-A (BPA). Scientific evidence evaluated by regulatory agencies in the U.S., Canada, Europe, Japan, Australia and New Zealand has consistently shown these coatings to be safe for food contact at current levels, and these regulatory agencies have stated that human exposure to BPA from epoxy-based container coatings is well below safe exposure limits set by government bodies worldwide. A significant change in these regulatory agency statements, adverse information concerning BPA, or rulings made within certain federal, state, provincial and local jurisdictions could have a material adverse effect on our business, financial condition or results of operations. Ball recognizes that significant interest exists in non-epoxy based coatings, and we have been proactively working with coatings suppliers and our customers to transition to alternative coatings.

Net earnings and net assets could be materially affected by an impairment of goodwill.

We have a significant amount of goodwill recorded on the consolidated balance sheet as of December 31, 2018. We are required at least annually to test the recoverability of goodwill. The recoverability test of goodwill is based on the current fair value of our identified reporting units. Fair value measurement requires assumptions and estimates of many critical factors, including revenue and market growth, operating cash flows and discount rates. If general market conditions deteriorate in portions of our business, we could experience a significant decline in the fair value of reporting units. This decline could lead to an impairment of all or a significant portion of the goodwill balance, which could materially affect our U.S. GAAP net earnings and net assets.

We continue to see the industry supply of beverage packaging exceed demand in China, resulting in significant pricing pressure and negative impacts on the profitability of our beverage packaging, Asia Pacific, reporting unit. The worsening business climate in Saudi Arabia has resulted in negative impacts to the profitability of our beverage packaging, AMEA, reporting unit. If it becomes an expectation that these situations will continue for an extended period of time, it may result in a noncash impairment of some or all of the goodwill associated with these reporting units, totaling \$78 million and \$100 million, respectively, at December 31, 2018. The company's annual goodwill impairment test completed in the fourth quarter of 2018 indicated the estimated fair value of the beverage packaging, Asia Pacific, and beverage packaging, AMEA, reporting units exceeded their carrying amounts, including goodwill, by 11 percent and 15 percent, respectively. The goodwill associated with the beverage packaging, Asia Pacific, reporting unit predominantly relates to the China beverage packaging facilities. On December 13, 2018, we announced an agreement to sell our beverage packaging facilities in China. The transaction is expected to close during the second half of 2019.

If the investments in Ball's pension plans, or in the multi-employer pension plans in which Ball participates, do not perform as expected, we may have to contribute additional amounts to the plans, which would otherwise be available for other general corporate purposes.

Ball maintains defined benefit pension plans covering substantially all of its North American employees and a significant portion of United Kingdom employees, which are funded based on certain actuarial assumptions. The plans' assets consist primarily of common stocks, fixed-income securities and, in the U.S., alternative investments. Market declines, longevity increases or legislative changes, such as the Pension Protection Act in the U.S., could result in a prospective decrease in our available cash flow and net earnings over time, and the recognition of an increase in our pension obligations could result in a reduction to our shareholders' equity. Additional risks exist related to the company's participation in multi-employer pension plans. Assets contributed to a multi-employer pension plan by one employer may be used to provide benefits to employees of other participating employers. If a participating employer in a multi-employer pension plan stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participants. This could result in increases to our contributions to the plans as well as pension expense.

Restricted access to capital markets could adversely affect our short-term liquidity and prevent us from fulfilling our obligations under the notes issued pursuant to our bond indentures.

A reduction in global market liquidity could:

- restrict our ability to fund working capital, capital expenditures, research and development expenditures and other business activities;
- increase our vulnerability to general adverse economic and industry conditions, including the credit risks stemming from the economic environment;
- limit our flexibility in planning for, or reacting to, changes in our businesses and the industries in which we operate;
- restrict us from making strategic acquisitions or exploiting business opportunities; and
- limit, along with the financial and other restrictive covenants in our debt, among other things, our ability to borrow additional funds, dispose of assets, pay cash dividends or refinance debt maturities.

As market interest rates increase, our variable-rate debt will create higher debt service requirements, which adversely affects our cash flow. While we sometimes enter into agreements limiting our exposure, any such agreements may not offer complete protection from this risk.

The global credit, financial and economic environment could have a negative impact on our results of operations, financial position or cash flows.

The overall credit, financial and economic environment could have significant negative effects on our operations, including:

- the creditworthiness of customers, suppliers and counterparties could deteriorate resulting in a financial loss or a disruption in our supply of raw materials;
- volatile market performance could affect the fair value of our pension assets, potentially requiring us to make significant additional contributions to our defined benefit pension plans to maintain prescribed funding levels;
- a significant weakening of our financial position or operating results could result in noncompliance with our debt covenants; and
- reduced cash flow from our operations could adversely affect our ability to execute our long-term strategy to increase liquidity, reduce debt, repurchase our stock and invest in our businesses.

Changes in U.S. generally accepted accounting principles (U.S. GAAP) and SEC rules and regulations could materially impact our reported results.

U.S. GAAP and SEC accounting and reporting changes are common and have become more frequent and significant over the past several years. These changes could have significant effects on our reported results when compared to prior periods and other companies and may even require us to retrospectively adjust prior periods. Additionally, material changes to the presentation of transactions in the consolidated financial statements could impact key ratios that analysts and credit rating agencies use to rate Ball and ultimately impact our ability to access the credit markets in an efficient manner.

Earnings and cash flows can be impacted by changes in tax laws.

As a U.S.-based multinational business, the company is subject to income tax in the U.S. and numerous jurisdictions outside the U.S. The relevant tax rules and regulations are complex, often changing and, in some cases, are interdependent. If these or other tax rules and regulations should change, the company's earnings and cash flows could be impacted.

In particular, the U.S. Tax Cuts and Jobs Act (the Act), which was signed into law on December 22, 2017, may continue to result in fluctuations in the company's net earnings and cash flows. The Act introduced major changes to U.S. income tax law that require significant judgment to interpret the impact of the provisions of the Act on the company's financial results.

Due to the timing of its enactment and the complexity associated with the provisions of the Act, the company made reasonable estimates of its effects where possible and recorded provisional estimates in its financial statements for the year ended December 31, 2017. The company has updated these provisional estimates as needed and its financial statements now reflect the final impact of these items based on currently available guidance, including proposed regulations. Given the various uncertainties and ambiguities that still remain with respect to the application of the Act, the Internal Revenue Service and the U.S. Treasury Department may issue subsequent guidance on the provisions of the Act, including final regulations, that differs from our current interpretations. The impact of any adjustments required as a result of such subsequent guidance could materially affect the company's financial results.

The company's worldwide provision for income taxes is determined, in part, through the use of significant estimates and judgments. Numerous transactions arise in the ordinary course of business where the ultimate tax determination is uncertain. The company undergoes tax examinations by various worldwide tax authorities on a regular basis. While the company believes its estimates of its tax obligations are reasonable, the final outcome after the conclusion of any tax examinations and any litigation could be materially different from what has been reflected in the company's historical financial statements.

Increased information technology (IT) security threats and more sophisticated and targeted computer crime could pose a risk to our systems, networks, products, solutions and services.

The company's IT systems, or any third party's system on which the company relies, could fail on their own accord or may be vulnerable to a variety of interruptions or shutdowns, including interruptions or shutdowns due to natural disasters, power outages or telecommunications failures, terrorist attacks or failures during the process of upgrading or replacing software or hardware. Increased global IT security threats and more sophisticated and targeted computer crime also pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data. As a provider of products and services to government and commercial customers, our aerospace business in particular may be the target of cyber-attacks, including attempts to gain unauthorized access to classified or sensitive information and networks. The company has a number of shared service centers where many of the company's IT systems are concentrated and any disruption at such a location could impact the company's business within the operating zones served by the impacted service center.

While we attempt to mitigate all of these risks by employing a number of measures, including employee training, comprehensive monitoring of our networks and systems, and maintenance of backup and protective systems, our systems, networks, products, solutions and services remain potentially vulnerable to advanced persistent threats or other IT disruptions. Depending on their nature and scope, such threats could potentially lead to the compromise of confidential information, improper use of our systems and networks, manipulation and destruction of data, defective products, harm to individuals or property, contractual or regulatory actions and fines, penalties and potential liabilities, production downtimes and operational disruptions, which in turn could adversely affect our reputation, competitiveness and results of operations. Data privacy and protection laws are evolving and present increasing compliance challenges, which may increase our costs, affect our competitiveness and could expose us to substantial fines or other penalties. In addition, a security breach that involves classified or other sensitive government information could subject us to civil or criminal penalties and could result in the loss of our secure facility clearance and other accreditation, loss of our government contracts, loss of access to classified information or debarment as a government contractor.

A material weakness in our internal control over financial reporting could, if not remediated, result in material misstatements in our financial statements.

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Exchange Act. A material weakness is defined as a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of annual or interim financial statements will not be prevented or detected on a timely basis. If a material weakness is identified, management could conclude that internal control over financial reporting is not effective based on criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in "Internal Control—An Integrated Framework (2013)." If a material weakness is identified, a remediation plan would be designed to address the material weakness. If remedial measures are insufficient to address the material weakness, or if additional material weaknesses in internal control are discovered or occur in the future, our consolidated financial statements may contain material misstatements and we could be required to restate our financial results. As of December 31, 2018, the company had no material weaknesses.

Significant developments stemming from the U.K.'s referendum on membership in the EU could have a material adverse effect on us.

In June 2016, the U.K. held a referendum and voted in favor of leaving the European Union (EU). This referendum has created political and economic uncertainty, particularly in the U.K. and the EU, and this uncertainty may last for years, particularly as the U.K. and the EU continue to negotiate the terms of withdrawal from the EU. Our business in the U.K., the EU and worldwide could be affected by uncertainty prior to and after the upcoming March 29, 2019, withdrawal date by the impact of the U.K.'s referendum and anticipated withdrawal from the EU. There are many ways in which our business could be affected, only some of which we can identify at the present time, such as supply chain constraints, increased material costs due to rising tariffs, effects on employee mobility and increased costs of doing business in the U.K. These effects could be more severe if the U.K. and the EU fail to reach an agreement prior to the withdrawal date.

The referendum, and the likely withdrawal of the U.K. from the EU it triggers, has caused and, along with events that could occur in the future as a consequence of the U.K.'s withdrawal, including the possible breakup of the U.K. or the EU, may continue to cause significant volatility in global financial markets, including in global currency and debt markets. A failure by the U.K. and the EU to reach an agreement prior to the U.K.'s departure from the EU, scheduled for March 29, 2019, may increase this volatility. This volatility could cause a slowdown in economic activity in the U.K., Europe or globally, which could adversely affect our operating results and growth prospects. In addition, our business could be negatively affected by new trade agreements between the U.K. and other countries, including the U.S., and by the possible imposition of trade or other regulatory barriers in the U.K. These possible negative impacts, and others resulting from the U.K.'s actual or threatened withdrawal from the EU, may adversely affect our operating results and growth prospects.

Item 1B. Unresolved Staff Comments

There were no matters required to be reported under this item.

Item 2. Properties

The company's properties described below are well maintained, and management considers them to be adequate and utilized for their intended purposes.

Ball's corporate headquarters and the aerospace segment management offices are located in Broomfield, Colorado, U.S. The operations of the aerospace segment occupy a variety of company-owned and leased facilities in Colorado, U.S., which together aggregate 1.8 million square feet of office, laboratory, research and development, engineering and test and manufacturing space. Other aerospace operations carry on business in smaller company owned and leased facilities in other U.S. locations outside of Colorado.

The offices of the company's various beverage packaging, North and Central America, operations are located in Westminster, Colorado, U.S.; the offices for the beverage packaging, Europe, operations are located in Luton, U.K.; the offices for the beverage packaging, AMEA, operations are located in Dubai, United Arab Emirates; the offices for the beverage packaging, Asia Pacific, operations are located in Hong Kong; and the beverage packaging, South America, offices are located in Rio de Janeiro, Brazil. The company's research and development facilities are primarily located in Westminster, Colorado, U.S. The company has shared service centers located in Queretaro, Mexico; Belgrade, Serbia; and São José dos Campos, Brazil.

Information regarding the approximate size of the manufacturing locations for significant packaging operations, which are owned or leased by the company, is set forth below. Facilities in the process of being constructed, or that have ceased production, have been excluded from the list. Where certain locations include multiple facilities, the total approximate size for the location is noted. In addition to the facilities listed, the company leases other warehousing space.

Plant Location	Approximate Floor Space in Square Feet
<i>Beverage packaging, North and Central America:</i>	
Conroe, Texas	315,000
Fairfield, California	337,000
Findlay, Ohio	733,000
Fort Atkinson, Wisconsin	250,000
Fort Worth, Texas	322,000
Golden, Colorado	509,000
Goodyear, Arizona	495,000
Kapolei, Hawaii	131,000
Kent, Washington	127,000
Monterrey, Mexico	440,000
Monticello, Indiana	356,000
Phoenix, Arizona	106,000
Queretaro, Mexico	253,000
Rome, Georgia	386,000
Saint Paul, Minnesota	165,000
Saratoga Springs, New York	290,000
Tampa, Florida	276,000
Wallkill, New York	312,000
Whitby, Ontario, Canada	205,000
Williamsburg, Virginia	400,000
<i>Beverage packaging, South America:</i>	
Aguas Claras, Brazil	292,000
Brasilia, Brazil	267,000
Buenos Aires, Argentina	272,000
Extrema, Brazil	375,000
Jacarei, Sao Paulo, Brazil	476,000
Manaus, Brazil	303,000
Pouso Alegre, Brazil	430,000
Recife, Brazil	455,000
Santa Cruz, Brazil	311,000
Santiago, Chile	275,000
Simoes Filho, Brazil	96,000
Tres Rios, Rio de Janeiro, Brazil	428,000
<i>Beverage packaging, Europe:</i>	
Argayash, Russia	256,000
Belgrade, Serbia	342,000
Bierne, France	274,000
Cabanillas del Campo, Spain	145,000
Ejpovice, Czech Republic	185,000
Fosie, Sweden	669,000
Fredericia, Denmark	329,000
Gelsenkirchen, Germany	378,000
La Selva, Spain	278,000
Lublin, Poland	280,000
Ludesch, Austria	337,000
Mantsala, Finland	230,000
Milton Keynes, United Kingdom	148,000
Mont, France	45,000
Naro Fominsk, Russia	544,000
Nogara, Italy	122,000
Vsevolozhsk, Russia	316,000
Wakefield, United Kingdom	269,000
Waterford, Ireland	129,000
Widnau, Switzerland	321,000

Plant Location	Approximate Floor Space in Square Feet
<i>Beverage packaging, AMEA:</i>	
Cairo, Egypt	201,000
Dammam, Saudi Arabia	416,000
Manisa, Turkey	173,000
Mumbai, India	175,000
Sri City, India	215,000
<i>Beverage packaging, Asia Pacific:</i>	
Beijing, PRC	303,000
Hubei (Wuhan), PRC	416,000
Qingdao, PRC	326,000
Sanshui (Foshan), PRC	672,000
Yangon, Myanmar	432,000
<i>Aerosol packaging:</i>	
Ahmedabad, India	58,000
Beaurepaire, France	89,000
Bellegarde, France	124,000
Buenos Aires, Argentina	34,000
Devizes, United Kingdom	110,000
San Luis, Argentina	51,000
San Luis Potosí, Mexico	158,000
Sherbrooke, Quebec, Canada	100,000
Velim, Czech Republic	252,000
Verona, Virginia	72,000

Item 3. Legal Proceedings

Details of the company's legal proceedings are included in Note 23 to the consolidated financial statements within Item 8 of this annual report.

Item 4. Mine Safety Disclosures

Not applicable.

Part II.**Item 5. Market for the Registrant's Common Stock and Related Stockholder Matters**

Ball Corporation common stock (BLL) is listed for trading on the New York Stock Exchange. There were 6,048 common shareholders of record on February 20, 2019.

Common Stock Repurchases

The following table summarizes the company's repurchases of its common stock during the quarter ended December 31, 2018.

(\$ in millions)	Purchases of Securities		Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (a)	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs (b)
	Total Number of Shares Purchased (a)	Average Price Paid per Share		
October 1 to October 31, 2018	1,820,293	\$ 44.84	1,820,293	13,458,171
November 1 to November 31, 2018	2,286,260	49.06	2,286,260	11,171,911
December 1 to December 31, 2018	1,923,374	46.81	1,923,374	9,248,537
Total	6,029,927	47.07	6,029,927	

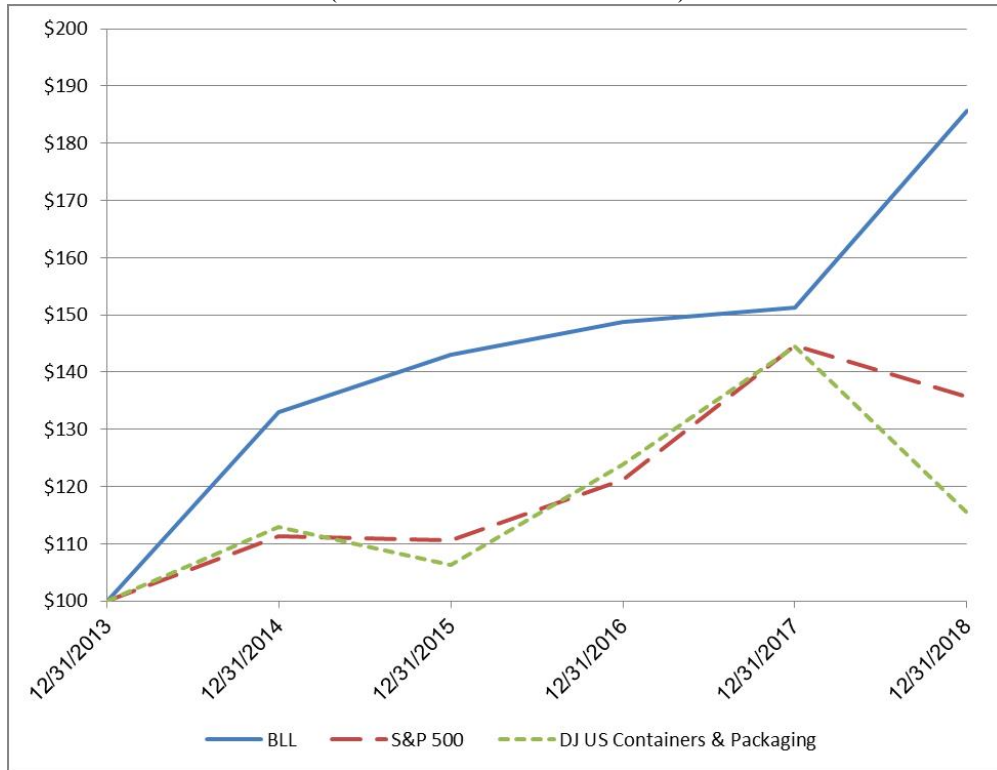
(a) Includes any open market purchases (on a trade-date basis), share repurchase agreements and/or shares retained by the company to settle employee withholding tax liabilities.

(b) The company has an ongoing repurchase program for which shares are authorized from time to time by Ball's Board of Directors. On January 23, 2019, the Board authorized the repurchase by the company of up to a total of 50 million shares. This repurchase authorization replaced all previous authorizations.

Shareholder Return Performance

The line graph below compares the annual percentage change in Ball Corporation's cumulative total shareholder return on its common stock with the cumulative total return of the Dow Jones Containers & Packaging Index and the S&P Composite 500 Stock Index for the five-year period ended December 31, 2018. It assumes \$100 was invested on December 31, 2013, and that all dividends were reinvested. The Dow Jones Containers & Packaging Index total return has been weighted by market capitalization.

TOTAL RETURN TO STOCKHOLDERS
 (Assumes \$100 investment on 12/31/13)



Total Return Analysis

	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018
BLL	\$ 100.00	\$ 133.09	\$ 143.05	\$ 148.7	\$ 151.34	\$ 185.62
S&P 500	100.00	111.39	110.58	121.13	144.65	135.63
DJ US Containers & Packaging	100.00	112.91	106.35	123.86	144.55	115.42

Source: Bloomberg L.P.® Charts

Item 6. Selected Financial Data

**Five-Year Review of Selected Financial Data
Ball Corporation**

(\$ in millions, except per share amounts)	2018	2017	2016	2015	2014
Net sales	\$ 11,635	\$ 10,983	\$ 9,061	\$ 7,997	\$ 8,570
Earnings before interest and taxes (EBIT)	\$ 935	\$ 802	\$ 463	\$ 606	\$ 839
Total interest expense	(302)	(288)	(338)	(260)	(193)
Earnings before taxes	\$ 633	\$ 514	\$ 125	\$ 346	\$ 646
Net earnings attributable to Ball Corporation (a)	\$ 454	\$ 374	\$ 263	\$ 281	\$ 470
Basic earnings per share (a)	\$ 1.32	\$ 1.07	\$ 0.83	\$ 1.02	\$ 1.70
Weighted average common shares outstanding (000s)	344,796	350,269	316,542	274,600	277,016
Diluted earnings per share (a)	\$ 1.29	\$ 1.05	\$ 0.81	\$ 1.00	\$ 1.65
Diluted weighted average common shares outstanding (000s)	352,321	356,985	322,884	281,968	284,860
Total assets	\$ 16,554	\$ 17,169	\$ 16,173	\$ 9,697	\$ 7,535
Total interest bearing debt and capital lease obligations	\$ 6,729	\$ 6,971	\$ 7,532	\$ 5,051	\$ 3,133
Cash dividends per share	\$ 0.400	\$ 0.365	\$ 0.26	\$ 0.26	\$ 0.26
Total cash provided by operating activities (c)	\$ 1,566	\$ 1,478	\$ 193	\$ 1,037	\$ 1,060
Non-GAAP Measures (b)					
Comparable operating earnings	\$ 1,290	\$ 1,220	\$ 976	\$ 801	\$ 920
Comparable net earnings	\$ 775	\$ 728	\$ 563	\$ 490	\$ 553
Diluted earnings per share (comparable basis)	\$ 2.20	\$ 2.04	\$ 1.74	\$ 1.74	\$ 1.94
Free cash flow (c)	\$ 750	\$ 922	\$ (413)	\$ 509	\$ 669

- (a) Includes business consolidation and other activities and other items affecting comparability between years. Additional details regarding the 2018, 2017 and 2016 items are available in Note 6 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K.
- (b) Non-U.S. GAAP measures should not be considered in isolation and should not be considered superior to, or a substitute for, financial measures calculated in accordance with U.S. GAAP. See below for reconciliations of non-U.S. GAAP financial measures to U.S. GAAP measures. Further discussion of non-GAAP financial measures is available in Item 7 of this Annual Report on Form 10-K under Management Performance Measurements and Other Liquidity Measures.
- (c) Amounts in 2017, 2016, 2015 and 2014 have been retrospectively adjusted to reflect the adoption of new accounting guidance that was effective January 1, 2018. Cash provided by operating activities was increased by \$30 and \$48 million in 2015 and 2014, respectively, as a result of adopting the new accounting guidance. See Notes 2 and 7 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K for further details.

Reconciliations of non-U.S. GAAP financial measures to U.S. GAAP measures are as follows:

(\$ in millions)	2018	2017	2016	2015	2014
Net earnings attributable to Ball Corporation	\$ 454	\$ 374	\$ 263	\$ 281	\$ 470
Add: Net earnings attributable to noncontrolling interests	(1)	6	3	22	28
Net earnings	453	380	266	303	498
Less: Equity in results of affiliates, net of tax	(5)	(31)	(15)	(4)	(2)
Add: Tax provision (benefit)	185	165	(126)	47	150
Earnings before taxes, as reported	633	514	125	346	646
Total interest expense	302	288	338	260	193
Earnings before interest and taxes (EBIT)	935	802	463	606	839
Business consolidation and other activities	191	221	337	195	81
Amortization of acquired Rexam intangibles	164	162	65	—	—
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation	—	35	—	—	—
Cost of sales associated with Rexam inventory step-up	—	—	84	—	—
Egyptian pound devaluation	—	—	27	—	—
Comparable Operating Earnings	<u>\$ 1,290</u>	<u>\$ 1,220</u>	<u>\$ 976</u>	<u>\$ 801</u>	<u>\$ 920</u>
Net earnings attributable to Ball Corporation, as reported	\$ 454	\$ 374	\$ 263	\$ 281	\$ 470
Business consolidation and other activities	191	221	337	195	81
Amortization of acquired Rexam intangibles	164	162	65	—	—
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation	—	35	—	—	—
Share of equity method affiliate non-comparable costs	8	—	—	—	—
Cost of sales associated with Rexam inventory step-up	—	—	84	—	—
Egyptian pound devaluation	—	—	27	—	—
Debt refinancing and other costs	1	3	109	117	33
Non-comparable taxes	2	(150)	(322)	(103)	(31)
Impact of U.S. tax reform	(45)	83	—	—	—
Net earnings attributable to Ball Corporation before above transactions (Comparable Net Earnings)	<u>\$ 775</u>	<u>\$ 728</u>	<u>\$ 563</u>	<u>\$ 490</u>	<u>\$ 553</u>
Total cash provided by operating activities (a)(b)	\$ 1,566	\$ 1,478	\$ 193	\$ 1,037	\$ 1,060
Capital expenditures	(816)	(556)	(606)	(528)	(391)
Free cash flow (b)	<u>\$ 750</u>	<u>\$ 922</u>	<u>\$ (413)</u>	<u>\$ 509</u>	<u>\$ 669</u>

- (a) Includes payments of costs associated with the acquisition of Rexam and the sale of a business associated with the June 2016 acquisition of Rexam, additional details of which are available in Note 4 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K.
- (b) Amounts in 2017, 2016, 2015 and 2014 have been retrospectively adjusted to reflect the adoption of new accounting guidance that was effective January 1, 2018. Cash provided by operating activities was increased by \$30 and \$48 million in 2015 and 2014, respectively, as a result of adopting the new accounting guidance. See Notes 2 and 7 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K for further details.

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

Management’s discussion and analysis should be read in conjunction with the consolidated financial statements and accompanying notes included in Item 8 of this Annual Report on Form 10-K (annual report), which include additional information about our accounting policies, practices and the transactions underlying our financial results. The preparation of our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires us to make estimates and assumptions that affect the reported amounts in our consolidated financial statements and the accompanying notes including various claims and contingencies related to lawsuits, taxes, environmental and other matters arising during the normal course of business. We apply our best judgment, our knowledge of existing facts and circumstances and actions that we may undertake in the future in determining the estimates that affect our consolidated financial statements. We evaluate our estimates on an ongoing basis using our historical experience, as well as other factors we believe appropriate under the circumstances, such as current economic conditions, and adjust or revise our estimates as circumstances change. As future events and their effects cannot be determined with precision, actual results may differ from these estimates. Ball Corporation and its subsidiaries are referred to collectively as “Ball Corporation,” “Ball,” “the company,” “we” or “our” in the following discussion and analysis.

OVERVIEW

Business Overview and Industry Trends

Ball Corporation is one of the world’s leading suppliers of metal packaging to the beverage, personal care and household products industries. Our packaging products are produced for a variety of end uses, are manufactured in facilities around the world and are competitive with other substrates, such as plastics and glass. In the rigid packaging industry, sales and earnings can be increased by reducing costs, increasing prices, developing new products, expanding volumes and making strategic acquisitions. We also provide aerospace and other technologies and services to governmental and commercial customers, including national defense hardware, antenna and video tactical solutions, civil and operational space hardware and system engineering services.

We sell our packaging products mainly to large, multinational beverage, personal care and household products companies with which we have developed long-term relationships. This is evidenced by our high customer retention and our large number of long-term supply contracts. While we have a diversified customer base, we sell a significant portion of our packaging products to major companies and brands, as well as to numerous regional customers. The overall global beverage and aerosol metal container industries are growing and are expected to continue to grow in the medium to long term. The primary customers for the products and services provided by our aerospace segment are U.S. government agencies or their prime contractors.

We purchase our raw materials from relatively few suppliers. We also have exposure to inflation, in particular the rising costs of raw materials, as well as other direct cost inputs. We mitigate our exposure to the changes in the costs of metal through the inclusion of provisions in contracts covering the majority of our volumes to pass through metal price changes, as well as through the use of derivative instruments. The pass-through provisions generally result in proportional increases or decreases in sales and costs with a greatly reduced impact, if any, on net earnings. Because of our customer and supplier concentration, our business, financial condition and results of operations could be adversely affected by the loss, insolvency or bankruptcy of a major customer or supplier or a change in a supply agreement with a major customer or supplier, although our contract provisions generally mitigate the risk of customer loss, and our long-term relationships represent a known, stable customer base.

The majority of the aerospace business involves work under contracts, generally from one to five years in duration, as a prime contractor or subcontractor for various U.S. government agencies. Intense competition and long operating cycles are key characteristics of the company’s aerospace and defense industry where it is common for work on major programs to be shared among a number of companies. A company competing to be a prime contractor may, upon ultimate award of the contract to a competitor, become a subcontractor for the ultimate prime contracting company.

Corporate Strategy

Our Drive for 10 vision encompasses five strategic levers that are key to growing our business and achieving long-term success. Since launching Drive for 10 in 2011, we have made progress on each of the levers as follows:

- Maximizing value in our existing businesses by rationalizing standard beverage container and end capacity in North America, South America and Europe, and expanding specialty container production to meet current demand; leveraging plant floor systems in our beverage facilities to improve efficiencies and reduce costs; consolidating and/or closing multiple beverage packaging facilities to gain efficiencies; and in the aerosol business, installing new extruded aluminum aerosol lines in our European, Mexican and Indian facilities while also implementing cost-out and value-in initiatives across all of our businesses;
- Expanding further into new products and capabilities through commercializing extruded aluminum aerosol packaging that utilizes proprietary technology to significantly lightweight the can; and successfully commercializing the next-generation aluminum bottle-shaping technology;
- Aligning ourselves with the right customers and markets by investing capital to meet continued growth for specialty beverage containers throughout our global network, which represent approximately 40 percent of our global beverage packaging mix; aligning with craft brewers, sparkling water fillers, wine producers and other new beverage producers who continue to use beverage containers to grow their business;
- Broadening our geographic reach with our acquisition of Rexam and our new investments in beverage manufacturing facilities in Spain, Mexico, Myanmar and Panama, as well as an extruded aluminum aerosol manufacturing facility in India; and
- Leveraging our technological expertise in packaging innovation, including the introduction of next-generation aluminum bottle-shaping technologies and the increased production of lightweight ReAl® containers, which utilize technology that increases the strength of aluminum used in the manufacturing process while lightweighting the can by up to 20 percent over a standard aluminum aerosol can, as well as our investment in cyber, data analytics and LIDAR capabilities to further enhance our aerospace technical expertise across a broader customer portfolio.

These ongoing business developments and our successful acquisition of Rexam in 2016 help us stay close to our customers while expanding and/or sustaining our industry positions and global reach with major beverage, personal care, household products and aerospace customers.

RESULTS OF OPERATIONS

Management's discussion and analysis for our results of operations on a consolidated and segment basis include a quantification of factors that had a material impact. Other factors that did not have a material impact, but that are significant to understand the results, are qualitatively described.

Consolidated Sales and Earnings

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 11,635	\$ 10,983	\$ 9,061
Net earnings attributable to Ball Corporation	454	374	263
Net earnings attributable to Ball Corporation as a % of consolidated net sales	4 %	3 %	3 %

Sales in 2018 were \$652 million higher compared to 2017 primarily as a result of increased sales volumes for our South America and Europe segments, pass through of higher metal prices, higher pricing and favorable product mix for our North and Central America segment, favorable foreign exchange rate changes in our Europe segment and increased sales in the aerospace segment driven by significant U.S. national defense contracts.

Net earnings attributable to Ball Corporation in 2018 were \$80 million higher than 2017 primarily due to increased sales volumes in our Europe and North and Central America segments, favorable manufacturing performance and lower business consolidation and other costs, partially offset by higher tax expense, freight costs and interest expense.

Sales and operating earnings for 2018 were impacted by the loss of sales from our U.S. steel food and steel aerosol business, which was sold on July 31, 2018.

Sales in 2017 were \$1.9 billion higher compared to 2016 primarily as a result of increased sales volumes for our North and Central America, South America and Europe segments, increased pass through of higher metal prices for our North and Central America and South America segments, favorable currency exchange effects for our Europe segment, favorable product mix for our South America segment and increased sales in our aerospace segment. Sales volumes for the year ended December 31, 2017 for our North and Central America, South America and Europe segments were higher compared to the same period in 2016 primarily as a result of 2017 including twelve months of sales volumes from the acquired Rexam business, while 2016 included six months of sales volumes from the acquired Rexam business and six months of sales volumes from the company's legacy business, a significant portion of which was sold in connection with the June 2016 acquisition of Rexam (Divestment Business). The South America segment experienced organic sales growth, and increased sales from significant U.S. national defense contracts drove revenue growth in the aerospace segment.

Net earnings attributable to Ball Corporation in 2017 were \$111 million higher than 2016 primarily due to increased earnings related to higher sales volumes in the South America, Europe and North and Central America beverage can segments, synergy realizations, lower cost of sales in 2017 compared to 2016 which included \$84 million for the step-up of inventory related to the acquired Rexam business, lower debt refinancing and other costs in 2017 and a decrease in business consolidation and other activities in 2017, partially offset by higher incremental depreciation. These impacts on net earnings were partially offset by higher tax expense in 2017, due principally to provisional charges from the U.S. Tax Cuts and Jobs Act which was signed into law on December 22, 2017, income tax benefits in 2016 associated with the restructure of Brazil legal entities as a result of the sale of the Divestment Business, the tax benefit on transaction costs and derivative costs of the Rexam acquisition and sale of the Divestment Business in 2016.

Debt refinancing and other costs in 2016 included costs on debt associated with the Rexam acquisition. See Note 15 located in Item 8 of this annual report for additional information on the activity in debt refinancing and other costs.

Cost of Sales (Excluding Depreciation and Amortization)

Cost of sales, excluding depreciation and amortization, was \$9,329 million in 2018 compared to \$8,717 million in 2017 and \$7,296 million in 2016. These amounts represented 80 percent, 79 percent and 81 percent of consolidated net sales for the years ended 2018, 2017 and 2016, respectively. Cost of sales in 2016 included expense of \$84 million for the step-up of inventory related to the acquired Rexam business.

Depreciation and Amortization

Depreciation and amortization expense was \$702 million in 2018 compared to \$729 million in 2017 and \$453 million in 2016. These amounts represented 6 percent, 7 percent and 5 percent of consolidated net sales for 2018, 2017 and 2016, respectively. The expense was lower in 2018 compared to 2017 due to the absence of catch-up depreciation of fixed assets and amortization of intangible assets following the Rexam acquisition, which was recorded during 2017. The expense was higher in 2017 compared to 2016 due to increased depreciation of fixed assets and amortization of intangible assets related to 2016 following the Rexam acquisition. During 2017, the company finalized the valuation and useful lives of the assets acquired in the Rexam acquisition. As a result, depreciation and amortization expense for 2017 included a cumulative catch-up adjustment of \$35 million related to the last six months of 2016. Amortization expense in 2018, 2017 and 2016 included, \$164 million, \$162 million and \$65 million, respectively, for the amortization of acquired Rexam intangibles.

Selling, General and Administrative

Selling, general and administrative (SG&A) expenses were \$478 million in 2018 compared to \$514 million in 2017 and \$512 million in 2016. These amounts represented 4 percent, 5 percent and 6 percent of consolidated net sales for those three years, respectively. Contributing to the lower SG&A expenses in 2018 were reduced employee compensation costs, favorable currency exchange rate effects, lower costs due to office closures and other cost-out initiatives implemented by the company in relation to the acquired Rexam business. The lower percentage of SG&A expense in 2017 as compared to 2016 was primarily due to office closures and various other cost-out initiatives implemented by the company in relation to the acquired Rexam business and the lack of foreign exchange losses of \$27 million for the devaluation of the Egyptian pound in the fourth quarter of 2016.

Business Consolidation Costs and Other Activities

Business consolidation and other activities were \$191 million in 2018 compared to \$221 million in 2017 and \$337 million in 2016. These amounts represented 2 percent, 2 percent and 4 percent of consolidated net sales for the three years, respectively.

The year-over-year decrease in business consolidation and other activities in 2018 compared to 2017 was primarily due to lower severance and facility shut down costs, lower costs related to lower settlement charges related to certain Ball U.S. defined pension plans, a gain on Brazilian indirect taxes and a gain on the sale of our former Chatsworth, California, beverage packing facility, partially offset by the loss on sale of the U.S. steel food and steel aerosol business. See Note 6 located in Item 8 of this annual report for additional information on the activity in business consolidation and other activities.

The year-over-year decrease in business consolidation and other activities in 2017 compared to 2016 was primarily due to a decrease of \$322 million in Rexam transaction related costs and \$83 million of Rexam acquisition related compensation arrangements and a decrease of \$173 million in foreign currency exchange losses associated with the Rexam transaction. These impacts were partially offset by a decrease of \$289 million in the gain recognized in connection with the sale of the Ball portion of the Divestment Business, an increase of \$99 million related to completed and pending plant closures, an increase of \$44 million related to the settlement of certain Ball U.S. defined benefit pension plans and an increase of \$34 million for indemnification of certain tax matters provided to the buyer in the sale of the Divestment Business. See Note 6 located in Item 8 of this annual report for additional information on the activity in business consolidation and other activities.

Interest Expense

Total interest expense was \$302 million in 2018 compared to \$288 million in 2017 and \$338 million in 2016. Excluding debt refinancing and other costs, interest expense in 2018 was higher than in 2017 due to higher interest rates, partially offset by lower average debt. Interest expense was higher in 2017 as compared to 2016 as the average level of debt held was higher than the period preceding it. Interest expense, excluding the effect of debt refinancing and other costs, as a percentage of average monthly borrowings was 4 percent in each of the years 2018, 2017 and 2016.

Debt refinancing and other costs were \$1 million for the year ended December 31, 2018, \$3 million for the year ended December 31, 2017, and \$109 million for the year ended December 31, 2016. The amount for the year ended 2016 consisted mainly of costs incurred to fund the Rexam acquisition. See Notes 15 and 21 in Item 8 of this annual report for additional information on these instruments and the transactions flowing through debt refinancing and other costs.

Tax Provision

The effective tax rate is affected by recurring items such as income earned in foreign jurisdictions with tax rates that differ from the U.S. tax rate and by discrete items that may occur in any given year but are not consistent from year to year.

The 2018 effective income tax rate was 29.2 percent compared to 32.1 percent for 2017. The 2018 effective rate was reduced by 7.2 percent for the final adjustments related to the enactment of U.S. tax reform in 2017, including the impact of the transition tax and remeasurement of the company's net deferred tax asset in the U.S., and increased by 8.8 percent for discrete tax costs associated with certain business dispositions. The effective rate was also increased by 2.4 percent for the new tax on GILTI established with U.S. tax reform. The effective rate was increased by 3.2 percent for the impact of the foreign tax rate differential, net of valuation allowance impact, and tax holidays versus the U.S. tax rate, and further increased by 4.0 percent for the impact of foreign currency fluctuations on the company's deferred tax assets in Brazil. The 2018 effective rate was also reduced by 2.1 percent for the excess tax benefit for stock-based compensation and by 1.2 percent for the impact of the U.S. R&D credit. The impact of U.S. tax reform (excluding GILTI), and discrete tax costs associated with certain business dispositions are primarily related to discrete transactions or changes in tax law that are not expected to recur in future periods.

The 2017 effective income tax rate was 32.1 percent compared to negative 100.8 percent for 2016. The 2017 effective rate was increased by 16.1 percent for U.S. tax reform, including the impact of the transition tax and remeasurement of the company's net deferred tax asset in the U.S., and by 3.5 percent for discrete tax costs associated with certain business dispositions. The effective rate was reduced by 7.2 percent for the impact of the foreign tax rate differential, net of valuation allowance impact, and tax holidays versus the U.S. tax rate and by 5.4 percent for the impact of current year changes in various foreign tax laws including the U.K. The 2017 effective rate was also reduced by 3.1 percent for the discrete tax benefit associated with the adoption in the first quarter of 2017 of amendments to existing accounting guidance for stock-based compensation, by 1.8 percent for the impact of the U.S. R&D credit, and by 1.6 percent for the impact of the U.S. domestic manufacturing deduction.

Further details of taxes on income and the impacts of the U.S. tax reform are included in Note 16 to the consolidated financial statements within Item 8 of this annual report.

RESULTS OF BUSINESS SEGMENTS

Segment Results

Ball's operations are organized and reviewed by management along its product lines and geographical areas and its operating results are presented in the four reportable segments discussed below.

Beverage Packaging, North and Central America

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 4,626	\$ 4,178	\$ 3,612
Comparable operating earnings	551	533	469
Business consolidation and other activities (a)	(6)	(47)	(20)
Amortization of acquired Rexam intangibles	(31)	(32)	(11)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	(6)	—
Cost of sales associated with Rexam inventory step-up	—	—	(10)
Total segment earnings	\$ 514	\$ 448	\$ 428
Comparable operating earnings as a % of segment net sales	12 %	13 %	13 %

(a) Further details of these items are included in Note 6 to the consolidated financial statements within Item 8 of this annual report.

(b) Catch-up depreciation and amortization of \$6 million related to the six months ended December 31, 2016, was recorded during 2017, as a result of the finalization of fixed asset and intangible asset valuations and useful lives for the Rexam acquisition.

The beverage packaging, North and Central America, segment consists of operations located in the U.S., Canada and Mexico that manufacture aluminum containers used in beverage packaging. In order to serve growing customer demand for specialty cans in the southwestern U.S., the company constructed a four-line beverage packaging facility in Goodyear, Arizona, which began production in the second quarter of 2018. Our Birmingham, Alabama, facility ceased production during the second quarter of 2018 and the Chatsworth, California, and Longview, Texas, facilities ceased production during the third quarter of 2018. Our beverage can manufacturing facility in Reidsville, North Carolina, ceased production at the end of June 2017. The company's Bristol, Virginia, beverage end-making facility ceased production at the end of June 2016, and its capacity was transitioned to existing North American Ball end-making facilities. These facilities produced beverage cans and ends in a variety of sizes and their customers are now supplied by the company's other U.S. facilities. During the first quarter of 2016, our beverage manufacturing facility in Monterrey, Mexico, began production.

Segment sales in 2018 were \$448 million higher compared to 2017. The increase in 2018 was primarily due to higher metal input prices of \$285 million, higher pricing, favorable sales mix, and other pass-through items. We cannot predict the impact on sales that will result from future changes in metal input prices.

Segment sales in 2017 were \$566 million higher compared to 2016. The increase in 2017 was primarily due to \$350 million of higher volumes, primarily attributed to the Rexam acquisition, and \$176 million from the pass through of higher metal prices. Sales in 2017 included twelve months of sales volumes from the acquired Rexam business compared to 2016 which included six months of sales volumes from the acquired Rexam business.

Comparable operating earnings in 2018 were \$18 million higher compared to 2017 primarily due to favorable sales mix, higher pricing and savings from plant closures, partially offset by higher freight charges, costs associated with our multi-plant network optimization program, costs associated with a U.S. aluminum can sheet quality issue and plant start-up costs.

Comparable operating earnings in 2017 were \$64 million higher compared to 2016 primarily due to higher sales volume, largely attributed to the Rexam acquisition, favorable product mix, cost savings from the closure of the Reidsville facility and other synergy-related activities, partially offset by higher freight costs and increased depreciation. Earnings in 2017 included twelve months of sales volumes from the acquired Rexam business compared to 2016 which included six months of sales volumes from the acquired Rexam business.

Beverage Packaging, South America

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 1,701	\$ 1,692	\$ 1,014
Comparable operating earnings	313	333	185
Business consolidation and other activities (a)	11	(5)	(15)
Amortization of acquired Rexam intangibles	(56)	(56)	(17)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	(14)	—
Cost of sales associated with Rexam inventory step-up	—	—	(20)
Total segment earnings	\$ 268	\$ 258	\$ 133
Comparable operating earnings as a % of segment net sales	18 %	20 %	18 %

(a) Further details of these items are included in Note 6 to the consolidated financial statements within Item 8 of this annual report.

(b) Catch-up depreciation and amortization of \$14 million related to the six months ended December 31, 2016, was recorded during 2017, as a result of the finalization of fixed asset and intangible asset valuations and useful lives for the Rexam acquisition.

The beverage packaging, South America, segment consists of operations located in Brazil, Argentina and Chile that manufacture aluminum containers used in beverage packaging in most countries in South America. To support contracted volumes for aluminum beverage packaging across Paraguay, Argentina and Bolivia, the company is constructing a one-line beverage can and end manufacturing facility in Paraguay, and is adding capacity to our Buenos Aires, Argentina, and Santiago, Chile, facilities. The Paraguay facility is expected to begin production in the second half of 2019. The company ceased operations at its Cuiabá, Brazil, beverage packaging facility in July 2018 and has relocated equipment from the Cuiabá facility to other existing facilities in South America.

Segment sales in 2018 were \$9 million higher compared to 2017. The increase in 2018 was primarily related to higher can volumes and favorable product mix, partially offset by loss of certain business and the loss of several days of sales resulting from a Brazilian trucking labor strike.

Comparable operating earnings in 2018 were \$20 million lower compared to 2017 primarily related to the conclusion of the end sales agreement with the business divested in 2016, regional pricing pressures and the loss of sales resulting from the Brazilian trucking labor strike, offset by an increase in can volumes and favorable manufacturing performance.

Segment sales and comparable operating earnings in 2017 included twelve months of sales volumes from the acquired Rexam business compared to 2016 which included six months of sales volumes from the acquired Rexam business and six months of sales volumes from the company's legacy business, the significant portion of which was sold with the Divestment Business.

Segment sales in 2017 were \$678 million higher compared to 2016. The increase in 2017 was primarily due to \$545 million in higher volumes, largely attributed to the Rexam acquisition, to organic growth and to additional revenue from the end sales agreement with a business associated with the June 2016 acquisition of Rexam that transitioned to the divested business during the first half of 2018. The higher sales also included \$158 million from the pass-through of higher metal prices.

Comparable operating earnings in 2017 were \$148 million higher compared to 2016 primarily due to higher sales volumes, largely attributed to the Rexam acquisition, the end sales agreement with a business associated with the June 2016 acquisition of Rexam, and favorable product mix.

Beverage Packaging, Europe

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 2,619	\$ 2,360	\$ 1,915
Comparable operating earnings	282	233	217
Business consolidation and other activities (a)	(49)	(89)	(24)
Amortization of acquired Rexam intangibles	(70)	(67)	(31)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	(19)	—
Cost of sales associated with Rexam inventory step-up	—	—	(47)
Total segment earnings	\$ 163	\$ 58	\$ 115
Comparable operating earnings as a % of segment net sales	11 %	10 %	11 %

(a) Further details of these items are included in Note 6 to the consolidated financial statements within Item 8 of this annual report.

(b) Catch-up depreciation and amortization of \$19 million related to the six months ended December 31, 2016, was recorded during 2017, as a result of the finalization of fixed asset and intangible asset valuations and useful lives for the Rexam acquisition.

The beverage packaging, Europe, segment includes the manufacture and sale of metal beverage containers in facilities located throughout Europe, including Russia. To support growth for beverage cans in the Iberian Peninsula, the company constructed a two-line, aluminum beverage can manufacturing facility near Madrid, Spain, with a majority of the facility's capacity secured under a long-term customer contract. The facility is fully operational and produces multiple can sizes utilizing both lines. In the third quarter of 2017, our beverage packaging container and end production facilities in Recklinghausen, Germany, ceased production. In December 2018, we closed our beverage packaging facility located in San Martino, Italy.

Segment sales in 2018 were \$259 million higher compared to 2017. The increase in 2018 was primarily due to increased sales volumes of \$189 million and favorable currency exchange rates, partially offset by a continuation of previously contracted price decreases.

Comparable operating earnings in 2018 were \$49 million higher compared to 2017 primarily due to increased sales volumes, cost savings from the closure of the Recklinghausen, Germany, facility and other synergy-related and production efficiency activities.

Segment sales and comparable operating earnings in 2017 included twelve months of sales volumes from the acquired Rexam business compared to 2016 which included six months of sales volumes from the acquired Rexam business and six months of sales volumes from the company's legacy European business, the significant portion of which was sold with the Divestment Business.

Segment sales in 2017 were \$445 million higher compared to 2016. The increase in 2017 was primarily due to \$388 million from increased sales volumes, largely attributed to the Rexam acquisition, and favorable currency exchange effects.

Comparable operating earnings in 2017 were \$16 million higher compared to 2016 primarily due to increased sales volumes largely attributed to the Rexam acquisition, cost savings from the closure of the Recklinghausen, Germany, facility and other synergy-related and production efficiency activities, partially offset by increased incremental depreciation related to the finalization of the fixed asset valuations and useful lives for the Rexam acquisition.

Aerospace

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 1,196	\$ 991	\$ 818
Comparable operating earnings	113	98	88
Comparable operating earnings as a % of segment net sales	9 %	10 %	11 %

The aerospace segment consists of the manufacture and sale of aerospace and other related products and services provided for the defense, civil space and commercial space industries.

Segment sales in 2018 were \$205 million higher compared to 2017, and comparable operating earnings were \$15 million higher. The increase in sales and operating earnings for 2018 was primarily the result of increases from significant U.S. national defense contracts.

Segment sales in 2017 were \$173 million higher compared to 2016, and comparable operating earnings were \$10 million higher. The increase in sales and operating earnings for 2017 was primarily the result of increases from significant U.S. national defense contracts.

Sales to the U.S. government, either directly as a prime contractor or indirectly as a subcontractor, represented 99 percent of segment sales in 2018 compared to 98 percent of segment sales in 2017 and 97 percent in 2016. The aerospace contract mix in 2018 consisted of 67 percent cost-type contracts, which are billed at our costs plus an agreed upon and/or earned profit component, and 30 percent fixed-price contracts. The remaining sales were for time and materials contracts.

Contracted backlog for the aerospace segment at December 31, 2018 and 2017, was \$2.2 billion and \$1.75 billion, respectively. The year-over-year increase reflects several major contract awards during 2018. The segment has numerous outstanding bids for future contract awards. The backlog at December 31, 2018, consisted of 70 percent cost-type contracts. Comparisons of backlog are not necessarily indicative of the trend of future operations due to the nature of varying delivery and milestone schedules on contracts, funding of programs and the uncertainty of timing of future contract awards.

Additional Segment Information

For additional information regarding our segments, see the business segment information in Note 3 accompanying the consolidated financial statements within Item 8 of this annual report. The charges recorded for business consolidation and other activities were based on estimates by Ball management and were developed from information available at the time. If actual outcomes vary from the estimates, the differences will be reflected in current period earnings in the consolidated statement of earnings and identified as business consolidation gains and losses. Additional details about our business consolidation and other activities are provided in Note 6 accompanying the consolidated financial statements within Item 8 of this annual report.

Management Performance Measures

Management internally uses various measures to evaluate company performance such as comparable operating earnings (earnings before interest, taxes and business consolidation and other non-comparable costs); comparable net earnings (earnings before business consolidation costs and other non-comparable costs after tax); return on average invested capital (net operating earnings after tax over the relevant performance period divided by average invested capital over the same period); economic value added (EVA®) dollars (net operating earnings after tax less a capital charge on average invested capital employed); earnings before interest and taxes (EBIT); earnings before interest, taxes, depreciation and amortization (EBITDA); and diluted earnings per share. Management also uses free cash flow (generally defined by the company as cash flow from operating activities less capital expenditures) as a measure to evaluate the company's liquidity. We believe this information is also useful to investors as it provides insight into the earnings and cash flow criteria management uses to make strategic decisions. These financial measures may be adjusted at times for items that affect comparability between periods such as business consolidation costs and gains or losses on acquisitions and dispositions.

Nonfinancial measures in the packaging businesses include production efficiency and spoilage rates; quality control figures; environmental, health and safety statistics; production and sales volumes; asset utilization rates; and measures of sustainability. Additional measures used to evaluate financial performance in the aerospace segment include contract revenue realization, award and incentive fees realized, proposal win rates and backlog (including awarded, contracted and funded backlog).

Many of the above noted financial measurements are on a non-U.S. GAAP basis and should be considered in connection with the consolidated financial statements within Item 8 of this annual report. Non-U.S. GAAP measures should not be considered in isolation and should not be considered superior to, or a substitute for, financial measures calculated in accordance with U.S. GAAP. A presentation of earnings in accordance with U.S. GAAP is available in Item 8 of this annual report.

Based on the above definitions, our calculations of comparable operating earnings and comparable net earnings are summarized in the tables included within Item 6 of this Annual Report on Form 10-K.

CRITICAL AND SIGNIFICANT ACCOUNTING POLICIES AND NEW ACCOUNTING PRONOUNCEMENTS

For information regarding the company's critical and significant accounting policies, as well as recent accounting pronouncements, see Notes 1 and 2 to the consolidated financial statements within Item 8 of this annual report.

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES*Cash Flows and Capital Expenditures*

Our primary sources of liquidity are cash provided by operating activities and external committed borrowings. We believe that cash flows from operations and cash provided by short-term, long-term and committed revolver borrowings, when necessary, will be sufficient to meet our ongoing operating requirements, scheduled principal and interest payments on debt, dividend payments and anticipated capital expenditures. The following table summarizes our cash flows:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Cash flows provided by (used in) operating activities (a)	\$ 1,566	\$ 1,478	\$ 193
Cash flows provided by (used in) investing activities	(206)	(545)	(1,283)
Cash flows provided by (used in) financing activities	(1,040)	(1,073)	(387)

(a) Amounts in 2017 and 2016 have been retrospectively adjusted to reflect the adoption of new accounting guidance that was effective January 1, 2018. See Notes 2 and 7 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K for further details.

Cash flows provided by operations were higher in 2018 compared to 2017, primarily due to higher earnings and lower pension contributions, partially offset by lower working capital inflows. Excluding the impact of the new revenue recognition standard and the sale of the U.S. steel food and steel aerosol packaging business, the impact of a reduction of days sales outstanding from 45 to 32 days, a reduction of inventory days on hand from 61 to 58 days and an increase in days payable outstanding from 110 to 112 days was partially offset by increases in other receivables.

Cash flows from operations in 2017 were higher compared to 2016 primarily due to improved earnings and working capital. Working capital changes in 2017 included a decrease in inventory days on hand from 68 to 61 days, a decrease in days sales outstanding from 46 to 45 days and an increase in days payable outstanding from 97 to 110 days. The continuing increase in days payable outstanding is a result of longer negotiated contractual terms with suppliers.

We have entered into several regional committed and uncommitted accounts receivable factoring programs with various financial institutions for certain of our accounts receivable. Programs accounted for as true sales of the receivables, without recourse to Ball, had combined limits of approximately \$1.2 billion and \$1.0 billion at December 31, 2018, and December 31, 2017, respectively. A total of \$178 million and \$439 million were available for sale under these programs at December 31, 2018 and 2017, respectively.

As of December 31, 2018, approximately \$717 million of our cash was held outside of the U.S. In the event that we would need to utilize any of the cash held outside of the U.S. for purposes within the U.S., there are no material legal or other economic restrictions regarding the repatriation of cash from any of the countries outside the U.S. where we have cash, other than market liquidity constraints that limit the ability to convert Egyptian pounds held by the company in Egypt with a U.S. dollar equivalent value of \$56 million into other currencies. The company believes its U.S. operating cash flows, as well as availability under its long-term, revolving credit facilities, uncommitted short-term credit facilities and committed and uncommitted accounts receivable factoring programs will be sufficient to meet the cash requirements of the U.S. portion of our ongoing operations, scheduled principal and interest payments on U.S. debt, dividend payments, capital expenditures and other U.S. cash requirements. If foreign funds would be needed for our U.S. cash requirements and we are unable to provide the funds through intercompany financing arrangements, we would be required to repatriate funds from foreign locations where the company has previously asserted indefinite reinvestment of funds outside the U.S.

Due to the U.S. tax status of certain Ball subsidiaries in Canada and the PRC, the company annually provides U.S. taxes on foreign earnings in those subsidiaries, net of any estimated foreign tax credits or deductions for foreign taxes. Current taxes are also provided on certain other undistributed earnings that are currently taxable in the U.S. Management's intention is to indefinitely reinvest the undistributed earnings of Ball's other foreign subsidiaries. The indefinite reinvestment assertion is supported by both long-term and short-term forecasts and U.S. financial requirements, including, but not limited to, operating cash flows, capital expenditures, debt maturities and dividends. As a result, the company has not provided deferred taxes on earnings in certain non-U.S. subsidiaries because such earnings are intended to be indefinitely reinvested in its international operations. Retained earnings in non-U.S. subsidiaries were \$3.2 billion as of December 31, 2018. Although \$2.0 billion of such earnings have been subjected to U.S. federal income tax, incremental foreign and U.S. state income tax may be due upon distribution. At present, it is not practical to estimate the additional taxes that may become payable upon the eventual remittance of these foreign earnings to the U.S.; however, repatriation of these earnings could result in a material increase in the company's effective tax rate.

Share Repurchases

The company's share repurchases, net of issuances, totaled \$711 million in 2018, \$76 million in 2017 and \$59 million in 2016. The repurchases were completed using cash on hand and available borrowings. Additional details about our share repurchase activities are provided in Note 18 to the consolidated financial statements within Item 8 of this annual report.

Debt Facilities and Refinancing

Given our cash flow projections and unused credit facilities that are available until 2021, our liquidity is strong and is expected to meet our ongoing cash and debt service requirements. Total interest-bearing debt was \$6.7 billion at December 31, 2018, compared to \$7.0 billion at December 31, 2017.

In March 2018, Ball issued \$750 million of 4.875 percent senior notes and used the proceeds to repay \$315 million of its Term A loan, as well as outstanding multi-currency revolver and short-term credit facility borrowings.

At December 31, 2018, taking into account outstanding letters of credit, approximately \$1.5 billion was available under the company's long-term, multi-currency committed revolving credit facilities, which are available until March 2021. In addition to these facilities, the company had \$1 billion of short-term uncommitted credit facilities available at December 31, 2018, of which \$211 million was outstanding and due on demand. At December 31, 2017, the company had \$340 million outstanding under short-term uncommitted credit facilities.

While ongoing financial and economic conditions in certain areas may raise concerns about credit risk with counterparties to derivative transactions, the company mitigates its exposure by allocating the risk among various counterparties and limiting exposure to any one party. We also monitor the credit ratings of our suppliers, customers, lenders and counterparties on a regular basis.

We were in compliance with all loan agreements at December 31, 2018, and for all prior years presented, and have met all debt payment obligations. The U.S. note agreements and bank credit agreement contain certain restrictions relating to dividends, investments, financial ratios, guarantees and the incurrence of additional indebtedness. The most restrictive of the company's debt covenants requires the company to maintain a leverage ratio (as defined) of no greater than 4.25 times at December 31, 2018. The company was in compliance with all loan agreements and debt covenants at December 31, 2018 and 2017, and we have met all debt payment obligations. As of December 31, 2018, approximately \$1.7 billion of the amounts disclosed as available under the company's long-term multi-currency committed revolving facilities and short-term uncommitted credit facilities are available without violating our existing debt covenants. Additional details about our debt are available in Note 15 to the consolidated financial statements within Item 8 of this annual report.

Other Liquidity Measures

Free Cash Flow

Management internally uses a free cash flow measure to: (1) evaluate the company's liquidity, (2) evaluate strategic investments, (3) plan stock buyback and dividend levels and (4) evaluate the company's ability to incur and service debt. Free cash flow is not a defined term under U.S. GAAP, and it should not be inferred that the entire free cash flow amount is available for discretionary expenditures. The company defines free cash flow as cash flow from operating activities less capital expenditures. Free cash flow is typically derived directly from the company's consolidated statement of cash flows; however, it may be adjusted for items that affect comparability between periods.

Based on the above definition, our consolidated free cash flow is summarized as follows:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Total cash provided by operating activities (a)	\$ 1,566	\$ 1,478	\$ 193
Capital expenditures	(816)	(556)	(606)
Free cash flow (a)	\$ 750	\$ 922	\$ (413)

(a) Amounts in 2017 and 2016 have been retrospectively adjusted to reflect the adoption of new accounting guidance that was effective January 1, 2018. See Notes 2 and 7 to the consolidated financial statements within Item 8 of this Annual Report on Form 10-K for further details.

Based on information currently available, we estimate cash flows from operating activities for 2019 to be in excess of \$1.6 billion, capital expenditures to be approximately \$600 million and free cash flow to exceed \$1 billion. In 2019, we intend to utilize our operating cash flow to service debt and to fund our growth capital projects, dividend payments, stock buybacks and, to the extent available, acquisitions that meet our criteria. Of the total 2019 estimated capital expenditures, approximately \$250 million was contractually committed as of December 31, 2018.

Commitments

Cash payments required for long-term debt maturities, rental payments under noncancellable operating leases, purchase obligations and other commitments in effect at December 31, 2018, are summarized in the following table:

(\$ in millions)	Payments Due By Period (a)				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
Long-term debt, including capital leases (b)	\$ 6,572	\$ 8	\$ 2,262	\$ 2,552	\$ 1,750
Interest payments on long-term debt (c)	1,260	294	477	330	159
Purchase obligations (d)	11,305	4,592	5,497	1,208	8
Operating leases	305	66	93	59	87
Total payments on contractual obligations	\$ 19,442	\$ 4,960	\$ 8,329	\$ 4,149	\$ 2,004

(a) Amounts reported in local currencies have been translated at year end 2018 exchange rates.

(b) Amounts represent future cash payments due and exclude future amortization of debt issuance costs of \$54 million at December 31, 2018.

(c) For variable rate facilities, amounts are based on interest rates in effect at year end and do not contemplate the effects of any hedging instruments utilized by the company.

(d) The company's purchase obligations include capital expenditures and contracted amounts for aluminum, steel and other direct materials. Also included are commitments for purchases of natural gas and electricity, expenses related to aerospace and technologies contracts and other less significant items. In cases where variable prices and/or usage are involved, management's best estimates have been used. Depending on the circumstances, early termination of the contracts may or may not result in penalties and, therefore, actual payments could vary significantly.

The table above does not include \$80 million of uncertain tax positions, the timing of resolution of which is unknown at this time.

Contributions to the company's defined benefit pension plans are expected to be in the range of \$92 million in 2019. This estimate may change based on changes in the Pension Protection Act, actual plan asset performance and available company cash flow, among other factors. Benefit payments related to these plans are expected to be \$395 million, \$390 million, \$395 million, \$400 million and \$406 million for the years ending December 31, 2019 through 2023, respectively, and a total of \$2.1 billion for the years ending December 31, 2024 through 2028.

Based on changes in return on asset and discount rate assumptions, as well as revisions based on plan experience studies, total pension expense in 2019, excluding settlement and curtailment losses, is anticipated to be approximately \$20 million lower than in 2018. A reduction of the expected return on pension assets assumption by one quarter of a percentage point would result in an estimated \$13 million increase in the 2019 pension expense, while a quarter of a percentage point reduction in the discount rate applied to the pension liability would result in an estimated \$3 million reduction of pension expense in 2019. Additional details about our defined benefit pension plans are available in Note 17 to the consolidated financial statements within Item 8 of this annual report.

Contingencies

The company is routinely subject to litigation incident to operating its businesses, and has been designated by various federal and state environmental agencies as a potentially responsible party, along with numerous other companies, for the clean-up of several hazardous waste sites, including in respect of sites related to alleged activities of certain Rexam subsidiaries. The company believes the matters identified will not have a material adverse effect upon its liquidity, results of operations or financial condition. Details of the company's legal proceedings are included in Note 23 to the consolidated financial statements within Item 8 of this annual report.

FORWARD-LOOKING STATEMENTS

This report contains “forward-looking” statements concerning future events and financial performance. Words such as “expects,” “anticipates,” “estimates,” “believes,” “targets,” “likely,” “positions” and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical fact. Such statements are based on current expectations or views of the future and are subject to risks and uncertainties, which could cause actual results or events to differ materially from those expressed or implied. Readers of this report should therefore not place undue reliance upon any forward-looking statements and any of such statements should be read in conjunction with, and, qualified in their entirety by, the cautionary statements referenced below. The company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Key factors, risks and uncertainties that could cause actual outcomes and results to be different are summarized in filings with the Securities and Exchange Commission, including Exhibit 99 in our Form 10-K, which are available on our website and at www.sec.gov. Some factors that could cause the company’s actual results or outcomes to differ materially from those discussed include, but are not limited to the following: a) in our packaging segments: product demand fluctuations; availability/cost of raw materials and logistics; competitive packaging, pricing and substitution; changes in climate and weather; competitive activity; footprint adjustments and other manufacturing changes; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation, power and supply chain influence; changes in major customer or supplier contracts or a loss of a major customer or supplier; political instability and sanctions; currency controls; and changes in foreign exchange or tax rates, including due to the effects of the 2017 U.S. Tax Cuts and Jobs Act; and tariffs or other governmental actions in any country affecting goods produced by us or in our supply chain, including imported raw materials, such as pursuant to section 232 of the U.S. Trade Expansion Act of 1962; b) in our aerospace segment: funding, authorization, availability and returns of government and commercial contracts; and delays, extensions and technical uncertainties affecting segment contracts; c) in the company as a whole, those listed plus: changes in senior management; regulatory action or issues including tax, environmental, health and workplace safety, including U.S. FDA and other actions or public concerns affecting products filled in our containers, or chemicals or substances used in raw materials or in the manufacturing process; technological developments and innovations; litigation; strikes; labor cost changes; rates of return on assets of the company’s defined benefit retirement plans; pension changes; uncertainties surrounding geopolitical events and governmental policies both in the U.S. and in other countries, including the U.S. government elections, budget, sequestration and debt limit, including the partial government shutdown; reduced cash flow; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures, including with respect to the Rexam PLC acquisition and its integration, or the associated divestiture; the effect of the acquisition or the divestiture on our business relationships, operating results and business generally.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Financial Instruments and Risk Management

The company employs established risk management policies and procedures which seek to reduce the company’s commercial risk exposure to fluctuations in commodity prices, interest rates, currency exchange rates and prices of the company’s common stock with regard to common share repurchases and the company’s deferred compensation stock plan. However, there can be no assurance that these policies and procedures will be successful. Although the instruments utilized involve varying degrees of credit, market and interest risk, the counterparties to the agreements are expected to perform fully under the terms of the agreements. The company monitors counterparty credit risk, including lenders, on a regular basis, but Ball cannot be certain that all risks will be discerned or that its risk management policies and procedures will always be effective. Additionally, in the event of default under the company’s master derivative agreements, the non-defaulting party has the option to set off any amounts owed with regard to open derivative positions.

We have estimated our market risk exposure using sensitivity analysis. Market risk exposure has been defined as the changes in fair value of derivative instruments, financial instruments and commodity positions. To test the sensitivity of our market risk exposure, we have estimated the changes in fair value of market risk sensitive instruments assuming a hypothetical 10 percent adverse change in market prices or rates. The results of the sensitivity analyses are summarized below.

Commodity Price Risk

Aluminum

We manage commodity price risk in connection with market price fluctuations of aluminum ingot through two different methods. First, we enter into container sales contracts that include aluminum ingot-based pricing terms that generally reflect the same price fluctuations included in commercial purchase contracts for aluminum sheet. The terms include fixed, floating or pass-through aluminum ingot component pricing. Second, we use derivative instruments such as option and forward contracts as economic and cash flow hedges of commodity price risk where there are material differences between sales and purchase contracted pricing and volume.

Considering the effects of derivative instruments, the company's ability to pass through certain raw material costs through contractual provisions, the market's ability to accept price increases and the company's commodity price exposures under its contract terms, a hypothetical 10 percent adverse change in the company's aluminum prices would result in an estimated \$8 million after-tax reduction in net earnings over a one-year period. Additionally, the company has currency exposures on raw materials and the effect of a 10 percent adverse change is included in the total currency exposure discussed below. Actual results may vary based on actual changes in market prices and rates.

Interest Rate Risk

Our objective in managing exposure to interest rate changes is to minimize the impact of interest rate changes on earnings and cash flows and to minimize our overall borrowing costs. To achieve these objectives, we may use a variety of interest rate swaps, collars and options to manage our mix of floating and fixed-rate debt. Interest rate instruments held by the company at December 31, 2018, included pay-fixed interest rate swaps which effectively convert variable rate obligations to fixed-rate instruments.

Based on our interest rate exposure at December 31, 2018, assumed floating rate debt levels throughout the next 12 months and the effects of our existing derivative instruments, a 100-basis point increase in interest rates would result in an estimated \$2 million after tax reduction in net earnings over a one-year period. Actual results may vary based on actual changes in market prices and rates and the timing of these changes.

Currency Exchange Rate Risk

Our objective in managing exposure to currency fluctuations is to limit the exposure of cash flows and earnings from changes associated with currency exchange rate changes through the use of various derivative contracts. In addition, at times Ball manages earnings translation volatility through the use of currency option strategies, and the change in the fair value of those options is recorded in the company's net earnings. Our currency translation risk results from the currencies in which we transact business. The company faces currency exposures in our global operations as a result of various factors including intercompany currency denominated loans, selling our products in various currencies, purchasing raw materials and equipment in various currencies and tax exposures not denominated in the functional currency. Sales contracts are negotiated with customers to reflect cost changes and, where there is not an exchange pass-through arrangement, the company may use forward and option contracts to manage significant currency exposures.

Considering the company's derivative financial instruments outstanding at December 31, 2018, and the various currency exposures, a hypothetical 10 percent reduction (U.S. dollar strengthening, mainly against the Russian ruble) in currency exchange rates compared to the U.S. dollar would result in an estimated \$15 million after tax reduction in net earnings over a one-year period. This hypothetical adverse change in currency exchange rates would also reduce our forecasted average debt balance by \$127 million and increase our forecasted cross currency swap value by \$119 million. Actual changes in market prices or rates may differ from hypothetical changes.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Ball Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ball Corporation and its subsidiaries (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of earnings, comprehensive earnings (loss), shareholders’ equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018 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, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, in 2018 the Company changed the manner in which it accounts for revenues from contracts with customers and the manner in which it accounts for restricted cash.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. 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.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (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
Denver, Colorado
February 22, 2019

We have served as the Company's auditor since at least 1962. We have not been able to determine the specific year we began serving as auditor of the Company.

Consolidated Statements of Earnings

Ball Corporation

(\$ in millions, except per share amounts)	Years Ended December 31,		
	2018	2017	2016
Net sales	\$ 11,635	\$ 10,983	\$ 9,061
Costs and expenses			
Cost of sales (excluding depreciation and amortization)	(9,329)	(8,717)	(7,296)
Depreciation and amortization	(702)	(729)	(453)
Selling, general and administrative	(478)	(514)	(512)
Business consolidation and other activities	(191)	(221)	(337)
	<u>(10,700)</u>	<u>(10,181)</u>	<u>(8,598)</u>
Earnings before interest and taxes	935	802	463
Interest expense	(301)	(285)	(229)
Debt refinancing and other costs	(1)	(3)	(109)
Total interest expense	<u>(302)</u>	<u>(288)</u>	<u>(338)</u>
Earnings before taxes	633	514	125
Tax (provision) benefit	(185)	(165)	126
Equity in results of affiliates, net of tax	5	31	15
Net earnings	<u>453</u>	<u>380</u>	<u>266</u>
Net (earnings) loss attributable to noncontrolling interests	1	(6)	(3)
Net earnings attributable to Ball Corporation	<u>\$ 454</u>	<u>\$ 374</u>	<u>\$ 263</u>
Earnings per share:			
Basic	\$ 1.32	\$ 1.07	\$ 0.83
Diluted	\$ 1.29	\$ 1.05	\$ 0.81
Weighted average shares outstanding: (000s)			
Basic	344,796	350,269	316,542
Diluted	352,321	356,985	322,884

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Comprehensive Earnings (Loss)

Ball Corporation

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net earnings	\$ 453	\$ 380	\$ 266
Other comprehensive earnings (loss):			
Foreign currency translation adjustment	(197)	38	(160)
Pension and other postretirement benefits	122	296	(178)
Effective financial derivatives	(86)	17	9
Total other comprehensive earnings (loss)	(161)	351	(329)
Income tax (provision) benefit	(18)	(65)	27
Total other comprehensive earnings (loss), net of tax	(179)	286	(302)
Total comprehensive earnings (loss)	274	666	(36)
Comprehensive (earnings) loss attributable to noncontrolling interests	1	(7)	(2)
Comprehensive earnings (loss) attributable to Ball Corporation	\$ 275	\$ 659	\$ (38)

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Balance Sheets
Ball Corporation

(\$ in millions)	December 31,	
	2018	2017
Assets		
Current assets		
Cash and cash equivalents	\$ 721	\$ 448
Receivables, net	1,802	1,634
Inventories, net	1,271	1,526
Other current assets	146	150
Total current assets	3,940	3,758
Noncurrent assets		
Property, plant and equipment, net	4,542	4,610
Goodwill	4,475	4,933
Intangible assets, net	2,188	2,462
Other assets	1,409	1,406
Total assets	\$ 16,554	\$ 17,169
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term debt and current portion of long-term debt	\$ 219	\$ 453
Accounts payable	3,095	2,762
Accrued employee costs	289	352
Other current liabilities	492	540
Total current liabilities	4,095	4,107
Noncurrent liabilities		
Long-term debt	6,510	6,518
Employee benefit obligations	1,455	1,463
Deferred taxes	645	695
Other liabilities	287	340
Total liabilities	12,992	13,123
Shareholders' equity		
Common stock (673,236,720 shares issued - 2018; 670,576,215 shares issued - 2017)	1,157	1,084
Retained earnings	5,341	4,987
Accumulated other comprehensive earnings (loss)	(835)	(656)
Treasury stock, at cost (337,978,571 shares - 2018; 320,694,598 shares - 2017)	(2,205)	(1,474)
Total Ball Corporation shareholders' equity	3,458	3,941
Noncontrolling interests		
Total shareholders' equity	104	105
Total liabilities and shareholders' equity	\$ 16,554	\$ 17,169

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Cash Flows
Ball Corporation

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Cash Flows from Operating Activities			
Net earnings	\$ 453	\$ 380	\$ 266
Adjustments to reconcile net earnings to cash provided by (used in) continuing operating activities:			
Depreciation and amortization	702	729	453
Business consolidation and other activities	191	221	337
Deferred tax provision (benefit)	35	82	(293)
Other, net	95	(268)	(57)
Working capital changes, excluding effects of acquisitions and dispositions (a):			
Receivables	(17)	(189)	(53)
Inventories	(248)	(66)	30
Other current assets	(47)	21	61
Accounts payable	592	639	(55)
Accrued employee costs	(77)	5	(14)
Other current liabilities	(140)	(28)	(481)
Other, net	27	(48)	(1)
Total cash provided by (used in) operating activities	<u>1,566</u>	<u>1,478</u>	<u>193</u>
Cash Flows from Investing Activities			
Capital expenditures	(816)	(556)	(606)
Business acquisitions, net of cash acquired (b)	—	—	(3,368)
Proceeds from business dispositions, net of cash sold	539	(2)	2,938
Settlement of Rexam acquisition related derivatives	—	—	(252)
Other, net	71	13	5
Cash provided by (used in) investing activities (b)	<u>(206)</u>	<u>(545)</u>	<u>(1,283)</u>
Cash Flows from Financing Activities			
Long-term borrowings	1,475	765	4,370
Repayments of long-term borrowings	(1,533)	(1,810)	(4,624)
Net change in short-term borrowings	(120)	184	23
Proceeds from issuances of common stock	28	27	48
Acquisitions of treasury stock	(739)	(103)	(107)
Common dividends	(137)	(129)	(83)
Other, net	(14)	(7)	(14)
Cash provided by (used in) financing activities	<u>(1,040)</u>	<u>(1,073)</u>	<u>(387)</u>
Effect of exchange rate changes on cash	(51)	(8)	(299)
Change in cash, cash equivalents and restricted cash (b)	269	(148)	(1,776)
Cash, cash equivalents and restricted cash – beginning of year (b)	459	607	2,383
Cash, cash equivalents and restricted cash – end of year (b)	<u>\$ 728</u>	<u>\$ 459</u>	<u>\$ 607</u>

(a) Includes payments of costs associated with the acquisition of Rexam and the sale of a business associated with the June 2016 acquisition of Rexam. See Note 4 for further details.

(b) Amounts in 2017 and 2016 have been retrospectively adjusted to reflect the adoption of new accounting guidance that was effective January 1, 2018. See Notes 2 and 7 for further details.

The accompanying notes are an integral part of the consolidated financial statements.

Consolidated Statements of Shareholders' Equity
 Ball Corporation

(\$ in millions; share amounts in thousands)	Ball Corporation and Subsidiaries							
	Common Stock		Treasury Stock		Retained Earnings	Accumulated Other Comprehensive Earnings (Loss)	Noncontrolling Interest	Total Shareholders' Equity
	Number of Shares	Amount	Number of Shares	Amount				
Balance at December 31, 2015	665,298	\$ 962	(380,718)	\$ (3,628)	\$ 4,557	\$ (640)	\$ 10	\$ 1,261
Net earnings	—	—	—	—	263	—	3	266
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	(301)	(1)	(302)
Common dividends, net of tax benefits	—	—	—	—	(81)	—	—	(81)
Treasury stock purchases	—	—	(3,198)	(107)	—	—	—	(107)
Treasury shares reissued	—	—	640	23	—	—	—	23
Shares issued and stock compensation for stock options and other stock plans, net of shares exchanged	3,206	54	—	—	—	—	—	54
Tax benefit on option exercises	—	22	—	—	—	—	—	22
Acquisition of Rexam	—	—	64,502	2,302	—	—	94	2,396
Other activity	—	—	—	9	—	—	—	9
Balance at December 31, 2016	668,504	1,038	(318,774)	(1,401)	4,739	(941)	106	3,541
Net earnings	—	—	—	—	374	—	6	380
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	285	1	286
Common dividends, net of tax benefits	—	—	—	—	(126)	—	—	(126)
Treasury stock purchases	—	—	(2,552)	(103)	—	—	—	(103)
Treasury shares reissued	—	—	631	22	—	—	—	22
Shares issued and stock compensation for stock options and other stock plans, net of shares exchanged	2,072	46	—	—	—	—	—	46
Dividends paid to noncontrolling interests	—	—	—	—	—	—	(5)	(5)
Other activity	—	—	—	8	—	—	(3)	5
Balance at December 31, 2017	670,576	1,084	(320,695)	(1,474)	4,987	(656)	105	4,046
Impact of adopting new revenue recognition accounting standard	—	—	—	—	37	1	—	38
Balance at December 31, 2017, as adjusted	670,576	1,084	(320,695)	(1,474)	5,024	(655)	105	4,084
Net earnings	—	—	—	—	454	—	(1)	453
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	(179)	—	(179)
Common dividends, net of tax benefits	—	—	—	—	(138)	—	—	(138)
Treasury stock purchases	—	—	(18,021)	(755)	—	—	—	(755)
Treasury shares reissued	—	—	737	23	—	—	—	23
Shares issued and stock compensation for stock options and other stock plans, net of shares exchanged	2,661	73	—	—	—	—	—	73
Other activity	—	—	—	1	1	(1)	—	1
Balance at December 31, 2018	673,237	\$ 1,157	(337,979)	\$ (2,205)	\$ 5,341	\$ (835)	\$ 104	\$ 3,562

The accompanying notes are an integral part of the consolidated financial statements.

Ball Corporation
Notes to the Consolidated Financial Statements

1. Critical and Significant Accounting Policies

The preparation of Ball Corporation's (collectively, Ball, the company, we or our) consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires Ball's management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting periods. These estimates are based on historical experience and various assumptions believed to be reasonable under the circumstances. Ball's management evaluates these estimates on an ongoing basis and adjusts or revises the estimates as circumstances change. As future events and their impacts cannot be determined with precision, actual results may differ from these estimates. In the opinion of management, the financial statements reflect all adjustments necessary to fairly present the results of the periods presented.

Critical Accounting Policies

The company considers certain accounting policies to be critical, as their application requires management's judgment about the impacts of matters that are inherently uncertain. Detailed below is a discussion of the accounting policies the company considers critical to our consolidated financial statements.

Acquisitions

The company records acquisitions resulting in the consolidation of an enterprise using the purchase method of accounting. Under this method, the acquiring company records the assets acquired, including intangible assets that can be identified and named, and liabilities assumed based on their estimated fair values at the date of acquisition. The purchase price in excess of the fair value of the assets acquired and liabilities assumed is recorded as goodwill. If the assets acquired, net of liabilities assumed, are greater than the purchase price paid, then a bargain purchase has occurred and the company will recognize the gain immediately in earnings. Among other sources of relevant information, the company uses independent appraisals and actuarial or other valuations to assist in determining the estimated fair values of the assets and liabilities. Various assumptions are used in the determination of these estimated fair values including discount rates, market and volume growth rates, product selling prices, production costs and other prospective financial information. Transaction costs associated with acquisitions are expensed as incurred and included in the business consolidation and other activities line of the consolidated statement of earnings.

For acquisitions where the company already owns an equity investment in the acquired company, the company will recognize in earnings, upon the completion of the acquisition, a gain or loss related to the company's existing equity investment. This gain or loss is calculated based on the fair value of the equity investment as compared to the carrying value of the existing equity investment on the date of acquisition.

When the company purchases additional interests of consolidated subsidiaries that does not result in a change in control, the difference between the fair value and carrying value of the noncontrolling interests acquired is accounted for in the common stock line within shareholders' equity.

Ball Corporation
Notes to the Consolidated Financial Statements

Exit and Other Closure Costs (Business Consolidation Costs)

The company estimates its liabilities for business closure activities by accumulating detailed estimates of costs and asset sale proceeds, if any, for each business consolidation initiative. This includes the estimated costs of employee severance, pension and related benefits; impairment of property and equipment and other assets, including estimates of net realizable value; accelerated depreciation; termination payments for contracts and leases; contractual obligations; and any other qualifying costs related to the exit plan. These estimated costs are grouped by specific projects within the overall exit plan and are then monitored on a monthly basis. Such charges represent management's best estimates, however, they require assumptions about the plans that may change over time. Changes in estimates for individual locations and other matters are evaluated periodically to determine if a change in estimate is required for the overall restructuring plan. Subsequent changes to the original estimates are included in current earnings and identified as business consolidation gains or losses.

Recoverability of Goodwill

On an annual basis and at interim periods when circumstances require, the company tests the recoverability of its goodwill. The company compares the carrying value of each identified reporting unit to its fair value. If the carrying value of the reporting unit is greater than its fair value, the company recognizes an impairment charge for the amount by which the carrying value exceeds the fair value. The company estimates fair value for each reporting unit primarily using the income approach. Under the income approach, fair value is estimated as the present value of estimated future cash flows of each reporting unit. The projected cash flows incorporate various assumptions related to weighted average cost of capital (WACC) and growth rates that are specific to each reporting unit. The company corroborates the results of its income approach using the market approach. Under the market approach, the company uses available information regarding multiples used in any recent market transactions involving transfer of controlling interests as well as publicly available trading multiples based upon the enterprise value of companies in either the packaging or aerospace and defense industries. The appropriate multiple is applied to forecasted EBITDA (a non-GAAP measure defined by the company as earnings before interest, taxes, depreciation and amortization) of each reporting unit to estimate fair value.

Defined Benefit Pension Plans and Other Employee Benefits

The company has defined benefit plans and postretirement plans that provide certain medical benefits and life insurance for retirees and eligible dependents and, to a lesser extent, participates in multi-employer defined benefit plans for which Ball is not the sponsor. For the company-sponsored plans, the relevant accounting guidance requires that management make certain assumptions relating to the long-term rate of return on plan assets, discount rates used to determine the present value of future obligations and expenses, salary inflation rates, health care cost trend rates, mortality rates and other assumptions. The company believes the accounting estimates related to our pension and postretirement plans are critical accounting estimates because they are highly susceptible to change from period to period based on the performance of plan assets, actuarial valuations, market conditions and contracted benefit changes. The selection of assumptions is based on historical trends and known economic and market conditions at the time of valuation, as well as independent studies of trends performed by the company's actuaries. However, actual results may differ substantially from the estimates that were based on the critical assumptions.

Ball Corporation
Notes to the Consolidated Financial Statements

The company recognizes the funded status of each defined benefit pension plan and other postretirement benefit plans in the consolidated balance sheet. Each overfunded plan is recognized as an asset, and each underfunded plan is recognized as a liability. Pension plan obligations are revalued annually, or when an event occurs that requires remeasurement, based on updated assumptions and information about the individuals covered by the plan. For pension plans, accumulated actuarial gains and losses in excess of a 10 percent corridor and the prior service cost are amortized on a straight-line basis from the date recognized over the average remaining service period of active participants or the average life expectancy for plans with significant inactive participants. For other postemployment benefits, the 10 percent corridor is not used. Costs related to defined benefit and other postretirement plans are included in cost of sales and selling, general and administrative expenses, while settlement and curtailment expenses are included in business consolidation expenses.

Income Taxes

Deferred income taxes reflect the future tax consequences of differences between the tax bases of assets and liabilities and their financial reporting amounts at each balance sheet date, based upon enacted income tax laws and tax rates. Income tax expense or benefit is provided based on earnings reported in the financial statements. The provision for income tax expense or benefit differs from the amounts of income taxes currently payable because certain items of income and expense included in the consolidated financial statements are recognized in different time periods by taxing authorities.

Deferred tax assets, including operating loss, capital loss and tax credit carryforwards, are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that any portion of these tax attributes will not be realized. In addition, from time to time, management must assess the need to accrue or disclose uncertain tax positions for proposed adjustments from various federal, state and foreign tax authorities who regularly audit the company in the normal course of business. In making these assessments, management must often analyze complex tax laws of multiple jurisdictions, including many foreign jurisdictions. The accounting guidance prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The company records the related interest expense and penalties, if any, as tax expense in the tax provision.

Derivative Financial Instruments

The company uses derivative financial instruments for the purpose of hedging commercial risk exposures to fluctuations in interest rates, currency exchange rates, raw material costs and common share prices. The company's derivative instruments are recorded in the consolidated balance sheets at fair value. The company values each derivative financial instrument either by using a single valuation technique based on observable market inputs performed internally or by obtaining valuation information from a reliable and observable market source. For a derivative designated as a cash flow hedge, the derivative's mark to fair value is initially recorded as a component of accumulated other comprehensive earnings and subsequently reclassified into earnings when the hedged item affects earnings, unless it is probable that the forecasted transaction will not occur. Derivatives that do not qualify for hedge accounting are marked to fair value with gains and losses immediately recorded in earnings. In the consolidated statements of cash flows, derivative activities are classified based on the cash flows of the items being hedged, except for those activities that are hedging the effect of exchange rate changes on cash, which are presented in investing activities.

Realized gains and losses from hedges are classified in the consolidated statements of earnings consistent with the accounting treatment of the items being hedged. Upon the dedesignation of an effective derivative contract, the gains or losses are deferred in accumulated other comprehensive earnings until the originally hedged item affects earnings unless it is probable the hedged item will not occur at which time it is recognized immediately. Any gains or losses incurred after the dedesignation date are recorded in earnings immediately.

Ball Corporation
Notes to the Consolidated Financial Statements

Contingencies

The company is subject to various legal proceedings and claims, including those that arise in the ordinary course of business. The company records loss contingencies when it determines the outcome of the future event is probable of occurring and the amount of the loss can be reasonably estimated. Gain contingencies are recognized in the financial statements when they are realized or realizable.

The determination of a reserve for a loss contingency is based on management's judgment of probability and estimates with respect to the likelihood of an outcome and valuation of the future event. Liabilities are recorded or adjusted when events or circumstances cause these judgments or estimates to change. In assessing whether a loss is probable, Ball may consider the following factors, among others: the nature of the litigation, claim or assessment; available information, opinions or views of legal counsel and other advisors; and the experience gained from similar cases by the company and others. The company provides disclosures for material contingencies when there is a reasonable possibility that a loss or an additional loss may be incurred. Actual amounts realized upon settlement of contingencies may be different than amounts recorded and disclosed, and such adjustments could have a significant impact on the company's consolidated financial statements.

Significant Accounting Policies

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of Ball, its consolidated subsidiaries, and variable interest entities in which the company is considered to be the primary beneficiary. Equity investments in which the company exercises significant influence but does not control and is not the primary beneficiary are accounted for using the equity method of accounting. Investments in which the company neither exercises significant influence over the investee, nor is the primary beneficiary of the investment, are accounted for using the cost method of accounting. Intercompany transactions are eliminated in consolidation.

Reclassifications

Certain prior year amounts have been reclassified in order to conform to the current year presentation.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and highly liquid investments with original maturities of three months or less.

Inventories

Inventories are stated at the lower of cost or market using either the first-in, first-out (FIFO) cost method of accounting or the average cost method. Inventory cost is calculated for each inventory component taking into consideration the appropriate cost factors including fixed and variable overhead, material price volatility and production levels.

Impairment of Long-Lived Assets

We review long-lived assets for impairment when circumstances indicate the carrying amount of an asset or asset group may not be recoverable based on the undiscounted future cash flows of the asset. We review long-lived assets for impairment at the individual asset or the asset group level for which the lowest level of independent cash flows can be identified. If the carrying amount of the asset or asset group is determined not to be recoverable, a write-down to fair value is recorded. Fair values are determined based on quoted market values, discounted cash flows or with the assistance of external appraisals, as applicable.

Ball Corporation
Notes to the Consolidated Financial Statements

Depreciation and Amortization

Property, plant and equipment are carried at the cost of acquisition or construction. Repairs and maintenance costs, including labor and material costs for major improvements such as annual production line overhauls, are expensed as incurred, unless those costs substantially increase the useful lives or capacity of the existing assets. Assets are depreciated and amortized using the straight-line method over their estimated useful lives, generally 5 to 40 years for buildings and improvements and 2 to 20 years for machinery and equipment. Finite-lived intangible assets, excluding capitalized software costs, are generally amortized over their estimated useful lives of 3 to 18 years. Capitalized software is generally amortized over estimated useful lives of 3 to 7 years. The company periodically reviews these estimated useful lives and when appropriate, changes are made prospectively.

For certain business consolidation activities, accelerated depreciation may be required for the revised remaining useful life for assets designated to be scrapped or abandoned. The accelerated depreciation related to such activities is disclosed as part of business consolidation and other activities in the appropriate period.

Environmental Reserves

The company estimates its liability for environmental matters based on, among other factors, the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of the amount of loss. The company records the best estimate of a loss when the loss is considered probable. As additional information becomes available, the company reassesses the potential liability related to pending matters and revises the estimates.

Revenue Recognition in the Packaging Segments

The company recognizes sales of products in its packaging segments when a customer obtains control of promised goods or services, which generally occurs upon shipment or delivery of goods. On January 1, 2018, Ball adopted the new revenue accounting standard and all related amendments. Further details of the new guidance and its adoption are included in Notes 2 and 5.

For sales recognized in 2017 and 2016, the company recognized sales of products in the packaging segments when the four basic criteria of revenue recognition were met: delivery had occurred, title had transferred, there was persuasive evidence of an agreement or arrangement and the price was fixed or determinable and collection was reasonably assured.

Revenue Recognition in the Aerospace Segment

Sales under long-term contracts in the aerospace segment are primarily recognized using percentage-of-completion accounting under the cost-to-cost method. On January 1, 2018, Ball adopted the new revenue accounting standard and all related amendments. Further details of the new guidance and its adoption are included in Notes 2 and 5.

Ball Corporation
Notes to the Consolidated Financial Statements

Fair Value Measurements

Generally accepted accounting principles define fair value as the price that would be received to sell an asset or be paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price) and such principles also establish a fair value hierarchy that prioritizes the inputs used to measure fair value using the following definitions (from highest to lowest priority):

- Level 1—Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.
- Level 2—Observable inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets and liabilities in active markets; quoted prices for identical or similar assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data by correlation or other means.
- Level 3—Prices or valuation techniques requiring inputs that are both significant to the fair value measurement and unobservable.

Stock-Based Compensation

Ball has a variety of restricted stock, stock option, and stock-settled appreciation rights (SSARs) plans, and the related stock-based compensation is primarily reported as part of selling, general and administrative expenses in the consolidated statements of earnings. The compensation expense associated with restricted stock grants is calculated using the fair value at the date of grant (closing stock price) and is amortized over the restriction period. For stock options and SSARs, the company has elected to use the Black-Scholes valuation model and amortizes the estimated fair value, determined at the date of grant, on a straight-line basis over the requisite service period (generally the vesting period). The company's deferred compensation stock program is subject to variable plan accounting and, accordingly, is valued at the closing price of the company's common stock at the end of each reporting period.

Research and Development Costs

Research and development costs are expensed as incurred in connection with the company's programs for the development of products and processes. Costs incurred in connection with these programs, the majority of which are included in cost of sales, amounted to \$32 million, \$27 million and \$28 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Currency Translation

Assets and liabilities of foreign operations with a functional currency other than the U.S. dollar are translated using period-end exchange rates, and revenues and expenses are translated using average exchange rates during each period. Translation gains and losses are reported in accumulated other comprehensive earnings (loss) as a component of shareholders' equity.

Ball Corporation
Notes to the Consolidated Financial Statements

2. Accounting Pronouncements

Recently Adopted Accounting Standards

Revenue from Contracts with Customers

On January 1, 2018, Ball adopted the new revenue accounting standard and all related amendments. The company elected to apply the modified retrospective method to all contracts that were not completed as of January 1, 2018. The cumulative effect of initially applying the new revenue standard was recognized as an adjustment to the company's retained earnings balance as of January 1, 2018. Comparative periods have not been restated and continue to be reported under the accounting standards in effect for those periods.

The cumulative effect of the changes made to the company's January 1, 2018, consolidated balance sheet for the adoption of the new revenue standard is as follows:

(\$ in millions)	Balance at December 31, 2017	Adjustments Due to Adoption	Balance at January 1, 2018
Assets			
Receivables, net	\$ 1,634	\$ 307	\$ 1,941
Inventories, net	1,526	(241)	1,285
Other current assets	150	(4)	146
Liabilities			
Other current liabilities	540	17	557
Deferred taxes	695	7	702
Shareholders' equity			
Retained earnings	4,987	37	5,024
Accumulated other comprehensive earnings (loss)	(656)	1	(655)

In accordance with the disclosure requirements of the new revenue standard, the impact of adoption on our 2018 consolidated statement of earnings and balance sheet as of December 31, 2018, was as follows:

(\$ in millions, except per share amounts)	Year Ended December 31, 2018		
	As Reported	Balances Without Adoption	Effect of Change Higher (Lower)
Net sales	\$ 11,635	\$ 11,614	\$ 21
Cost of sales (excluding depreciation and amortization)	(9,329)	(9,313)	(16)
Earnings before interest and taxes	935	930	5
Tax (provision) benefit	(185)	(184)	(1)
Net earnings attributable to Ball Corporation	454	450	4
Basic earnings per share	1.32	1.31	0.01
Diluted earnings per share	1.29	1.28	0.01

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	December 31, 2018		
	As Reported	Balances Without Adoption	Effect of Change Higher/(Lower)
Assets			
Receivables, net	\$ 1,802	\$ 1,485	\$ 317
Inventories, net	1,271	1,518	(247)
Other current assets	146	153	(7)
Liabilities			
Other current liabilities	492	477	15
Deferred taxes	645	639	6
Shareholders' equity			
Retained earnings	5,341	5,300	41
Accumulated other comprehensive earnings (loss)	(835)	(836)	1

The following summarizes the significant impacts to the company's consolidated statement of earnings and consolidated balance sheet as a result of the new revenue standard adopted on January 1, 2018, as compared to how sales would have been recognized under the previous revenue recognition guidance:

- For the metal beverage packaging segments and, to a lesser extent, in our non-reportable segment that manufactures aerosol packaging, the new revenue standard accelerated the recognition of certain sales to be over time such that a portion of sales is now recognized prior to shipment or delivery of goods. The accelerated recognition of sales also caused the company's inventory to decrease with an offsetting increase to unbilled receivables to the extent the amounts had not yet been invoiced to the customer and right to payment was unconditional.
- For the aerospace segment, sales from the majority of the company's contracts continue to be recognized over time under the cost-to-cost method based on the continuous transfer of control to the customer, which is consistent with how sales were recognized under previous revenue recognition guidance; therefore, no cumulative effect adjustment was required to be made upon adoption for such sales.
- In circumstances where the customer's payment, or Ball's unconditional right to that consideration, preceded the company's performance, we recognized a contract liability.

Pension and Postretirement Benefit Costs

In March 2017, amendments to existing accounting guidance were issued to change the presentation of net periodic pension cost and net periodic postretirement benefit cost. Employers are now required to report the service cost component in the same line item as other compensation costs arising from services rendered by the associated employees during the period. The other components of net periodic pension cost and net periodic postretirement benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations, if one is presented. The amendments also permit only the service cost component of net benefit cost to be eligible for capitalization. This guidance was adopted by the company on January 1, 2018, and the capitalization of the service cost component was applied on a prospective basis; no service costs capitalized in a prior period were taken to earnings as a result of this adoption. Curtailment and settlement losses are reported by the company in business consolidation and other activities. All other non-service components are immaterial and are presented in selling, general and administrative (SG&A) expenses beginning in 2018. These non-service costs were reported in both cost of sales and SG&A in prior periods; however, due to immateriality in all prior periods presented, no retrospective adjustments were considered necessary. Such non-service costs were \$21 million and \$15 million for 2017 and 2016, respectively.

Ball Corporation
Notes to the Consolidated Financial Statements

Definition of a Business

In January 2017, amendments to existing accounting guidance were issued to further clarify the definition of a business in determining whether or not a company has acquired or sold a business. The guidance was applied prospectively for Ball on January 1, 2018, and did not have an impact on the company's consolidated financial statements.

Statement of Cash Flows

In November 2016, accounting guidance was issued requiring companies to reconcile the change in the total of cash, cash equivalents and restricted cash or restricted cash equivalents in the statement of cash flows. This guidance was applied retrospectively on January 1, 2018, and the impact on the 2017 statement of cash flow was not material. The impact on the 2016 statement of cash flows was material due to approximately \$2 billion of restricted cash held in an acquisition escrow account by the company at December 31, 2015. In July 2016, the funds in the escrow account were used to pay a portion of the cash component of the acquisition price of Rexam.

In August 2016, accounting guidance was issued addressing eight specific cash flow issues. This guidance was applied retrospectively on January 1, 2018, and did not have a material impact on the company's consolidated statement of cash flows.

Intra-Entity Transfers

In October 2016, amendments to existing accounting guidance were issued which require entities to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs, as opposed to when the asset is sold to an unrelated third party. The amendments also eliminate the exception for an intra-entity transfer of an asset other than inventory. This guidance was applied on a modified retrospective basis on January 1, 2018, and did not have a material impact on the company's consolidated financial statements.

New Accounting Guidance

Cloud Computing Arrangements

In August 2018, amendments to existing accounting guidance were issued to clarify the accounting for implementation costs for cloud computing arrangements. The amendments specify that existing guidance for capitalizing implementation costs incurred to develop or obtain internal-use software also applies to implementation costs incurred in a hosting arrangement that is a service contract. The guidance is effective for Ball on January 1, 2020, and the company is currently assessing the impact that the adoption of this new guidance will have on its consolidated financial statements.

Fair Value Measurements and Pension and Postretirement Benefit Costs

In August 2018, amendments to existing accounting guidance were issued to simplify financial statement disclosures related to defined benefit plans and fair value measurements. This guidance is effective for Ball on January 1, 2020, and is not expected to have a material effect on the company's consolidated financial statements.

Stranded Tax Effects

In February 2018, accounting guidance was issued to permit the reclassification from accumulated other comprehensive earnings to retained earnings of stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act signed into law in December 2017. The guidance is effective for Ball on January 1, 2019, and the company is currently assessing how to adopt the new guidance and the associated impact on its consolidated financial statements.

Ball Corporation
Notes to the Consolidated Financial Statements

Financial Assets

In June 2016, amendments to existing guidance were issued requiring financial assets or a group of financial assets measured at amortized cost basis to be presented at the net amount expected to be collected when finalized. The allowance for credit losses is a valuation account that will be deducted from the amortized cost basis of the financial asset to present the net carrying value at the amount expected to be collected on the financial asset. This guidance affects loans, debt securities, trade receivables, net investments in leases, off-balance-sheet credit exposures, reinsurance receivables and any other financial assets not excluded from the scope that have the contractual right to receive cash. The guidance is effective for Ball on January 1, 2020. The company is currently assessing the impact that the adoption of this new guidance will have on its consolidated financial statements.

Lease Accounting

In February 2016, lease accounting guidance was issued which, for operating leases, will require a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, on its balance sheet. The guidance will also require a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, generally on a straight-line basis.

In July 2018, targeted improvements were issued to provide an additional optional transition method that will allow entities to adopt the new leases standard by recognizing a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. This option is in addition to the existing modified retrospective transition method that requires entities to apply the new standard at the beginning of the earliest period presented in the financial statements. Ball is electing this additional transition approach and will apply the new standard as of January 1, 2019, rather than as of the earliest comparative period presented. Additionally, the recent amendments include a lessor-specific practical expedient, by underlying asset class, to not separate nonlease components from the associated lease components. Codification improvements were also issued on a variety of topics within the new leases standard, which represent minor corrections or improvements and are not expected to have a significant impact on our accounting practices.

We have established a cross-functional implementation team related to this new lease standard, which includes representatives from all of our business segments. We are utilizing a bottoms-up approach to analyze the impact of the new standard by reviewing our current lease population, including completeness, to identify potential accounting, data and other operational changes that might be required under the new guidance. In addition, we are implementing the required changes to our business processes, systems and controls to support recognition and disclosure upon adoption. This implementation effort includes enhancing processes and controls for identifying leases, centralizing the accounting for leases, and implementing a system to calculate the accounting impact for the lease standard. The guidance is effective for Ball on January 1, 2019, and there is a material amount of lease assets and liabilities that will be recorded on our consolidated balance sheet. We expect to elect the following practical expedients: (1) the package of three, which allows us to not reassess (a) whether a contract is or contains a lease, (b) lease classification and (c) initial direct costs; and (2) the land easements expedient, which allows us to not reassess certain land easements. We will adopt the standard for the period beginning January 1, 2019, and our processes, systems and internal controls will be in a position to report under the new accounting standard in the first quarter of 2019.

Ball Corporation
Notes to the Consolidated Financial Statements**3. Business Segment Information**

Ball's operations are organized and reviewed by management along its product lines and geographical areas and presented in the four reportable segments outlined below:

Beverage packaging, North and Central America: Consists of operations in the U.S., Canada and Mexico that manufacture and sell metal beverage containers throughout those countries.

Beverage packaging, South America: Consists of operations in Brazil, Argentina and Chile that manufacture and sell metal beverage containers throughout most of South America.

Beverage packaging, Europe: Consists of operations in numerous countries in Europe, including Russia, that manufacture and sell metal beverage containers throughout most of Europe.

Aerospace: Consists of operations that manufacture and sell aerospace and other related products and provide services used in the defense, civil space and commercial space industries.

As presented in the tables below, Other consists of non-reportable segments located in Africa, Middle East and Asia (beverage packaging, AMEA) and Asia Pacific (beverage packaging, Asia Pacific) that manufacture and sell metal beverage containers; a non-reportable segment that manufactures and sells aerosol containers, extruded aluminum aerosol containers and aluminum slugs (aerosol packaging); undistributed corporate expenses; intercompany eliminations and other business activities.

The accounting policies of the segments are the same as those in the consolidated financial statements, as discussed in Note 1. The company also has investments in operations in Guatemala, Panama, South Korea, the U.S. and Vietnam that are accounted for under the equity method of accounting and, accordingly, those results are not included in segment sales or earnings.

On July 31, 2018, Ball sold its U.S. steel food and steel aerosol packaging business and formed a joint venture, Ball Metalpack. After the sale, Ball's 49 percent ownership interest in Ball Metalpack's financial results is reported in equity in results of affiliates, net of tax, within Ball's consolidated statements of earnings. The financial results of Ball's remaining non-reportable aerosol packaging segment are reported within Other in the segment tables below. In addition, as a result of the July 2018 sale of the U.S. steel food and steel aerosol business, the results of operations for 2018 and prior year comparative periods of the company's entire former food and aerosol packaging reportable segment are reported within Other in the segment tables below as a non-reportable segment.

Major Customers

Net sales to major customers, as a percentage of consolidated net sales, were as follows:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Anheuser-Busch InBev and affiliates	13 %	14 %	7 %
Coca-Cola Bottlers' Sales & Services Company LLC and affiliates	12 %	11 %	9 %
U.S. Government	10 %	9 %	9 %
Molson Coors Brewing Company and affiliates	7 %	7 %	9 %

Ball Corporation
Notes to the Consolidated Financial Statements**Summary of Net Sales by Geographic Area (a)**

<u>(\$ in millions)</u>	<u>U.S.</u>	<u>Brazil</u>	<u>Other</u>	<u>Consolidated</u>
2018	\$ 5,783	\$ 1,380	\$ 4,472	\$ 11,635
2017	5,496	1,427	4,060	10,983
2016	4,929	904	3,228	9,061

(a) Revenue is attributed based on origin of sale and includes intercompany eliminations.

Summary of Net Long-Lived Assets by Geographic Area (a)

<u>(\$ in millions)</u>	<u>U.S.</u>	<u>Brazil</u>	<u>U.K.</u>	<u>Other</u>	<u>Consolidated</u>
As of December 31, 2018	\$ 1,708	\$ 865	\$ 701	\$ 2,677	\$ 5,951
As of December 31, 2017	1,852	876	659	2,629	6,016

(a) Long-lived assets exclude goodwill and intangible assets.

Ball Corporation
Notes to the Consolidated Financial Statements

Summary of Business by Segment

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Net sales			
Beverage packaging, North and Central America	\$ 4,626	\$ 4,178	\$ 3,612
Beverage packaging, South America	1,701	1,692	1,014
Beverage packaging, Europe	2,619	2,360	1,915
Aerospace	1,196	991	818
Reportable segment sales	10,142	9,221	7,359
Other	1,493	1,762	1,702
Net sales	\$ 11,635	\$ 10,983	\$ 9,061
Comparable operating earnings			
Beverage packaging, North and Central America	\$ 551	\$ 533	\$ 469
Beverage packaging, South America	313	333	185
Beverage packaging, Europe	282	233	217
Aerospace	113	98	88
Reportable segment comparable operating earnings	1,259	1,197	959
Reconciling items			
Other (a)	31	23	17
Business consolidation and other activities	(191)	(221)	(337)
Amortization of acquired Rexam intangibles	(164)	(162)	(65)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation	—	(35)	—
Cost of sales associated with Rexam inventory step-up	—	—	(84)
Egyptian pound devaluation	—	—	(27)
Earnings before interest and taxes	935	802	463
Interest expense	(301)	(285)	(229)
Debt refinancing and other costs	(1)	(3)	(109)
Total interest expense	(302)	(288)	(338)
Earnings before taxes	633	514	125

(a) Includes undistributed corporate expenses, net, of \$85 million, \$128 million and \$110 million for the years ended December 2018, 2017 and 2016, respectively.

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Depreciation and amortization (a)			
Beverage packaging, North and Central America	\$ 184	\$ 179	\$ 117
Beverage packaging, South America	131	144	78
Beverage packaging, Europe	238	254	121
Aerospace	33	31	30
Reportable segment depreciation and amortization	586	608	346
Other	116	121	107
Depreciation and amortization	\$ 702	\$ 729	\$ 453
Capital expenditures			
Beverage packaging, North and Central America	\$ 322	\$ 283	\$ 234
Beverage packaging, South America	106	36	33
Beverage packaging, Europe	194	81	126
Aerospace	130	70	41
Reportable segment capital expenditures	752	470	434
Other	64	86	172
Capital expenditures	\$ 816	\$ 556	\$ 606

(a) Includes amortization of acquired Rexam intangibles.

The company does not disclose total assets by segment as it is not provided to the chief operating decision maker.

4. Acquisitions and Dispositions

Beverage Packaging China

In December 2018, the company announced an agreement to sell its metal beverage packaging business in China for consideration of approximately \$225 million, plus potential additional consideration related to the relocation of an existing facility in China over the next several years. The transaction is subject to customary regulatory approvals and is expected to close during the second half of 2019. The assets and liabilities of the China beverage packaging business have not been presented as held for sale in the company's December 31, 2018, consolidated balance sheet given the uncertainty of pending regulatory approvals associated with this transaction. Given the contingent nature of the

Ball Corporation
Notes to the Consolidated Financial Statements

transaction, the company similarly has not provided any deferred tax impact in the financial statements for the income tax consequences that may arise if and when the sale is completed in a future reporting period.

U.S. Steel Food and Steel Aerosol Business

On July 31, 2018, Ball sold its U.S. steel food and steel aerosol packaging business and formed a joint venture, Ball Metalpack. In exchange for the sale of this business, Ball received approximately \$600 million of cash proceeds, subject to customary closing adjustments completed as of December 31, 2018, as well as a 49 percent ownership interest in Ball Metalpack. This investment is reported in other assets as an equity method investment on Ball's consolidated balance sheet. This transaction enhances our ability to return additional value to shareholders via share repurchases.

Ball recorded a loss of \$41 million upon completion of the sale. This loss was recorded in business consolidation and other activities in the company's consolidated statement of earnings.

The assets of the sold business included nine plants that manufacture and sell steel food and steel aerosol containers. The manufacturing plants were located in Canton and Columbus, Ohio; Milwaukee and Deforest, Wisconsin; Chestnut Hill, Tennessee; Horsham, Pennsylvania; Springdale, Arkansas; and Oakdale, California.

In connection with the sale of the U.S. steel food and steel aerosol business, the company entered into an agreement to supply metal to Ball Metalpack through December 31, 2018, and agreements to provide transition and other services to Ball Metalpack. During 2018, Ball Metalpack purchased \$163 million of steel from Ball, which was equivalent to Ball's cost; as such, the arrangement generated no profit for Ball, and Ball's steel sales to Ball Metalpack are offset against the cost of Ball's related metal purchases in the company's consolidated statements of earnings. At December 31, 2018, Ball is owed \$170 million and Ball owes \$34 million related to the above agreements, which are reported in receivables, net and accounts payable, respectively, on Ball's consolidated balance sheets.

Rexam

On June 30, 2016, Ball acquired 100 percent of the outstanding shares of Rexam, a U.K.-based beverage container manufacturer, for the purchase price of £2.9 billion (\$3.8 billion) in cash, and 64.5 million treasury shares of Ball Corporation common stock (valued at \$35.70 per share for a total share consideration of \$2.3 billion). Additionally, the company recorded \$24 million of consideration for stock-based compensation. The common shares were valued using the price on the date of acquisition and presented as a reduction of treasury stock. The cash portion of the acquisition price was paid in July 2016 using proceeds from restricted cash held in escrow and borrowings under the \$1.4 billion and €1.1 billion Term A loan facilities obtained in March 2016.

The consummation of the acquisition was subject to, among other things, approval from Ball's shareholders, approval from Rexam's shareholders, certain regulatory approvals and satisfaction of other customary closing conditions. In order to satisfy certain regulatory requirements, the company was required to sell a portion of Ball's existing beverage packaging business and select beverage can assets of Rexam (the Divestment Business). The sale of the Divestment Business to Ardagh Group S.A. (Ardagh) was completed concurrently on June 30, 2016, for \$3.42 billion, subject to customary closing adjustments and certain transaction service arrangements between Ball and Ardagh during a transition period. The sale agreement with Ardagh in respect of the Divestment Business contains customary representations, warranties, covenants and provisions allocating liabilities, as well as indemnification obligations to and from Ardagh, pursuant to which claims may be made when applicable. A pretax gain on sale \$344 million for the year ended December 31, 2016, was recorded within business consolidation and other activities and was subject to finalization of working capital and other items. The company also entered into a supply agreement with Ardagh to manufacture and sell can ends to the Divestment Business in Brazil in exchange for proceeds of \$103 million. In 2017, the company finalized the Ardagh closing adjustments and other ancillary matters and recorded an additional gain on sale of \$55 million.

Ball Corporation
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In connection with the sale of the Divestment Business to Ardagh on June 30, 2016, the company provided indemnifications for the uncertain tax positions of the Divestment Business sold to Ardagh. These indemnifications were accounted for as guarantees and the company initially recognized a liability equal to the fair value of the indemnities. There are no limitations on the maximum potential future payments the company could be obligated to make and, based on the nature of the indemnified items, the company is unable to reasonably estimate its potential exposure under these items in excess of liabilities recorded. During 2017, the company recorded \$34 million in business consolidation and other activities for an increase in the estimated amount of the claims covered by indemnifications for tax matters provided to the buyer in relation to the Divestment Business. The estimated value of the claims under these indemnities was \$55 million at December 31, 2017, of which \$45 million was paid during 2018.

The portion of the Divestment Business composed of Ball's legacy beverage packaging businesses had 2016 earnings before taxes as shown below. These earnings before taxes may not be indicative of the earnings before taxes that would be generated by these components of the Divestment Business in future periods. Additionally, due to complexities associated with how Ball's legacy beverage packaging businesses included in the Divestment Business were integrated into Ball Corporation in historical periods, these earnings before taxes may not be indicative of the earnings before taxes of these Divestment Business components had they been operated as a stand-alone business or businesses.

(\$ in millions)	Year Ended December 31, 2016
Earnings before taxes	\$ 104
Earnings before taxes attributable to Ball Corporation	104

The Rexam portion of the Divestment Business is not included in the table above as such financial results were never included in Ball's historical results.

A total of 54 manufacturing facilities were acquired from Rexam, including 17 in North America, 20 in Europe, 12 in South America and five in the AMEA region. A total of 22 manufacturing facilities were sold as part of the Divestment Business, including 12 Ball facilities and 10 Rexam facilities. Of these 22 facilities, eight are located in North America, 12 are located in Europe and two are located in Brazil. The company had a total of 75 beverage manufacturing facilities and joint ventures after the completion of the Rexam acquisition and sale of the Divestment Business.

The Rexam acquisition aligns with Ball's Drive for 10 vision, including the company's long-standing capital allocation strategy and EVA philosophy. The combination created the world's largest supplier of beverage containers allowing the company to better serve its customers with its enhanced geographic footprint and innovative product offerings. In particular, Ball expects the acquisition to continue to deliver long-term shareholder value through optimizing global sourcing, reducing general and administrative expenses, sharing best practices to improve production efficiencies and leveraging its footprint to lower freight, logistics and warehousing costs. In addition, further value can continue to be created through balance sheet improvements with a focus on working capital and inventory management and sustainability priorities as a result of the larger plant network.

The Rexam acquisition was accounted for as a business combination and its results of operations have been included in the company's consolidated statements of earnings and cash flows from the date of acquisition. In total, pretax charges of \$216 million were incurred for transaction costs associated with the acquisition which, in accordance with current accounting guidance, were expensed as incurred. The transaction costs are included in the business consolidation and other activities line in the company's consolidated statement of earnings.

In connection with the acquisition, Ball assumed Rexam debt of approximately \$2.8 billion, of which approximately \$2.7 billion was extinguished during 2016. The proceeds from the sale of the Divestment Business were partially used to extinguish the assumed Rexam debt.

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During the second quarter of 2017, the company finalized the allocation of the purchase price for the Rexam acquisition. The measurement period adjustments to the acquisition fair values and useful lives for acquired identifiable intangible assets and fixed assets were due to the refinement of our valuation models, assumptions and inputs. The updated assumptions and inputs incorporated additional information obtained subsequent to the closing of the transaction related to facts and circumstances that existed as of the acquisition date. The final purchase price allocation changes during the second quarter of 2017 included an increase of \$590 million in the value of intangible assets, an increase of \$31 million in the value of investments in affiliates and a decrease of \$384 million in the value of goodwill. Net long-term deferred tax liabilities also increased by \$244 million primarily due to the tax effect of these changes to the final purchase price allocation. The company recorded an additional charge of \$35 million in 2017 in relation to the year ended December 31, 2016, for incremental depreciation and amortization related to the finalization of Rexam asset values and useful lives.

The following unaudited pro forma consolidated results of operations (pro forma information) have been prepared as if the acquisition of Rexam and the sale of the Divestment Business had occurred as of January 1, 2016. The pro forma information combines the historical results of Ball and Rexam. The pro forma information is not necessarily indicative of the actual results that would have occurred had the acquisition been in effect for the periods presented, nor is it necessarily indicative of the results that may be obtained in the future.

<u>(\$ in millions, except per share amounts)</u>	<u>Year Ended December 31, 2016</u>
Net sales <i>(a)</i>	\$ 10,455
Net earnings attributable to Ball Corporation <i>(b)</i>	227
Basic earnings per share	0.65
Diluted earnings per share	0.64

(a) Net sales were adjusted to include net sales of Rexam. The company also excluded the net sales attributable to the Divestment Business.

(b) Pro forma adjustments to net earnings attributable to Ball Corporation were adjusted as follows:

- Excludes acquisition-related transaction costs and debt refinancing costs incurred in the year ended December 31, 2016, pro forma statements of earnings.
- Includes interest expense associated with the new debt utilized to finance the acquisition.
- Includes depreciation and amortization expense based on the final fair value of property, plant and equipment and amortizable intangible assets acquired.
- Removes the charge to cost of sales of \$84 million for the year ended December 31, 2016 related to the step-up value of inventory.
- Excludes net earnings attributable to the Divestment Business for the year ended December 31, 2016.
- Excludes the gain on sale of the Divestment Business for the year ended December 31, 2016.
- Includes the effect of final measurement period adjustments for the year ended December 31, 2016.

All of the above pro forma adjustments were adjusted for the applicable income tax impacts. Ball applied enacted statutory tax rates in the U.K. during the periods indicated above. Ball used a tax rate of 20 percent and 20.25 percent to calculate the financing, acquisition and divestment business-related adjustments for the year ended December 31, 2016. However, the tax impact on acquisition-related transaction costs was recorded at a U.S. statutory rate of approximately 37 percent as these transaction costs were incurred in the U.S. These rates may not be reflective of Ball's effective tax rate for future periods after the Rexam acquisition and sale of the Divestment Business.

Ball Corporation
Notes to the Consolidated Financial Statements

5. Revenue from Contracts with Customers

Disaggregation of Sales

The company disaggregates net sales by reportable segments as disclosed in Note 3, and based on the timing of transfer of control for goods and services as explained below. The transfer of control for goods and services may occur at a point in time or over time; in other words, sales may be recognized over the course of the underlying contract, or they may occur at a single point in time based upon the transfer of control. This distinction is discussed in further detail below. The company determined that disaggregating sales into these categories achieves the disclosure objective to depict how the nature, amount, timing, and uncertainty of sales and cash flows are affected by economic factors. As disclosed in Note 3, the company's business consists of four reportable segments, which encompass disaggregated product lines and geographical areas: (1) beverage packaging, North and Central America; (2) beverage packaging, South America; (3) beverage packaging, Europe; and (4) aerospace.

The following table disaggregates the company's net sales based on the timing of transfer of control:

(\$ in millions)	Year Ended December 31, 2018		
	Point in Time	Over Time	Total
Total net sales	\$ 2,634	\$ 9,001	\$ 11,635

Contract Balances

The company enters into contracts to sell beverage packaging, aerosol packaging, and aerospace products. The payment terms and conditions in customer contracts vary. Those customers that prepay are represented by the contract liabilities shown in the table below, until the company's performance obligations are satisfied. Contract assets would exist when sales have been recorded (i.e., control of the goods or services has been transferred to the customer) but customer payment is contingent on a future event beyond the passage of time (i.e., satisfaction of additional performance obligations). The company did not have any contract assets at either December 31, 2018, or December 31, 2017. Unbilled receivables, which are not classified as contract assets, represent arrangements in which sales have been recorded prior to billing and right to payment is unconditional. The opening and closing balances of the company's current and noncurrent contract liabilities are as follows:

(\$ in millions)	Contracts Liabilities (Current)	Contract Liabilities (Noncurrent)
Balance at December 31, 2017	\$ 45	\$ —
Increase	—	8
Balance at December 31, 2018	\$ 45	\$ 8

During the year ended December 31, 2018, contract liabilities increased by \$8 million, which is net of cash received of \$224 million and amounts recognized as sales of \$216 million, all of which related to current contract liabilities. The amount of sales recognized during the year ended December 31, 2018, that were included in the company's opening contract liabilities balance was \$45 million, all of which related to current contract liabilities. The difference between the opening and closing balances of the company's contract liabilities primarily results from timing differences between the company's performance and the customer's payment. Current contract liabilities are classified within other current liabilities on the consolidated balance sheet and noncurrent contract liabilities are classified within other liabilities.

The company also recognized sales of \$18 million during the year ended December 31, 2018, from performance obligations satisfied (or partially satisfied) in prior periods. These sales amounts are the result of changes in the transaction price of the company's contracts with customers.

Ball Corporation
Notes to the Consolidated Financial Statements

Contract Costs

The company has determined there are no material costs that meet the capitalization criteria for costs to obtain or fulfill a contract.

Practical Expedients

For contracts that have an original duration of one year or less, the company has elected the practical expedient applicable to such contracts and has not disclosed the transaction price for future performance obligations as of the end of each reporting period or when the company expects to recognize sales.

The company has also elected the sales tax practical expedient; therefore, sales and other taxes assessed by a governmental authority that are collected concurrent with revenue-producing activities are excluded from the transaction price.

For shipping and handling activities performed after a customer obtains control of the goods, the company has elected to account for these costs as activities to fulfill the promise to transfer the goods; therefore, these activities are not assessed as separate performance obligations.

The company has also elected the significant financing component practical expedient which allows us to not assess whether the contract has a significant financing component in circumstances where, at contract inception, the expected contract duration is less than one year.

Beverage and Aerosol Packaging

Performance Obligations

At contract inception, the company assesses the goods and services promised in its contracts with customers and identifies a performance obligation for each promise to transfer goods or services to the customer. The performance obligation may be represented by a good or service (or a series of goods or services) that is distinct, or by a series of distinct goods or services that are substantially the same and have the same pattern of transfer to the customer. In each instance, the company treats the promise to transfer the customer goods or services as a single performance obligation.

To identify its performance obligations, the company considers all of the goods or services promised in the contract, regardless of whether they are explicitly stated or are implied by customary business practices.

The company has determined that the following distinct goods and services represent separate performance obligations:

- Manufacture of beverage cans, which may be generic or unique;
- Manufacture of aerosol containers, which may be generic or unique; and
- Manufacture of beverage and aerosol lids and ends, which may be generic or unique.

Performance obligations for products with no alternative use are recognized over time when the company has manufactured a unique item and has an enforceable right to payment. Conversely, generic products with alternative use are recognized at a point in time. Contracts may be short-term or long-term, with varying payment terms. Ball's payment terms vary by the type and location of the customer and the products or services offered. Customers pay in accordance with negotiated terms, which are typically triggered upon ownership transfer. All payment terms are less than one year. For all contracts, the transaction price is determined upon establishment of the contract that contains the final terms of the sale, including the description, quantity, and price of each product or service purchased.

Ball Corporation
Notes to the Consolidated Financial Statements

Transaction Price Allocated to Remaining Performance Obligations

In the context of the revenue recognition standard, enforceable contracts are those that have an enforceable right to payment, which Ball typically has once a binding forecast or purchase order (or similar evidence) is in place and Ball produces under the contract. Within Ball's packaging segments, enforceable contracts as defined all have a duration of less than one year. Contracts that have an original duration of less than one year are excluded from the requirement to disclose remaining performance obligations, based on the company's election to use the practical expedient. The nature of the remaining performance obligations within these contracts, as well as the nature of the variability and how it will be resolved, are described in the section below.

Significant Judgments

Timing of Recognition

Within the company's beverage and aerosol operations, performance obligations are recognized both over time and at a point in time. The determination that sales should be recognized at a point in time most often results from the existence of an alternative use for the product. Cans and ends that are not customized for a customer prior to delivery are considered to have an alternative use, and sales are recognized at the point of control transfer. Determining when control transfer occurs requires management to make judgments that affect the timing of when sales are recognized. The new revenue accounting standard provides five indicators that a customer has obtained control of an asset: 1) present right to payment; 2) transfer of legal title; 3) physical possession; 4) significant risks and rewards of ownership; and 5) customer acceptance. The company considers control to have transferred for these products upon shipment or delivery, depending on the legal terms of the contract, because the company has a present right to payment at that time, the customer has legal title to the asset, the company has transferred physical possession of the asset and/or the customer has significant risks and rewards of ownership of the asset. The company determines that control transfers to a customer as described above and provides a faithful depiction of the transfer of goods.

For performance obligations related to products that are specialized with no alternative use (e.g., specialized sizes or customer-specific materials, or labeled with customer-specific artwork), the company transfers control and records sales over time. The recognition of sales occurs over time as goods are manufactured and Ball has an enforceable right to payment for those goods, which is an output method. Determining a measure of progress requires management to make judgments that impact the timing of when sales are recognized. The company has determined the above provides a faithful depiction of the transfer of goods to the customer. The number of units manufactured that have an enforceable right to payment is the best measure of depicting the company's performance as control is transferred. The customer obtains value as each unit is produced against a binding contract.

The enforceable right to payment may be explicit or implied in the contract. If the enforceable right to payment is not explicit in the contract, Ball must consider if there is an implied right based on customer relationships or previous business practices and applicable law. Typically, Ball has an enforceable right to payment of costs plus a reasonable margin once a binding forecast or purchase order (or similar evidence) is in place and Ball produces under the contract.

Determining the Transaction Price including Variable Consideration

In making its determination of stand-alone selling price, Ball maximizes its use of observable inputs. Stand-alone selling price is then used to allocate total consideration proportionally to the various performance obligations within a contract.

Ball Corporation
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To estimate variable consideration, we may apply both the “expected value” method and “most likely amount” method based on the form of variable consideration, after considering which method would provide the best prediction of consideration to be received from our customers. The expected value method involves a probability-weighted determination of the expected amount, whereas the most likely amount method identifies the single most likely outcome in a range of possible amounts. In certain cases, both methods may be used within a single contract if multiple forms of variable consideration exist. However, once a method has been applied to one form of variable consideration, it is applied consistently throughout the contract term.

The primary types of variable consideration present in the company’s contracts are per-unit price changes, volume discounts and rebates. Once variable consideration has been estimated, it will be constrained if a significant reversal of the cumulative amounts of sales is probable in the context of the contract.

Aerospace

Performance Obligations

At contract inception, the company assesses the goods and services promised in its contracts with customers and identifies a performance obligation for each promise to transfer goods or services to the customer. The performance obligation may be represented by a good or service (or a series of goods or services) that is distinct, or by a series of distinct goods or services that are substantially the same and have the same pattern of transfer to the customer. In each of these scenarios, the company treats the promise to transfer the customer goods or services as a single performance obligation.

To identify its performance obligations, the company considers all of the goods or services promised in the contract, regardless of whether they are explicitly stated or are implied by customary business practices.

The company has determined that the following distinct goods and services represent separate performance obligations:

- Manufacture and delivery of distinct spacecraft and/or hardware components;
- Research reports, for contracts where such reports are the sole or primary deliverable;
- Design, add-on, or special studies for contracts where such studies have stand-alone value or a material right exists due to discounted pricing; and
- Warranty and performance guarantees beyond standard repair/replacement.

Performance obligations with no alternative use are recognized over time, when the company has an enforceable right to payment for efforts completed to-date. Because of sales contract payment schedules, limitations on funding, and contract terms, our sales and accounts receivable generally include amounts that have been earned but not yet billed. Our payment terms vary by the type and location of our customer and the products or services offered. All payment terms are less than one year.

Contracts are often modified to account for changes in contract specifications and requirements. We consider contract modifications to exist when the modification either creates new or revised enforceable rights and obligations. Most of our contract modifications are for goods or services that are not distinct from the existing contract due to the significant integration service provided in the context of the contract, and such contract modifications are accounted for as if they were part of that existing contract. The effect of a contract modification on the transaction price, and our measure of progress for the performance obligation to which it relates, is recognized as an adjustment to sales (either as an increase or reduction of sales) on a cumulative catch-up basis.

Ball Corporation
Notes to the Consolidated Financial Statements**Transaction Price Allocated to Remaining Performance Obligations**

The table below discloses: (1) the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied (or partially unsatisfied) as of the end of the reporting period, for those contracts with an original duration of at least one year, and (2) when the company expects to record sales on these multi-year contracts.

(\$ in millions)	Next Twelve Months	Thereafter	Total
Sales expected to be recognized on multi-year contracts in place as of December 31, 2018	\$ 1,048	\$ 1,119	\$ 2,167

The contracts with an original duration of less than one year, which are excluded from the table above based on the company's election of the practical expedient, are primarily related to contracts where control will be fully transferred to the customers in less than one year. The nature of the remaining performance obligations within these contracts, as well as the nature of the variability and how it will be resolved, are described in the section below.

Significant Judgments*Timing of Recognition*

Within the aerospace segment, performance obligations are recognized over time. Aerospace contracts involve specialized and unique products that are tailored to the specific needs of the customer, such as a spacecraft or other hardware conforming to the specifications required by the customer, and as such, no alternative use exists. When there is an enforceable right to payment at cost plus reasonable margin for performance completed to date, the sales are recorded over time as the goods are manufactured or services are performed. Determining a measure of progress requires management to make judgments that affect the timing of recording sales. Sales under long-term contracts in the aerospace segment are primarily recognized using percentage-of-completion accounting under the cost-to-cost method, which is an input method. Under this method, the extent of progress towards completion is measured based on the ratio of costs incurred to date versus the total estimated costs upon completion of the performance obligation. The cost-to-cost method best depicts the transfer of assets to the customer as we incur costs on our contracts. The percentage-of-completion method of accounting involves the use of various estimating techniques to project revenues and costs at completion and various assumptions and projections relative to the outcome of future events, including the quantity and timing of product deliveries, future labor performance and rates, and material and overhead costs. Throughout the period of contract performance, the company regularly evaluates and, if necessary, revises estimates of total contract revenue, total contract cost, and extent of progress toward completion.

The two primary types of long-term sales contracts utilized are cost-type contracts, which are agreements to perform for cost plus an agreed-upon profit component, and fixed price sales contracts, which are completed for a fixed price. Cost-type sales contracts can have different types of fee arrangements, including fixed-fee, cost, milestone and performance incentive fees, award fees or a combination thereof. At the inception of contract performance, we estimate sales associated with base, incentive and other fees exclusive of any constraint. In other words, we estimate sales to the extent that it is not probable a significant reversal will occur over the period of contract performance. The company has determined that the above provides a faithful depiction of the transfer of goods to the customer and is the best measure of depicting the company's performance as control is transferred to customers.

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Determining the Transaction Price including Variable Consideration

Due to the unique and customized nature of deliverables within aerospace contracts, a readily observable selling price for a similar good is not typically available; therefore, in making its determination of stand-alone selling price, the company generally applies the “expected cost plus a margin” approach (whereby the transaction price is allocated based on the relative amount of costs plus an appropriate margin). Use of the expected cost plus a margin approach requires Ball to determine the expected costs for each performance obligation, as well as an appropriate margin (i.e., cost-to-cost percentage of completion). The calculation is made at contract inception to determine the allocation of consideration.

Uncertainty as to the total amount that will be paid by the customer (such as the exact amount of costs that will be incurred and fees that will be earned by us to satisfy the contractual requirements) gives rise to variable consideration. To estimate variable consideration, we apply the “most likely amount” method or the “expected value” method depending on the nature of the variable consideration. In certain cases, both methods may be used within a single contract if multiple forms of variable consideration exist. However, once a method has been applied to one form of variable consideration, it is applied consistently throughout the contract term.

The primary types of variable consideration present in the company’s contracts are cost reimbursements, performance award fees, incremental funding and finalization of government rates. These types of arrangements are most commonly (though not exclusively) estimated based on the “most likely” method. Once variable consideration has been estimated, it will be constrained if a significant reversal of the cumulative amount of sales is probable in the context of the contract.

6. Business Consolidation and Other Activities

Following is a summary of business consolidation and other activity (charges) income included in the consolidated statements of earnings:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Beverage packaging, North and Central America	\$ (6)	\$ (47)	\$ (20)
Beverage packaging, South America	11	(5)	(15)
Beverage packaging, Europe	(49)	(89)	(24)
Other	(147)	(80)	(278)
	<u>\$ (191)</u>	<u>\$ (221)</u>	<u>\$ (337)</u>

2018

Beverage Packaging, North and Central America

During 2018, the company recorded \$12 million of expense for employee severance and benefits, facility shutdown costs, asset impairment, accelerated depreciation and other costs in connection with the previously announced closures of its beverage can manufacturing facilities in Chatsworth, California, and Longview, Texas, and its beverage end manufacturing facility in Birmingham, Alabama. The Birmingham facility ceased production during the second quarter of 2018, and the Chatsworth and Longview facilities ceased production during the third quarter of 2018. Ball sold the Chatsworth facility during the fourth quarter of 2018 and recorded a gain of \$18 million.

The company recorded charges of \$2 million in 2018 related to the closure of its Reidsville, North Carolina, facility, which ceased production in 2017.

Other income and charges in 2018 included \$10 million of expense for individually insignificant activities.

Ball Corporation
Notes to the Consolidated Financial Statements

Beverage Packaging, South America

During 2018, the company recorded an \$18 million gain related to indirect tax contingencies in Brazil as these amounts have now been realized. Our Brazilian subsidiaries filed lawsuits in 2014 and 2015 to challenge the Brazilian tax authorities regarding the computation of certain indirect taxes, claiming amounts were overpaid to the tax authorities as a result of a tax on a tax being charged. As these cases are resolved and the amounts claimed become realizable, the company will record gains, which may result in material reimbursements to the company that cannot be estimated at this time.

The company recorded charges of \$4 million in 2018 related to employee severance and benefits, facility shutdown costs, asset impairment, accelerated depreciation and other costs related to restructuring activities, including the Cuiabá, Brazil facility closure.

Other charges in 2018 included \$3 million of expense for individually insignificant activities.

Beverage Packaging, Europe

During 2018, the company recorded charges of \$18 million for employee benefits, severance, facility shutdown costs and other costs in connection with the closure of its Recklinghausen, Germany, facility which ceased production during the third quarter of 2017.

In the fourth quarter of 2018, the company closed its beverage packaging manufacturing facility in San Martino, Italy and recorded charges of \$26 million related to employee severance and benefits, facility shutdown costs, asset impairment, accelerated depreciation and other costs.

Other charges in 2018 included \$5 million of expense for individually insignificant activities.

Ball Corporation
Notes to the Consolidated Financial Statements

Other

During 2018, the company recorded the following amounts:

- A \$41 million loss on the sale of the U.S. steel food and steel aerosol packaging business.
- A pension settlement loss of \$36 million primarily related to the purchase of non-participating group annuity contracts to settle a portion of the projected pension benefit obligations in certain Ball U.S. defined benefit pension plans and to lump sums paid to certain retirees.
- Expense of \$23 million for long-term incentive and other compensation arrangements associated with the Rexam acquisition.
- Expense of \$15 million for professional services and other costs associated with the sale of the U.S. steel food and steel aerosol packaging business and the proposed sale of the beverage packaging China business.
- Expense of \$4 million for employee severance and benefits, accelerated depreciation and inventory impairment related to manufacturing cost rationalization in the former food and aerosol packaging segment.
- Expense of \$2 million for the estimated amount of claims covered by the indemnification for certain tax matters provided to the buyer in the sale of the Divestment Business.
- Expense of \$26 million for individually insignificant activities.

2017

Beverage Packaging, North and Central America

During 2017, the company recorded charges of \$29 million for employee severance and benefits and \$4 million for facility shutdown costs, asset impairment, accelerated depreciation and other costs in connection with the announced closures of its beverage can manufacturing facilities in Chatsworth, California, and Longview, Texas, and its beverage end manufacturing facility in Birmingham, Alabama. All three locations ceased production during 2018.

During 2017, the company recorded charges of \$9 million for employee severance and benefits, facility shutdown costs, asset impairment, accelerated depreciation and other costs related to the closure of its Reidsville, North Carolina, facility.

Other charges in 2017 included \$5 million of individually insignificant activities.

Beverage Packaging, South America

Charges in 2017 included \$3 million of professional services and other costs associated with the acquisition of Rexam and \$2 million for individually insignificant activities.

Beverage Packaging, Europe

During 2017, the company recorded charges of \$59 million for employee severance and benefits and \$22 million for facility shutdown costs, asset impairment, accelerated depreciation and other costs in connection with the closure of its Recklinghausen, Germany, facility, which ceased production during the third quarter of 2017.

During 2017, the company recorded charges of \$4 million for professional services and other costs associated with the acquisition of Rexam.

Other charges in 2017 included \$4 million for individually insignificant activities.

Ball Corporation
Notes to the Consolidated Financial Statements

Other

During 2017, the company recorded the following amounts:

- A settlement loss of \$44 million primarily related to the purchase of non-participating group annuity contracts to settle a portion of the projected pension benefit obligations in certain Ball U.S. defined benefit pension plans, which triggered settlement accounting. The settlement loss primarily represented a pro rata portion of the aggregate unamortized actuarial loss in these pension plans.
- Expense of \$34 million for the estimated amount of claims covered by the indemnification for certain tax matters provided to the buyer in the sale of the Divestment Business.
- Expense of \$25 million for long-term incentive and other compensation arrangements associated with the Rexam acquisition.
- A \$55 million gain recognized in connection with the sale of the Ball portion of the Divestment Business.
- Expense of \$12 million for professional services and other costs associated with the acquisition of Rexam.
- Expense of \$7 million for facility shutdown costs and accelerated depreciation for the closure of its food and aerosol packaging facility located in Weirton, West Virginia, which ceased production during the second quarter of 2017.
- A gain of \$15 million related to the sale of its food and aerosol packaging paint and general line can facility in Hubbard, Ohio during the first quarter of 2017.
- Expense of \$28 million for individually insignificant activities.

2016

Beverage Packaging, North and Central America

During 2016, the company recorded charges of \$4 million for professional services and other costs associated with the acquisition of Rexam.

During 2016, the company recorded charges of \$4 million related to the facility closure in Bristol, Virginia, announced in 2015.

In 2016, the company announced the planned closure of its beverage packaging facility in Reidsville, North Carolina, which ceased production in 2017. Charges in 2016 of \$9 million were comprised of employee severance, pension and other benefits, asset impairments, and facility shut down and disposal costs.

Other charges in 2016 included \$3 million of individually insignificant activities.

Beverage Packaging, South America

During 2016, the company recorded charges of \$14 million for professional services and other costs associated with the acquisition of Rexam.

Other charges in 2016 included \$1 million of individually insignificant activities.

Beverage Packaging, Europe

During 2016, the company recorded charges of \$22 million for professional services and other costs associated with the acquisition of Rexam.

Other charges in 2016 included \$2 million of individually insignificant activities.

Ball Corporation
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Other

During 2016, the company recorded the following charges:

- Expense of \$301 million for professional services and other costs associated with the acquisition of Rexam.
- Foreign currency losses of \$173 million from the revaluation of foreign currency denominated restricted cash and intercompany loans related to the cash component of the Rexam acquisition purchase price, the sale of the Divestment Business and the revaluation of the euro-denominated debt issuance obtained in December 2015.
- Expense of \$108 million for long-term incentive and other compensation arrangements associated with the Rexam acquisition.
- A gain of \$344 million in connection with the sale of the Ball portion of the Divestment Business.
- Expense of \$18 million for facility shutdown costs and accelerated depreciation for the closure of its food and aerosol packaging facility located in Weirton, West Virginia, which ceased production during the second quarter of 2017.
- Gain of \$9 million related to the sale of its specialty tin manufacturing facility in Baltimore, Maryland.
- Charges of \$10 million related to rationalization of certain manufacturing equipment of the legacy food and aerosol packaging segment to align production capacity with its customer requirements. The charges included accelerated depreciation of the rationalized equipment and write-offs of costs associated with relocated assets
- Expense of \$21 million for individually insignificant activities.

Following is a summary by segment of the restructuring liabilities recorded in other current liabilities and accrued employee costs in connection with business consolidation activities discussed above:

(\$ in millions)	Beverage Packaging, North & Central America	Beverage Packaging, Europe	Other	Total
Balance at December 31, 2017	\$ 26	\$ 41	\$ 1	\$ 68
Charges (credits) in earnings	(6)	13	—	7
Cash payments and other activity	(12)	(44)	—	(56)
Balance at December 31, 2018	<u>\$ 8</u>	<u>\$ 10</u>	<u>\$ 1</u>	<u>\$ 19</u>

7. Supplemental Cash Flow Statement Disclosures

(\$ in millions)	December 31,	
	2018	2017
Beginning of period:		
Cash and cash equivalents	\$ 448	\$ 597
Current restricted cash (included in other current assets)	10	9
Noncurrent restricted cash (included in other assets)	1	1
Total cash, cash equivalents and restricted cash	<u>\$ 459</u>	<u>\$ 607</u>
End of period:		
Cash and cash equivalents	\$ 721	\$ 448
Current restricted cash (included in other current assets)	7	10
Noncurrent restricted cash (included in other assets)	—	1
Total cash, cash equivalents and restricted cash	<u>\$ 728</u>	<u>\$ 459</u>

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The company's restricted cash is primarily related to receivables factoring programs and represents amounts collected from customers but not yet remitted to the banks as of the end of the reporting period.

Noncash investing activities include the acquisition of property, plant and equipment (PP&E) for which payment has not been made. These noncash capital expenditures are excluded from the statement of cash flows. The PP&E acquired but not yet paid for amounted to \$127 million and \$124 million at December 31, 2018 and 2017, respectively. Noncash financing activities in 2018 include the unsettled acquisitions of treasury stock totaling \$16 million for which payment had not been made as of December 31, 2018.

In connection with the sale of a business associated with the June 2016 acquisition of Rexam, the company provided indemnifications for uncertain tax positions associated with the business. During 2018, the company made payments of \$45 million in relation to these liabilities and reported them within investing activities in the consolidated statement of cash flows.

8. Receivables, Net

(\$ in millions)	December 31,	
	2018	2017
Trade accounts receivable	\$ 812	\$ 1,206
Unbilled receivables	478	147
Less allowance for doubtful accounts	(10)	(10)
Net trade accounts receivable	1,280	1,343
Other receivables	522	291
	<u>\$ 1,802</u>	<u>\$ 1,634</u>

Unbilled receivables at December 31, 2018, include the effect of adopting new revenue recognition accounting guidance as of January 1, 2018. Further details of the new guidance and its adoption are included in Notes 2 and 5.

Net accounts receivable under long-term contracts, due primarily from agencies of the U.S. government and their prime contractors, were \$240 million and \$214 million at December 31, 2018 and 2017, respectively, and included \$164 million and \$147 million at each period end, respectively, representing the recognized sales value of performance that was not yet billable to customers. The average length of the long-term contracts is approximately 2.6 years, and the average length remaining on those contracts at December 31, 2018, was one year. At December 31, 2018, \$240 million of net accounts receivables is expected to be collected within the next year and is related to customary fees and cost withholdings that will be paid upon milestone or contract completions, as well as final overhead rate settlements.

Other receivables include income and sales tax receivables, certain vendor rebate receivables, related party receivables and other miscellaneous receivables. See Note 4 for further details of related party receivables.

The company has entered into several regional uncommitted and committed accounts receivable factoring programs with various financial institutions for certain receivables of the company. Programs accounted for as true sales of the receivables, without recourse to Ball, had combined limits of approximately \$1.2 billion and \$1.0 billion at December 31, 2018 and 2017, respectively. A total of \$178 million and \$439 million were available for sale under these programs as of December 31, 2018 and 2017, respectively.

Ball Corporation
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9. Inventories, Net

(\$ in millions)	December 31,	
	2018	2017
Raw materials and supplies	\$ 727	\$ 691
Work-in-process and finished goods	614	902
Less inventory reserves	(70)	(67)
	<u>\$ 1,271</u>	<u>\$ 1,526</u>

Finished goods inventory at December 31, 2018, includes the effect of adopting new revenue recognition accounting guidance as of January 1, 2018. Further details of the new guidance and its adoption are included in Notes 2 and 5.

10. Property, Plant and Equipment, Net

(\$ in millions)	December 31,	
	2018	2017
Land	\$ 159	\$ 172
Buildings	1,359	1,390
Machinery and equipment	5,250	5,282
Construction-in-progress	509	542
	<u>7,277</u>	<u>7,386</u>
Accumulated depreciation	(2,735)	(2,776)
	<u>\$ 4,542</u>	<u>\$ 4,610</u>

Property, plant and equipment are stated at historical or acquired cost. Depreciation expense amounted to \$498 million, \$509 million and \$349 million for the years ended December 31, 2018, 2017 and 2016, respectively. During 2017, cumulative catch-up depreciation recorded as a result of changes in the values and useful lives of fixed assets associated with the finalization of the valuation for the Rexam acquisition was \$19 million.

11. Goodwill

(\$ in millions)	Beverage Packaging, North & Central America	Beverage Packaging, South America	Beverage Packaging, Europe	Aerospace	Other	Total
Balance at December 31, 2016	\$ 1,614	\$ 970	\$ 1,632	\$ 40	\$ 839	\$ 5,095
Opening balance sheet adjustments	(339)	329	(274)	—	(68)	(352)
Business dispositions	—	—	—	—	(9)	(9)
Effects of currency exchange	—	—	173	—	26	199
Balance at December 31, 2017	<u>\$ 1,275</u>	<u>\$ 1,299</u>	<u>\$ 1,531</u>	<u>\$ 40</u>	<u>\$ 788</u>	<u>\$ 4,933</u>
Opening balance sheet adjustments	—	—	4	—	—	4
Business dispositions	—	—	—	—	(354)	(354)
Effects of currency exchange	—	—	(100)	—	(8)	(108)
Balance at December 31, 2018	<u>\$ 1,275</u>	<u>\$ 1,299</u>	<u>\$ 1,435</u>	<u>\$ 40</u>	<u>\$ 426</u>	<u>\$ 4,475</u>

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During the third quarter of 2018, the company sold its U.S. steel food and steel aerosol business, which resulted in a \$354 million decrease in goodwill. During the second quarter of 2017, the company finalized the allocation of the purchase price for the Rexam acquisition. The \$352 million decrease in goodwill is a result of the finalization of fair values and useful lives of fixed assets and identifiable intangibles acquired in the Rexam acquisition.

The company's annual goodwill impairment test completed in the fourth quarter of 2018 indicated that the fair value of the metal beverage packaging, Asia Pacific (beverage Asia Pacific), and beverage packaging, AMEA (beverage AMEA), reporting units exceeded their carrying amounts by approximately 11 percent and 15 percent, respectively. The current supply of metal beverage packaging exceeds demand in China, resulting in pricing pressure and negative impacts on the profitability of our beverage Asia Pacific reporting unit. The worsening business climate in Saudi Arabia has resulted in negative impacts to the profitability of our beverage AMEA reporting unit. If it becomes an expectation that these situations will continue for an extended period of time, the company may be required to record noncash impairment charges for some or all of the goodwill associated with the beverage Asia Pacific and beverage AMEA reporting units, the total balances of which were \$78 million and \$100 million, respectively, at December 31, 2018. The goodwill associated with the beverage packaging, Asia Pacific, reporting unit predominantly relates to the China beverage packaging facilities. On December 13, 2018, we announced an agreement to sell our beverage packaging facilities in China. The transaction is expected to close during the second half of 2019.

12. Intangible Assets, Net

(\$ in millions)	December 31,	
	2018	2017
Acquired Rexam intangibles (net of accumulated amortization of \$399 million at December 31, 2018, and \$246 million at December 31, 2017)	\$ 2,073	\$ 2,303
Capitalized software (net of accumulated amortization of \$148 million at December 31, 2018, and \$129 million at December 31, 2017)	82	84
Other intangibles (net of accumulated amortization of \$112 million at December 31, 2018, and \$163 million at December 31, 2017)	33	75
	<u>\$ 2,188</u>	<u>\$ 2,462</u>

Acquired Rexam intangibles are comprised of customer relationships and trademarks. Total amortization expense of intangible assets amounted to \$204 million, \$220 million and \$104 million for the years ended December 31, 2018, 2017 and 2016, respectively, including \$164 million in 2018, \$162 million in 2017 and \$65 million in 2016 of amortization expense related to the acquired intangible assets from Rexam. Based on intangible asset values and currency exchange rates as of December 31, 2018, total annual intangible asset amortization expense is expected to be \$180 million, \$170 million, \$159 million, \$155 million and \$149 million for the years ending December 31, 2019 through 2023, respectively, and approximately \$1.4 billion combined for all years thereafter.

13. Other Assets

(\$ in millions)	December 31,	
	2018	2017
Long-term deferred tax assets	\$ 237	\$ 325
Long-term pension assets	559	504
Investments in affiliates	302	274
Company and trust-owned life insurance	152	160
Other	159	143
	<u>\$ 1,409</u>	<u>\$ 1,406</u>

Ball Corporation
Notes to the Consolidated Financial Statements

Investments in affiliates primarily includes the company's 40 percent ownership interest in an entity in South Korea, a 50 percent ownership interest in an entity in Guatemala, a 50 percent ownership interest in an entity in Panama, a 50 percent ownership interest in an entity in Vietnam, and ownership interests of 50 percent and 49 percent in entities in the U.S.

See Notes 16 and 17 for further details related to the company's long-term deferred tax assets and pension assets, respectively.

14. Leases

The company leases office, warehousing and manufacturing space and certain equipment in the packaging segments and office and technical space in the aerospace segment. Total noncancellable operating leases in effect at December 31, 2018, require rental payments of \$66 million, \$52 million, \$41 million, \$34 million and \$25 million for the years 2019 through 2023, respectively, and \$87 million combined for all years thereafter. Lease expense for all operating leases was \$108 million, \$77 million and \$57 million in 2018, 2017 and 2016, respectively.

15. Debt and Interest Costs

Long-term debt and interest rates in effect consisted of the following:

(\$ in millions)	December 31,	
	2018	2017
Senior Notes		
5.25% due July 2025	\$ 1,000	\$ 1,000
4.375% due December 2020	1,000	1,000
4.00% due November 2023	1,000	1,000
4.375%, euro denominated, due December 2023	803	840
5.00% due March 2022	750	750
4.875% due March 2026	750	—
3.50%, euro denominated, due December 2020	459	480
Senior Credit Facilities (at variable rates)		
Term A loan, due June 2021 (4.02% - 2018; 3.32% - 2017)	797	1,313
Multi-currency, U.S. dollar revolver, due March 2021 (3.34% - 2017)	—	285
Other (including debt issuance costs)	(41)	(37)
	6,518	6,631
Less: Current portion of long-term debt	(8)	(113)
	<u>\$ 6,510</u>	<u>\$ 6,518</u>

Ball Corporation
Notes to the Consolidated Financial Statements

Following is a summary of debt refinancing and other costs included in the consolidated statements of earnings:

(\$ in millions)	Year Ended December 31,		
	2018	2017	2016
Debt Refinancing and Other Costs:			
Interest expense on 3.5% and 4.375% senior notes	\$ —	\$ —	\$ (49)
Refinance revolving credit facilities	—	—	(30)
Economic hedge - interest rate risk	—	—	(20)
Amortization of unsecured, committed bridge facility financing fees	—	—	(7)
Individually insignificant items	(1)	(3)	(3)
	<u>\$ (1)</u>	<u>\$ (3)</u>	<u>\$ (109)</u>

The company's senior credit facilities include long-term, multi-currency committed revolving credit facilities that provide up to the U.S. dollar equivalent of \$1.5 billion. At December 31, 2018, taking into account outstanding letters of credit, substantially the entire balance was available under these revolving credit facilities. In addition, the company had \$1.0 billion of short-term uncommitted credit facilities available at December 31, 2018, of which \$211 million was outstanding and due on demand. At December 31, 2017, the company had \$340 million outstanding under short-term uncommitted credit facilities. The weighted average interest rate of the outstanding short-term facilities was 3.55 percent at December 31, 2018, and 2.31 percent at December 31, 2017.

The fair value of Ball's long-term debt was estimated to be \$6.6 billion at December 31, 2018, which approximated its carrying value of \$6.5 billion. The fair value was estimated to be \$7.0 billion at December 31, 2017, which approximated its carrying value of \$6.6 billion. The fair value reflects the market rates at each period end for debt with credit ratings similar to the company's ratings and is classified as Level 2 within the fair value hierarchy. Rates currently available to the company for loans with similar terms and maturities are used to estimate the fair value of long-term debt, based on discounted cash flows.

Long-term debt obligations outstanding at December 31, 2018, have maturities (excluding unamortized debt issuance costs of \$54 million) of \$8 million, \$1.5 billion, \$797 million, \$750 million and \$1.8 billion in the years ending 2019 through 2023, respectively, and \$1.8 billion thereafter.

Ball provides letters of credit in the ordinary course of business to secure liabilities recorded in connection with certain self-insurance arrangements. Letters of credit outstanding at December 31, 2018 and 2017, were \$28 million and \$33 million, respectively.

Interest payments were \$304 million, \$287 million and \$190 million in 2018, 2017 and 2016, respectively.

The company's senior notes and senior credit facilities are guaranteed on a full, unconditional and joint and several basis by certain of its material subsidiaries. Each of the guarantor subsidiaries is 100 percent owned by Ball Corporation. These guarantees are required in support of these notes and credit facilities, are coterminous with the terms of the respective note indentures and would require performance upon certain events of default referenced in the respective guarantees. Notes 24 and 25 provide further details about the company's debt guarantees, and Note 25 includes the required condensed consolidating financial information for the company, segregating the guarantor and non-guarantor subsidiaries as defined in the debt agreements.

The U.S. note agreements and bank credit agreement contain certain restrictions relating to dividend payments, share repurchases, investments, financial ratios, guarantees and the incurrence of additional indebtedness. The most restrictive of the company's debt covenants requires the company to maintain a leverage ratio (as defined) of no greater than 4.25 times at December 31, 2018. The company was in compliance with all loan agreements and debt covenants at December 31, 2018 and 2017, and has met all debt payment obligations.

Ball Corporation
Notes to the Consolidated Financial Statements**16. Taxes on Income**

The amount of earnings (loss) before income taxes is:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
U.S.	\$ 193	\$ 147	\$ (381)
Foreign	440	367	506
	<u>\$ 633</u>	<u>\$ 514</u>	<u>\$ 125</u>

The provision (benefit) for income tax expense is:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Current			
U.S.	\$ 30	\$ 6	\$ (3)
State and local	5	—	27
Foreign	115	77	143
Total current	<u>150</u>	<u>83</u>	<u>167</u>
Deferred			
U.S.	21	92	(67)
State and local	9	7	(17)
Foreign	5	(17)	(209)
Total deferred	<u>35</u>	<u>82</u>	<u>(293)</u>
Tax provision (benefit)	<u>\$ 185</u>	<u>\$ 165</u>	<u>\$ (126)</u>

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The income tax provision recorded within the consolidated statements of earnings differs from the provision determined by applying the U.S. statutory tax rate to pretax earnings as a result of the following:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Statutory U.S. federal income tax	\$ 133	\$ 180	\$ 44
Increase (decrease) due to:			
Foreign tax rate differences including tax holidays	(11)	(52)	(71)
Foreign tax law and rate changes	—	(28)	—
U.S. tax reform (a)	(45)	83	—
Foreign exchange loss on revaluation of Brazilian deferred tax balances	26	—	—
Global intangible low-taxed income (GILTI)	15	—	—
Permanent differences on business dispositions	56	18	(62)
Foreign subsidiaries restructuring	—	—	(145)
Non-deductible transaction costs	—	—	52
U.S. state and local taxes, net	13	3	6
U.S. taxes on foreign earnings, net of tax deductions and credits	(9)	(6)	21
U.S. manufacturing deduction	—	(8)	—
U.S. research and development tax credits	(7)	(9)	(9)
Uncertain tax positions, including interest	(1)	(3)	3
Company and trust-owned life insurance	(1)	(7)	(6)
Change in valuation allowances	31	15	46
Benefit from equity compensation	(14)	(16)	(5)
Other, net	(1)	(5)	—
Provision (benefit) for taxes	\$ 185	\$ 165	\$ (126)
Effective tax rate expressed as a percentage of pretax earnings	29.2 %	32.1 %	(100.8)%

(a) Includes 2018 adjustments required to record the final impact of the implications of the Act signed into law in 2017.

The 2018 effective income tax rate was 29.2 percent compared to 32.1 percent for 2017. The 2018 effective rate was reduced by 7.2 percent for the final adjustments related to the enactment of U.S. tax reform in 2017, including the impact of the transition tax and remeasurement of the company's net deferred tax asset in the U.S., and increased by 8.8 percent for discrete tax costs associated with certain business dispositions. The effective rate was also increased by 2.4 percent for the new tax on GILTI established with U.S. tax reform. The effective rate was increased by 3.2 percent for the impact of the foreign tax rate differential, net of valuation allowance impact, and tax holidays versus the U.S. tax rate, and further increased by 4.0 percent for the impact of foreign currency fluctuations on the company's deferred tax assets in Brazil. The 2018 effective rate was also reduced by 2.1 percent for the excess tax benefit for stock-based compensation and by 1.2 percent for the impact of the U.S. R&D credit. The impact of U.S. tax reform (excluding GILTI), and discrete tax costs associated with certain business dispositions are primarily related to discrete transactions or changes in tax law that are not expected to recur in future periods.

The 2017 effective income tax rate was 32.1 percent compared to negative 100.8 percent for 2016. The 2017 effective rate was increased by 16.1 percent for U.S. tax reform, including the impact of the transition tax and remeasurement of the company's net deferred tax asset in the U.S., and by 3.5 percent for discrete tax costs associated with certain business dispositions. The effective rate was reduced by 7.2 percent for the impact of the foreign tax rate differential, net of valuation allowance impact, and tax holidays versus the U.S. tax rate, and by 5.4 percent for the impact of current year changes in various foreign tax laws, including the U.K. The 2017 effective rate was also reduced by 3.1 percent for the discrete tax benefit associated with the adoption in the first quarter of 2017 of amendments to existing accounting guidance for stock-based compensation, by 1.8 percent for the impact of the U.S. R&D credit, and by 1.6 percent for the impact of the U.S. domestic manufacturing deduction.

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On December 22, 2017, the U.S. Tax Cuts and Jobs Act was signed into law. The Act significantly changed U.S. income tax law by, among other things, reducing the U.S. federal income tax rate from 35 percent to 21 percent, transitioning from a global tax system to a modified territorial tax system, eliminating the domestic manufacturing deduction, providing for immediate expensing of certain qualified capital expenditures and limiting the tax deductions for interest expense and executive compensation. In the fourth quarter of 2017, the company recorded tax expense of \$83 million for the estimated impact of the mandatory deemed repatriation of its foreign earnings and revaluation of its U.S. deferred tax assets and liabilities. The company's review of the implications of the Act continued throughout the measurement period and adjustments required to record the final impact of these items reduced tax expense by \$45 million and were recorded during the fourth quarter of 2018. The original provisional estimates recorded in 2017, along with the required final adjustments recorded during 2018, are as follows:

- Reduction of U.S. federal corporate tax rate: The company recorded a provisional increase to tax expense of \$52 million in 2017 for the estimated impact of revaluing its net deferred tax asset position in the U.S. at the new 21 percent corporate tax rate. In 2018, tax expense was decreased by \$52 million to adjust the provisional estimate for the final impact of the revaluation. This change was largely driven by the company's decision, in connection with the filing of its U.S. federal income tax return in the current reporting period, to utilize its net operating loss in 2017 against the income generated by the transition tax which accounted for \$48 million of the total required final adjustments recorded during 2018;
- Transition tax: The company recorded a provisional increase in 2017 to tax expense of \$31 million to reflect the impact of the tax on accumulated untaxed earnings and profits (E&P) of certain foreign affiliates. To determine the amount of the transition tax, the amount of the post-1986 E&P and the amount of non-U.S. income taxes paid on such earnings were calculated for all relevant foreign affiliates. With the determination of the final impact of the transition tax, the company has recorded additional tax expense of \$7 million in 2018 to account for the gross tax cost of the transition tax less all related current and anticipated future foreign tax credits;
- Valuation allowances: With the company's accounting for the impacts of the various aspects of the Act now complete, the corresponding impacts from changes in valuation allowances are now considered final as well;
- Cost recovery: The company made a provisional estimate of the impact on its current tax expense and deferred tax liabilities associated with the new immediate expensing provisions for certain qualifying expenditures made after September 27, 2017. The necessary computations were completed with respect to the full inventory of all qualifying 2017 expenditures and the impact on the company's current tax expense and deferred tax liabilities is now final;
- Global intangible low-tax income (GILTI): The company recorded a net increase of \$15 million of tax expense for the current year impact of the new tax on GILTI; and
- Foreign derived intangible income (FDII): The 2018 impact of FDII on the company's provision was insignificant.

Based on a detailed analysis of its global income and other tax attributes that was concluded in the second quarter of 2018, the company made an accounting policy election in that reporting period to treat taxes due for GILTI and the base erosion anti-abuse tax (BEAT) as a current-period expense as incurred.

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Due to the U.S. tax status of certain Ball subsidiaries in Canada and the PRC, the company annually provides U.S. taxes on foreign earnings in those subsidiaries, net of any estimated foreign tax credits or deductions for foreign taxes. Current taxes are also provided on certain other undistributed earnings that are currently taxable in the U.S. Management's intention is to indefinitely reinvest the undistributed earnings of Ball's other foreign subsidiaries. The indefinite reinvestment assertion is supported by both long-term and short-term forecasts and U.S. financial requirements, including, but not limited to, operating cash flows, capital expenditures, debt maturities and dividends. As a result, the company has not provided deferred taxes on earnings in certain non-U.S. subsidiaries because such earnings are intended to be indefinitely reinvested in its international operations. Retained earnings in non-U.S. subsidiaries totaled \$3.2 billion as of December 31, 2018. Although \$2.0 billion of such earnings have been subjected to U.S. federal income tax, incremental foreign and U.S. state income tax may be due upon distribution. At present, it is not practical to estimate the additional taxes that may become payable upon the eventual remittance of these foreign earnings to the U.S.; however, repatriation of these earnings could result in a material increase in the company's effective tax rate.

Ball's Serbian subsidiary was granted tax relief equal to 80 percent of local investments over a ten-year period that will expire in 2022. The tax relief may be used to offset tax on earnings and has \$9 million remaining as of December 31, 2018. Ball's Polish subsidiary was granted a tax holiday in 2014 based on new capital investment. The holiday provides up to \$34 million of tax relief over a ten-year period of which \$29 million remained as of December 31, 2018. Several of Ball's Brazilian subsidiaries benefit from various tax holidays with expiration dates ranging from 2020 to 2030. These tax holidays reduced income tax by \$63 million, \$47 million and \$20 million, respectively, for 2018, 2017 and 2016.

Net income tax payments were \$143 million, \$107 million and \$68 million in 2018, 2017 and 2016, respectively.

The significant components of deferred tax assets and liabilities are as follows:

(\$ in millions)	December 31,	
	2018	2017
Deferred tax assets:		
Deferred compensation	\$ 73	\$ 71
Accrued employee benefits	100	104
Deferred revenue	3	14
Accrued pensions	179	164
Inventory and other reserves	41	42
Net operating losses, foreign tax credits and other tax attributes	390	369
Unrealized losses on currency exchange and derivative transactions	26	5
Goodwill and other intangible assets	64	98
Other	107	30
Total deferred tax assets	983	897
Valuation allowance	(224)	(165)
Net deferred tax assets	759	732
Deferred tax liabilities:		
Property, plant and equipment	(336)	(334)
Goodwill and other intangible assets	(621)	(697)
Pension assets	(90)	(56)
Other	(120)	(15)
Total deferred tax liabilities	(1,167)	(1,102)
Net deferred tax asset (liability)	\$ (408)	\$ (370)

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The net deferred tax asset (liability) was included in the consolidated balance sheets as follows:

(\$ in millions)	December 31,	
	2018	2017
Other assets	\$ 237	\$ 325
Deferred taxes	(645)	(695)
Net deferred tax asset (liability)	\$ (408)	\$ (370)

At December 31, 2018, Ball has recorded deferred tax assets related to federal and foreign net operating and capital loss carryforwards of \$261 million, U.S. foreign tax, research and development, and alternative minimum tax credit carryforwards of \$81 million and state net operating loss carryforwards of \$48 million. These attributes are spread across the regions in which the company operates, including Europe, North and Central America, Asia and South America, and generally have expiration periods beginning in 2019 to indefinite, with the largest portion carried forward indefinitely. Each has been assessed for realization as of December 31, 2018.

In 2018, the company's overall valuation allowances increased by a net \$59 million. The increase to the valuation allowance was primarily due to nondeductible U.K. interest expense and operating losses incurred primarily in various foreign jurisdictions, neither of which are expected to be utilized in future periods. Ball's 2018 effective tax rate was impacted by \$31 million of the net change in the valuation allowance.

In 2017, the company's overall valuation allowances decreased by a net \$18 million. Decreases to the valuation allowance were primarily due to the release of the company's \$46 million valuation allowance on its foreign tax credit carryforwards that will be realized against a portion of the transition tax incurred as a result of the Act and a net decrease of \$6 million related to the law change in the U.K., including valuation allowances established against nondeductible interest expense. These items all had an impact on Ball's effective rate and are included as components of U.S. tax reform, foreign tax law changes and foreign tax rate differences in the rate reconciliation. This net decrease was offset by increases for recording additional valuation allowances of \$19 million related to the 2016 acquisition of Rexam and for unusable 2017 losses of \$15 million incurred in various jurisdictions. The increase in unusable losses had a tax rate impact which is reflected in the valuation allowance line of the rate reconciliation.

In 2016, the company's overall valuation allowances increased by \$93 million. The net increase was primarily due to valuation allowances recorded on net operating and capital losses of acquired Rexam subsidiaries in the U.K., France, and for U.S. state tax purposes, as well as for current year U.S. state net operating losses at Ball's U.S. subsidiaries, partially offset by the release of valuation allowances on net operating losses for Ball's Canadian subsidiaries, and by a release of valuation allowances on net operating losses due to dispositions of certain European subsidiaries.

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A roll forward of the company's unrecognized tax benefits, as included in other noncurrent liabilities, related to uncertain income tax positions at December 31 follows:

(\$ in millions)	2018	2017	2016
Balance at January 1	\$ 84	\$ 77	\$ 51
Additions related to acquisitions	—	—	55
Additions based on tax positions related to the current year	14	18	18
Additions for tax positions of prior years	—	1	6
Reductions related to Divestment Business	—	—	(30)
Reductions for tax positions from prior years	(4)	—	(5)
Reductions for settlements	—	(7)	—
Reductions due to lapse of statute of limitations	(10)	(12)	(16)
Effect of foreign currency exchange rates	(4)	7	(2)
Balance at December 31	<u>\$ 80</u>	<u>\$ 84</u>	<u>\$ 77</u>

The annual provisions for income taxes included a tax benefit related to uncertain tax positions, including interest and penalties, of \$1 million in 2018, a tax benefit of \$3 million in 2017 and tax expense of \$3 million in 2016.

At December 31, 2018, the amounts of unrecognized tax benefits that, if recognized, would reduce tax expense were \$94 million. The company and its subsidiaries file income tax returns in the U.S. federal, various state, local and foreign jurisdictions. The U.S. federal statute of limitations is closed for years prior to 2014. With a few exceptions, the company is no longer subject to examination by state and local tax authorities for years prior to 2011. The company's significant non-U.S. filings are in Germany, France, the U.K., Spain, the Netherlands, Poland, Serbia, Switzerland, Sweden, Russia, Turkey, Egypt, Saudi Arabia, the PRC, Canada, Brazil, the Czech Republic, Mexico, Chile and Argentina. The company's foreign statutes of limitation are generally open for years after 2012. At December 31, 2018, the company is either under examination or has been notified of a pending examination by tax authorities in the U.S., Germany, the U.K., Netherlands, France, the PRC, Saudi Arabia, India, Egypt, Brazil and various U.S. states.

The company recognizes the accrual of interest and penalties related to unrecognized tax benefits in income tax expense. Ball recognized \$1 million of tax benefit, \$4 million of tax benefit and \$3 million of tax expense in 2018, 2017 and 2016, respectively, for potential interest on these items. At December 31, 2018, 2017 and 2016, the accrual for uncertain tax positions included potential interest expense of \$6 million, \$7 million and \$10 million, respectively. The company has accrued penalties of \$9 million in 2018, and \$10 million in both 2017 and 2016.

17. Employee Benefit Obligations

(\$ in millions)	December 31,	
	2018	2017
Underfunded defined benefit pension liabilities	\$ 954	\$ 945
Less: Current portion	(25)	(27)
Long-term defined benefit pension liabilities	<u>929</u>	<u>918</u>
Long-term retiree medical liabilities	157	196
Deferred compensation plans	291	275
Other	78	74
	<u>\$ 1,455</u>	<u>\$ 1,463</u>

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The company's defined benefit plans for salaried employees, as well as those for hourly employees in Sweden, Switzerland, the U.K. and Ireland, provide pension benefits based on employee compensation and years of service. Plans for North American hourly employees provide benefits based on fixed rates for each year of service. While the German, Swedish and certain U.S. plans are not funded, the company maintains liabilities, and annual additions to such liabilities are generally tax-deductible. With the exception of the unfunded German, Swedish and certain U.S. plans, our policy is to fund the defined benefit plans in amounts at least sufficient to satisfy statutory funding requirements, taking into consideration deductibility under existing tax laws and regulations.

In October 2018, the U.K. High Court passed a judgment that certain pension calculations needed to be adjusted to comply with gender discrimination legislation. The judgment specifically related to the calculation of guaranteed minimum pensions for U.K. defined benefit pension schemes that contracted out of an element of the state pension system between May 1990 and April 1997. The Ball U.K. Pension Plan was affected by this judgment and hence a calculation of the impact of the required equalization was carried out as of the date of the judgment. The effect was an increase in the pension obligation, which reduced the over-funded position by \$52 million. This was accounted for as a prior service cost and was initially recorded in accumulated other comprehensive earnings (loss) and will be amortized to the consolidated statement of earnings over the average life expectancy of plan participants

Defined Benefit Pension Plans

Amounts recognized in the consolidated balance sheets for the funded status of our defined benefit pension plans consisted of:

(\$ in millions)	December 31,					
	2018			2017		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Long-term pension asset	\$ —	\$ 559	\$ 559	\$ —	\$ 504	\$ 504
Defined benefit pension liabilities (a)	(678)	(276)	(954)	(641)	(304)	(945)
	<u>\$ (678)</u>	<u>\$ 283</u>	<u>\$ (395)</u>	<u>\$ (641)</u>	<u>\$ 200</u>	<u>\$ (441)</u>

(a) Included is an unfunded, non-qualified U.S. plan obligation of \$30 million at December 31, 2018, that has been annuitized with a corresponding asset of \$30 million (\$27 million in other current assets and \$3 million in other assets). At December 31, 2017, the unfunded non-qualified U.S. plan obligation was annuitized with a corresponding asset of \$34 million (\$3 million in other current assets and \$31 million in other assets).

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An analysis of the change in benefit accounts for 2018 and 2017 follows:

(\$ in millions)	December 31,					
	2018			2017		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Change in projected benefit obligation:						
Benefit obligation at prior year end	\$ 3,061	\$ 3,432	\$ 6,493	\$ 3,186	\$ 3,437	\$ 6,623
Service cost	51	14	65	49	17	66
Interest cost	99	72	171	124	92	216
Benefits paid	(191)	(194)	(385)	(222)	(190)	(412)
Net actuarial (gains) losses	(189)	(210)	(399)	183	(242)	(59)
Curtailments and settlements including special termination benefits	(252)(a)	—	(252)	(260)(a)	(5)	(265)
Plan amendments	—	52	52	—	—	—
Other	—	2	2	1	2	3
Effect of exchange rates	—	(177)	(177)	—	321	321
Benefit obligation at year end	<u>2,579</u>	<u>2,991</u>	<u>5,570</u>	<u>3,061</u>	<u>3,432</u>	<u>6,493</u>
Change in plan assets:						
Fair value of assets at prior year end	2,420	3,632	6,052	2,507	3,300	5,807
Actual return on plan assets	(119)	3	(116)	224	180	404
Employer contributions	32	6	38	174	9	183
Contributions to unfunded plans	7	20	27	6	20	26
Benefits paid	(191)	(194)	(385)	(222)	(190)	(412)
Curtailments and settlements including special termination benefits	(256)(a)	—	(256)	(269)(a)	(2)	(271)
Other	8	2	10	—	2	2
Effect of exchange rates	—	(195)	(195)	—	313	313
Fair value of assets at end of year	<u>1,901</u>	<u>3,274</u>	<u>5,175</u>	<u>2,420</u>	<u>3,632</u>	<u>6,052</u>
Funded status	<u>\$ (678)</u>	<u>\$ 283</u>	<u>\$ (395)</u>	<u>\$ (641)</u>	<u>\$ 200</u>	<u>\$ (441)</u>

(a) Includes the purchase of non-participating group annuity contracts discussed below.

The company's German, Swedish and certain U.S. plans are unfunded and the liabilities are included in the company's consolidated balance sheets. Benefits are paid directly by the company to the participants.

Amounts recognized in accumulated other comprehensive (earnings) loss, including other postemployment benefits, consisted of:

(\$ in millions)	December 31,					
	2018			2017		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Net actuarial (loss) gain	\$ (563)	\$ 140	\$ (423)	\$ (611)	\$ 36	\$ (575)
Net prior service (cost) credit	16	(50)	(34)	(1)	—	(1)
Tax effect and currency exchange rates	216	(36)	180	224	(10)	214
	<u>\$ (331)</u>	<u>\$ 54</u>	<u>\$ (277)</u>	<u>\$ (388)</u>	<u>\$ 26</u>	<u>\$ (362)</u>

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The accumulated benefit obligation for all U.S. defined benefit pension plans was \$2,519 million and \$2,996 million at December 31, 2018 and 2017, respectively. The accumulated benefit obligation for all foreign defined benefit pension plans was \$2,988 million and \$3,429 million at December 31, 2018 and 2017, respectively. Following is the information for defined benefit plans with an accumulated benefit obligation in excess of plan assets:

(\$ in millions)	December 31,					
	2018			2017		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Projected benefit obligation	\$ 2,579	\$ 354	\$ 2,933	\$ 3,061	\$ 389	\$ 3,450
Accumulated benefit obligation	2,519	351	2,870	2,996	385	3,381
Fair value of plan assets (a)	1,901	79	1,980	2,420	85	2,505

(a) The German, Swedish and certain U.S. plans are unfunded and, therefore, there is no fair value of plan assets associated with these plans.

Components of net periodic benefit cost were as follows:

(\$ in millions)	Years Ended December 31,									
	2018			2017			2016			
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total	
Ball-sponsored plans:										
Service cost	\$ 51	\$ 14	\$ 65	\$ 49	\$ 17	\$ 66	\$ 58	\$ 14	\$ 72	
Interest cost	99	72	171	124	92	216	96	58	154	
Expected return on plan assets	(108)	(108)	(216)	(126)	(110)	(236)	(106)	(70)	(176)	
Amortization of prior service cost	2	—	2	2	—	2	(1)	—	(1)	
Recognized net actuarial loss	33	5	38	34	5	39	32	6	38	
Curtailment and settlement losses including special termination benefits	36	—	36	47	(1)	46	—	80	80	
Net periodic benefit cost for Ball sponsored plans	113	(17)	96	130	3	133	79	88	167	
Net periodic benefit cost for multi-employer plans	2	—	2	2	—	2	2	—	2	
Total net periodic benefit cost	\$ 115	\$ (17)	\$ 98	\$ 132	\$ 3	\$ 135	\$ 81	\$ 88	\$ 169	

In September 2018 and August 2017, Ball completed the purchase of non-participating group annuity contracts that were transferred to an insurance company for the company's U.S. pension benefit obligations totaling approximately \$176 million and \$224 million, respectively. The purchase of the annuity contracts triggered settlement accounting in each year. Regular lump sums paid to certain retirees are also included in the total settlement amounts. These transactions resulted in the recognition of settlement losses recorded in business consolidation and other activities of \$36 million in 2018 and \$44 million in 2017. The company's pension obligations were remeasured during 2018 and 2017 for the impacted plans.

Non-service pension income of \$5 million in 2018 and expense totaling \$21 million and \$15 million for 2017 and 2016, respectively, is included in selling, general, and administrative (SG&A) expenses. Due to immateriality, the 2017 and 2016 amounts were not retrospectively adjusted as required by the newly adopted accounting standard for pension and postretirement benefit costs as described in Note 2.

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The estimated actuarial net loss and net prior service cost for the defined benefit pension plans that will be amortized from accumulated other comprehensive earnings (loss) into net periodic benefit cost during 2019 are a loss of \$26 million and a cost of \$4 million, respectively.

Contributions to the company's defined benefit pension plans are expected to be approximately \$68 million for the U.S. plans and \$24 million for the foreign plans in 2019. This estimate may change based on changes in the Pension Protection Act, actual plan asset performance and available company cash flow, among other factors. Benefit payments related to the U.S. plans are expected to be approximately \$205 million for the year ended December 31, 2019, \$195 million for each of the years ending December 31, 2020 through 2023, and a total of \$952 million for the years ending December 31, 2024 through 2028. Benefit payments for the foreign plans are expected to be \$190 million, \$195 million, \$200 million, \$205 million and \$211 million for the years ending December 31, 2019 through 2023, respectively, and a total of \$1.1 billion for the years ending December 31, 2024 through 2028.

Weighted average assumptions used to determine benefit obligations for the company's significant North American plans at December 31 were:

	U.S.			Canada		
	2018	2017	2016	2018	2017	2016
Discount rate	4.41 %	3.72 %	4.26 %	2.90 %	2.80 %	3.50 %
Rate of compensation increase	4.02 %	4.15 %	4.14 %	N/A (a)	N/A (a)	N/A (a)

(a) The Canadian plans are frozen.

Weighted average assumptions used to determine benefit obligations for the company's significant European plans at December 31 were:

	U.K.			Germany		
	2018	2017	2016	2018	2017	2016
Discount rate	2.90 %	2.55 %	2.70 %	1.74 %	1.68 %	1.54 %
Rate of compensation increase	3.50 %	4.41 %	4.30 %	2.50 %	2.50 %	2.50 %
Pension increase	3.45 %	3.41 %	3.30 %	1.50 %	1.50 %	1.50 %

Weighted average assumptions used to determine net periodic benefit cost for the company's significant North American plans for the years ended December 31 were:

	U.S.			Canada		
	2018	2017	2016	2018	2017	2016
Discount rate	3.72 %	4.27 %	4.60 %	2.80 %	3.50 %	3.50 %
Rate of compensation increase	4.15 %	4.14 %	4.98 %	N/A (a)	N/A (a)	N/A (a)
Expected long-term rate of return on assets	5.14 %	5.50 %	6.88 %	3.75 %	4.00 %	4.00 %

(a) The Canadian plans are frozen.

Weighted average assumptions used to determine net periodic benefit cost for the company's significant European plans for the years ended December 31 were as follows:

	U.K.			Germany		
	2018	2017	2016	2018	2017	2016
Discount rate	2.55 %	2.70 %	2.90 %	1.68 %	1.52 %	1.29 %
Rate of compensation increase	4.41 %	4.30 %	3.80 %	2.50 %	2.50 %	2.00 %
Pension increase	3.41 %	3.41 %	2.80 %	1.50 %	1.50 %	1.50 %
Expected long-term rate of return on assets	3.05 %	3.20 %	3.40 %	N/A	N/A	N/A

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The discount and compensation increase rates used above to determine the December 31, 2018, benefit obligations will be used to determine net periodic benefit cost for 2019. A reduction of the expected return on pension assets assumption by one quarter of a percentage point would result in an approximate \$13 million increase in 2019 pension expense, while a quarter of a percentage point reduction in the discount rate applied to the pension liability would result in an estimated reduction of pension expense of approximately \$3 million in 2019.

Accounting for pensions and postretirement benefit plans requires that the benefit obligation be discounted to reflect the time value of money at the measurement date and the rates of return currently available on high-quality, fixed-income securities whose cash flows (via coupons and maturities) match the timing and amount of future benefit plan payments. Other factors used in measuring the obligation include compensation increases, health care cost increases, future rates of inflation, mortality and employee turnover.

Actual results may differ from the company's actuarial assumptions, which may have an impact on the amount of reported expense or liability for pensions or postretirement benefits. In 2018, the company recorded pension expense of \$96 million for Ball-sponsored plans, including \$36 million of settlement charges, special termination and curtailment losses, and currently expects its 2019 pension expense to be \$40 million, using foreign currency exchange rates in effect at December 31, 2018. The expected reduction in pension expense is due to settlement charges in 2018, higher discount rates and lower amortization costs, as well as defined benefit plan mergers and annuity purchases that occurred in 2018.

For 2017, the company measured service and interest costs utilizing the expected or hypothetical payments for each plan. The expected or hypothetical payments were discounted using the spot rates from the actuarial yield curve for each plan to obtain a single equivalent discount rate that is appropriate for the duration of each plan. For 2018, the company measured service and interest costs by applying the specific spot rates along that yield curve to the plans' liability cash flows. The company believes this approach provides a more precise measurement of service and interest costs by aligning the timing of the plans' liability cash flows to the corresponding spot rates on the yield curve. This change in estimate does not affect the measurement of plan obligations nor the funded status of the plans.

The assumption related to the expected long-term rate of return on plan assets reflects the average rate of earnings expected on the funds invested to provide for pension benefits over the life of the plans. The assumption was based upon Ball's pension plan asset allocations, investment strategies and the views of its investment managers, consultants and other large pension plan sponsors. Some reliance was placed on the historical and expected asset returns of our plans. An asset-allocation optimization model was used to project future asset returns using simulation and asset class correlation. The analysis included expected future risk premiums, forward-looking return expectations derived from the yield on long-term bonds and the price earnings ratios of major stock market indexes, expected inflation levels and real risk-free interest rate assumptions and the fund's expected asset allocation.

The expected long-term rates of return on assets were calculated by applying the expected rate of return to a market-related value of plan assets at the beginning of the year, adjusted for the weighted average expected contributions and benefit payments. The market-related value of plan assets used to calculate the expected return was \$6,052 million for 2018, \$6,121 million for 2017 and \$6,068 million for 2016.

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Defined Benefit Pension Plan Assets

Policies and Allocation Information

Pension investment committees or scheme trustees of the company and its relevant subsidiaries establish investment policies and strategies for the company's pension plan assets. The investment policies and strategies include the following common themes to: (1) provide for long-term growth of principal without undue exposure to risk, (2) minimize contributions to the plans, (3) minimize and stabilize pension expense and (4) achieve a rate of return above the market average for each asset class over the long term. The pension investment committees are required to regularly, but no less frequently than annually, review asset mix and asset performance, as well as the performance of the investment managers. Based on their reviews, which are generally conducted quarterly, investment policies and strategies are revised as appropriate.

Target asset allocations are set using a minimum and maximum range for each asset category as a percent of the total funds' market value. Following are the target asset allocations established as of December 31, 2018:

	U.S.		U.K.
	Legacy Ball	Legacy Rexam	
Cash and cash equivalents	0-10 %	0-10 %	60-100 %(c)
Equity securities	10-75 %(a)	10-25 %(d)	0-20 %
Fixed income securities	25-70 %(b)	75-90 %	60-100 %(c)
Alternative investments	0-35 %	— %	0-20 %

(a) Equity securities may consist of: (1) up to 25 percent large cap equities, (2) up to 10 percent mid cap equities, (3) up to 10 percent small cap equities, (4) up to 35 percent foreign equities and (5) up to 35 percent special equities. Holdings in Ball Corporation common stock or Ball bonds cannot exceed 5 percent of the trust's assets.

(b) Debt securities may include up to 10 percent non-investment grade bonds, up to 10 percent bank loans and up to 15 percent international bonds.

(c) The combined target allocation for fixed income securities and cash and cash equivalents is 60 to 100 percent.

(d) Equity securities may consist of: (1) up to 20 percent domestic equities, (2) up to 10 percent international equities, and (3) up to 10 percent private equities.

The actual weighted average asset allocations for Ball's defined benefit pension plans, which individually were within the established targets for each country for that year, were as follows at December 31:

	2018	2017
Cash and cash equivalents	2 %	2 %
Equity securities	28 %	17 %
Fixed income securities	69 %	74 %
Alternative investments	1 %	7 %
	100 %	100 %

Fair Value Measurements of Pension Plan Assets

Following is a description of the valuation methodologies used for pension assets measured at fair value:

Cash and cash equivalents: Consist of cash on deposit with brokers and short-term U.S. Treasury money market funds with a maturity of less than 90 days and are shown net of receivables and payables for securities traded at period end but not yet settled. All cash and cash equivalents are stated at cost, which approximates fair value.

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Corporate equity securities: Valued at the closing price reported on the active market on which the individual security is traded.

U.S. government and agency securities: Valued using the pricing of similar agency issues, live trading feeds from several vendors and benchmark yields.

Corporate bonds and notes: Valued using market inputs including benchmark yields, reported trades, broker/dealer quotes, issuer spreads, benchmark securities, bids, offers and reference data including market research publications. Inputs may be prioritized differently at certain times based on market conditions.

Commingled funds: The shares held are valued at their net asset value (NAV) at year end.

NAV practical expedient: Includes certain commingled fixed income and equity funds as well as limited partnership and other funds. Certain of the partnership investments receive fair market valuations on a quarterly basis. Certain other commingled funds and partnerships invest in market-traded securities, both on a long and short basis. These investments are valued using quoted market prices.

The preceding methods described may produce a fair value calculation that is not indicative of net realizable value or reflective of future fair values. Furthermore, although the company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The company's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of pension assets and liabilities and their placement within the fair value hierarchy levels. The fair value hierarchy levels assigned to the company's defined benefit plan assets are summarized in the tables below:

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(\$ in millions)	December 31, 2018		
	Level 1	Level 2	Total
U.S. pension assets, at fair value:			
Cash and cash equivalents	\$ 1	\$ 97	\$ 98
Corporate equity securities:			
Consumer discretionary	61	—	61
Financials	54	—	54
Healthcare	49	—	49
Industrials	59	—	59
Information technology	73	—	73
Other	50	—	50
U.S. government and agency securities:			
FHLMC mortgage backed securities	—	40	40
FNMA mortgage backed securities	—	65	65
Municipal bonds	—	52	52
Treasury bonds	45	—	45
Other	—	10	10
Corporate bonds and notes:			
Communications	—	67	67
Consumer discretionary	—	80	80
Consumer staples	—	41	41
Financials	—	245	245
Healthcare	—	88	88
Industrials	—	100	100
Information technology	—	54	54
Oil and gas	—	103	103
Private placement	—	69	69
Utilities	—	88	88
Other	—	60	60
Commingled funds	18	72	90
Total level 1 and level 2	\$ 410	\$ 1,331	1,741
Other investments measured at net asset value (a)			160
Total assets			\$ 1,901

(a) Certain investments measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified within the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the change in plan assets reconciliation.

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(\$ in millions)	December 31, 2017		
	Level 1	Level 2	Total
U.S. pension assets, at fair value:			
Cash and cash equivalents	\$ 1	\$ 124	\$ 125
Corporate equity securities:			
Consumer discretionary	54	—	54
Financials	47	—	47
Healthcare	45	—	45
Industrials	81	—	81
Information technology	97	—	97
Other	74	—	74
U.S. government and agency securities:			
FHLMC mortgage backed securities	—	35	35
FNMA mortgage backed securities	—	69	69
Municipal bonds	—	61	61
Treasury bonds	54	—	54
Other	—	15	15
Corporate bonds and notes:			
Communications	—	86	86
Consumer discretionary	—	83	83
Consumer staples	—	64	64
Financials	—	329	329
Healthcare	—	136	136
Industrials	—	137	137
Information technology	—	87	87
Oil and gas	—	122	122
Private placement	—	128	128
Utilities	—	128	128
Other	—	70	70
Commingled funds	22	80	102
Total level 1 and level 2	\$ 475	\$ 1,754	2,229
Other investments measured at net asset value (a)			191
Total assets			\$ 2,420

(a) Certain investments measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented within this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the change in plan assets reconciliation.

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(\$ in millions)	December 31,	
	2018	2017
U.K. pension assets, at fair value:		
Cash and cash equivalents	\$ 20	\$ 43
U.K. government bonds	2,229	2,184
Other	33	14
Total level 1	2,282	2,241
Other investments measured at net asset value (a)	913	1,306
Total assets	\$ 3,195	\$ 3,547

(a) *Certain investments measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified within the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the change in plan assets reconciliation.*

Other Postemployment Benefits

The company sponsors postretirement health care and life insurance plans for certain U.S. and Canadian employees. Also, postretirement health care and life insurance plans were acquired as part of the Rexam acquisition. Employees may also qualify for long-term disability, medical and life insurance continuation and other postemployment benefits upon termination of active employment prior to retirement. All of the Ball-sponsored postretirement health care and life insurance plans are unfunded and, with the exception of life insurance benefits, are self-insured.

In Canada, the company provides supplemental medical and other benefits in conjunction with Canadian provincial health care plans. Effective July 1, 2017, Ball no longer offers medical and life insurance coverage in the U.S. for non-bargaining, Medicare-eligible retirees through company-sponsored plans. Current and future non-bargaining retirees may access benefits through a private exchange by purchasing coverage direct from insurance carriers.

Ball provides a fixed subsidy to certain retirees which must be used to purchase medical insurance. Ball has no commitments to increase benefits provided by any of the postemployment benefit plans and retains the right, subject to existing agreements, to change or eliminate these benefits.

For other postretirement benefits in the U.S. & Canada, the accumulated actuarial gains and losses and accumulated prior service gains and losses are amortized over the average remaining service period for active participants or the average future lifetime for inactive employees, depending upon the plan.

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An analysis of the change in other postretirement benefit accruals for 2018 and 2017 follows:

(\$ in millions)	2018	2017
Change in benefit obligation:		
Benefit obligation at prior year end	\$ 220	\$ 232
Service cost	1	1
Interest cost	6	9
Benefits paid	(16)	(22)
Net actuarial (gain) loss	(20)	6
Business acquisition	—	—
Curtailments and special termination benefits	(2)	2
Plan amendments	(14)	(9)
Effect of exchange rates and other	(1)	1
Benefit obligation at year end	\$ 174	\$ 220
Less current portion	(17)	(24)
Long-term retiree medical liabilities	\$ 157	\$ 196

Components of net periodic benefit cost were:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Service cost	\$ 1	\$ 1	\$ 3
Interest cost	6	9	8
Amortization of prior service cost	(1)	(1)	(1)
Recognized net actuarial loss (gain)	(6)	(5)	(3)
Curtailments and special termination benefits	(2)	2	—
Net periodic benefit cost	\$ (2)	\$ 6	\$ 7

Approximately \$8 million of estimated net actuarial gain and \$2 million of prior service benefit will be amortized from accumulated other comprehensive earnings (loss) into net periodic benefit cost during 2019.

The assumptions for the U.S. and Canadian plans were based upon a long-term forecast of medical and direct trends and claims data projected forward using generally accepted actuarial methods.

Weighted average assumptions used to determine benefit obligations for the other postretirement benefit plans at December 31 were:

	U.S.			Canada		
	2018	2017	2016	2018	2017	2016
Discount rate	4.35 %	3.64 %	4.16 %	3.50 %	3.25 %	3.50 %
Rate of compensation increase (a)	4.50 %	4.50 %	4.50 %	N/A	N/A	N/A

(a) The rate of compensation increase is not applicable for certain U.S. other postretirement benefit plans.

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Weighted average assumptions used to determine net periodic benefit cost for the other postretirement benefit plans at December 31 were:

	U.S.			Canada		
	2018	2017	2016	2018	2017	2016
Discount rate	3.64 %	4.16 %	4.04 %	3.25 %	3.50 %	3.50 %
Rate of compensation increase (a)	4.50 %	4.50 %	4.50 %	N/A	N/A	N/A

(a) *The rate of compensation increase is not applicable for certain U.S. other postretirement benefit plans.*

For the U.S. health care plans at December 31, 2018, a 7 percent health care cost trend rate was used for pre-65 and post-65 benefits, and trend rates were assumed to increase to 5 percent in 2031 and remain at that level thereafter. For the Canadian plans, a 5 percent health care cost trend rate was used for 2018. Benefit payment caps exist in many of the company's health care plans.

Contributions to the company's other postretirement plans are expected to be approximately \$17 million in 2019. This estimate may change based on available company cash flow, among other factors. Benefit payments related to these plans are expected to be between \$14 million and \$17 million in each of the years ending December 31, 2019 through 2023, and a total of \$59 million for the years 2024 through 2028.

Health care cost trend rates can have an effect on the amounts reported for the health care plan. A one-percentage point increase in assumed health care cost trend rates would increase the total of service and interest cost by less than \$1 million and the postretirement benefit obligation by \$5 million. A one-percentage point decrease would decrease the total of service and interest cost by less than \$1 million and the postretirement benefit obligation by \$4 million.

Deferred Compensation Plans

Certain management employees may elect to defer the payment of all or a portion of their annual incentive compensation into the company's deferred compensation plan and/or the company's deferred compensation stock plan. The employee becomes a general unsecured creditor of the company with respect to any amounts deferred.

18. Shareholders' Equity

At December 31, 2018, the company had 1.1 billion shares of common stock and 15 million shares of preferred stock authorized, both without par value. Preferred stock includes 550,000 authorized but unissued shares designated as Series A Junior Participating Preferred Stock.

Under its ongoing share repurchase program, the company repurchased \$711 million, \$76 million and \$59 million of its shares, net of issuances, during the years ended December 31, 2018, 2017, and 2016, respectively. As of February 20, 2019, an additional \$118 million of shares were repurchased subsequent to December 31, 2018. On January 23, 2019, the Board authorized the repurchase by the company of up to a total of 50 million shares. This repurchase authorization replaced all previous authorizations.

In April 2017, the company's Board of Directors declared a two-for-one split of Ball Corporation's common stock and increased the quarterly cash dividend by 54 percent to 10 cents on a post-split basis. The stock split was effective as of May 16, 2017.

In 2017, in a privately negotiated transaction, Ball entered into an accelerated share repurchase agreement to buy \$100 million of its common shares using cash on hand and available borrowings, and the company received 2.5 million shares.

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Accumulated Other Comprehensive Earnings (Loss)

The activity related to accumulated other comprehensive earnings (loss) was as follows:

<u>(\$ in millions)</u>	<u>Foreign Currency Translation (Net of Tax)</u>	<u>Pension and Other Postretirement Benefits (Net of Tax)</u>	<u>Effective Derivatives (Net of Tax)</u>	<u>Accumulated Other Comprehensive Earnings (Loss)</u>
Balance at December 31, 2016	\$ (329)	\$ (590)	\$ (22)	\$ (941)
Other comprehensive earnings (loss) before reclassifications	22	179	(30)	171
Amounts reclassified from accumulated other comprehensive earnings (loss)	—	49 (a)	65	114
Balance at December 31, 2017	\$ (307)	\$ (362)	\$ 13	\$ (656)
Other comprehensive earnings (loss) before reclassifications	(197)	33	25	(139)
Amounts reclassified from accumulated other comprehensive earnings (loss)	—	52 (a)	(92)	(40)
Balance at December 31, 2018	<u>\$ (504)</u>	<u>\$ (277)</u>	<u>\$ (54)</u>	<u>\$ (835)</u>

(a) Includes \$27 million and \$28 million of after-tax losses recognized during 2018 and 2017, respectively, related to the company's annuity buyout and lump sum settlements. Refer to Note 17 for further details.

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The following table provides additional details of the amounts reclassified into net earnings from accumulated other comprehensive earnings (loss):

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Gains (losses) on cash flow hedges:			
Commodity contracts recorded in net sales	\$ 1	\$ (7)	\$ (1)
Commodity contracts recorded in cost of sales	54	50	(7)
Currency exchange contracts recorded in selling, general and administrative	1	(1)	4
Currency exchange contracts recorded in business consolidation and other activities	—	—	64
Cross-currency swaps recorded in selling, general and administrative	49	(136)	—
Cross-currency swaps recorded in interest expense	14	16	—
Interest rate contracts recorded in interest expense	—	—	(1)
Commodity and currency exchange contracts attributable to the Divestment Business recorded in business consolidation and other activities	—	—	(5)
Total before tax effect	119	(78)	54
Tax benefit (expense) on amounts reclassified into earnings	(27)	13	2
Recognized gain (loss), net of tax	\$ 92	\$ (65)	\$ 56
Amortization of pension and other postretirement benefits: (a)			
Prior service income (expense)	\$ (1)	\$ (1)	\$ 2
Actuarial gains (losses)	(32)	(34)	(35)
Effect of pension settlement (b)	(36)	(44)	(80)
Total before tax effect	(69)	(79)	(113)
Tax benefit (expense) on amounts reclassified into earnings	17	30	31
Recognized gain (loss), net of tax	\$ (52)	\$ (49)	\$ (82)

(a) These components are included in the computation of net periodic benefit cost detailed in Note 17.

(b) 2018 and 2017 amounts include pretax settlement losses related to the purchase of non-participating group annuity contracts and lump sum payouts. The 2016 amount includes a curtailment charge related to the sale of the Divestment Business. Refer to Note 17 for further details.

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19. Stock-Based Compensation Programs

The company has shareholder-approved stock plans under which options and stock-settled appreciation rights (SSARs) have been granted to employees at the market value of the company's stock on the date of grant. In the case of stock options, payment must be made by the employee at the time of exercise in cash or with shares of stock owned by the employee, which are valued at fair market value on the date exercised. For SSARs, the employee receives the share equivalent of the difference between the fair market value on the date exercised and the exercise price of the SSARs exercised. In general, options and SSARs are exercisable in four equal installments commencing one year from the date of grant and terminating 10 years from the date of grant. A summary of outstanding stock option and SSAR activity for the year ended December 31, 2018, follows:

	Number of Shares	Weighted Average Exercise Price
Beginning of year	16,907,299	\$ 24.21
Granted	2,133,054	38.84
Exercised	(3,340,514)	16.89
Canceled/forfeited	(524,028)	36.73
End of year	<u>15,175,811</u>	27.45
Vested and exercisable, end of period	<u>10,183,630</u>	\$ 22.77
Reserved for future grants	<u>22,371,159</u>	

The weighted average remaining contractual term for all options and SSARs outstanding at December 31, 2018, was 5.3 years and the aggregate intrinsic value (difference in exercise price and closing price at that date) was \$281 million. The weighted average remaining contractual term for options and SSARs vested and exercisable at December 31, 2018, was 3.9 years and the aggregate intrinsic value was \$236 million. The company received \$29 million, \$21 million and \$36 million from options exercised during 2018, 2017 and 2016, respectively, and the intrinsic value associated with these exercises was \$30 million, \$26 million and \$45 million for the same periods, respectively. The tax benefit associated with the company's stock compensation programs was \$18 million for 2018, and was reported as a discrete item in the consolidated tax provision. The total fair value of options and SSARs vested during 2018, 2017 and 2016 was \$16 million, \$14 million and \$13 million, respectively.

These options and SSARs cannot be traded in any equity market. However, based on the Black-Scholes option pricing model, options and SSARs granted in 2018, 2017 and 2016 have estimated weighted average fair values at the date of grant of \$9.07 per share, \$7.82 per share and \$9.08 per share, respectively. The actual value an employee may realize will depend on the excess of the stock price over the exercise price on the date the option or SSAR is exercised. Consequently, there is no assurance that the value realized by an employee will equal the fair value estimated at the grant date. The fair values were estimated using the following weighted average assumptions:

	<u>2018 Grants</u>	<u>2017 Grants</u>	<u>2016 Grants</u>
Expected dividend yield	1.03 %	0.89 %	0.73 %
Expected stock price volatility	21.98 %	19.62 %	24.14 %
Risk-free interest rate	2.47 %	2.00 %	1.22 %
Expected life of options (in years)	6.10 years	5.94 years	6.10 years

In addition to stock options and SSARs, the company issues to certain employees restricted shares and restricted stock units, which vest over various periods. Other than the performance-contingent grants discussed below, such restricted shares and restricted stock units generally vest in equal installments over five years. Compensation cost is recorded based upon the fair value of the shares at the grant date.

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Following is a summary of restricted stock activity for the year ended December 31, 2018:

	<u>Number of Shares/Units</u>	<u>Weighted Average Grant Price</u>
Beginning of year	3,224,094	\$ 32.82
Granted	644,616	37.35
Vested	(802,036)	30.5
Canceled/forfeited	(191,380)	37.68
End of year	<u>2,875,294</u>	<u>\$ 34.17</u>

The company's Board of Directors has granted performance-contingent restricted stock units (PCEQs) to key employees. These PCEQs vest three years from the date of grant, and the number of shares available at the vesting date is based on the company's increase in economic value added (EVA®) dollars compared to the EVA® dollars generated in the calendar year prior to the grant, ranging from zero to 200 percent of each participant's assigned award opportunity. If the minimum performance goals are not met, the shares will be forfeited. Grants under the plan are being accounted for as equity awards and compensation expense is recorded based upon the most probable outcome using the closing market price of the shares at the grant date. On a quarterly basis, the company reassesses the probability of the goals being met and adjusts compensation expense as appropriate. The expense associated with these performance-contingent grants recognized in selling, general and administrative expenses, totaled \$21 million in 2018, \$9 million in 2017, and \$15 million in 2016.

During 2017, the company's Board of Directors granted 1.1 million performance-contingent restricted stock units (on a post-stock split basis) to employees related to the Special Acquisition-Related Incentive Plan (SAIP). The number of shares issued at the vesting date in January 2020 will be based on the company's achievement of cumulative EVA® and Cash Flow performance goals through the vesting date ranging from zero to 200 percent of each participant's assigned award. If the minimum performance goals are not met, the awards will be forfeited. Grants under the plan are being accounted for as equity awards and compensation expense is recorded based upon the most probable outcome using the closing market price of the shares at the grant date. On a quarterly basis, the company reassesses the probability of the goals being met and adjusts compensation expense as appropriate. The expense associated with these performance-contingent grants, as recognized in business consolidation and other activities, totaled \$23 million during 2018 and \$11 million during 2017.

For the years ended December 31, 2018, 2017 and 2016, the company recognized pretax expense of \$75 million (\$61 million after tax), \$46 million (\$35 million after tax) and \$35 million (\$22 million after tax), respectively, for share-based compensation arrangements. At December 31, 2018, there was \$72 million of total unrecognized compensation cost related to nonvested share-based compensation arrangements. This cost is expected to be recognized in earnings over a weighted average period of 1.9 years.

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20. Earnings Per Share

(\$ in millions, except per share amounts; shares in thousands)	Years Ended December 31,		
	2018	2017	2016
Net earnings attributable to Ball Corporation	\$ 454	\$ 374	\$ 263
Basic weighted average common shares	344,796	350,269	316,542
Effect of dilutive securities	7,525	6,716	6,342
Weighted average shares applicable to diluted earnings per share	352,321	356,985	322,884
Per basic share	\$ 1.32	\$ 1.07	\$ 0.83
Per diluted share	\$ 1.29	\$ 1.05	\$ 0.81

Certain outstanding options and SSARs were excluded from the diluted earnings per share calculation because they were anti-dilutive (i.e., the sum of the proceeds, including the unrecognized compensation, exceeded the average closing stock price for the period). The options and SSARs excluded totaled approximately 4 million in 2018 and 2 million in both 2017 and 2016.

The company declared and paid dividends of \$0.40 per share and \$0.365 per share in 2018 and 2017, respectively.

21. Financial Instruments and Risk Management

Policies and Procedures

The company employs established risk management policies and procedures, which seek to reduce the company's commercial risk exposure to fluctuations in commodity prices, interest rates, currency exchange rates and prices of the company's common stock with regard to common share repurchases and the company's deferred compensation stock plan. However, there can be no assurance that these policies and procedures will be successful. Although the instruments utilized involve varying degrees of credit, market and interest risk, the counterparties to the agreements are expected to perform fully under the terms of the agreements. The company monitors counterparty credit risk, including lenders, on a regular basis, but Ball cannot be certain that all risks will be discerned or that its risk management policies and procedures will always be effective. Additionally, in the event of default under the company's master derivative agreements, the non-defaulting party has the option to set-off any amounts owed with regard to open derivative positions.

Commodity Price Risk

Aluminum

The company manages commodity price risk in connection with market price fluctuations of aluminum ingot through two different methods. First, the company enters into container sales contracts that include aluminum ingot-based pricing terms that generally reflect the same price fluctuations under commercial purchase contracts for aluminum sheet. The terms include fixed, floating or pass-through aluminum ingot component pricing. Second, the company uses certain derivative instruments such as option and forward contracts as economic and cash flow hedges of commodity price risk where there are material differences between sales and purchase contracted pricing and volume.

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At December 31, 2018, the company had aluminum contracts limiting its aluminum exposure with notional amounts of approximately \$809 million, of which approximately \$768 million received hedge accounting treatment. Cash flow hedges relate to forecasted sales and purchase transactions and expire within the next three years. Included in shareholders' equity at December 31, 2018, within accumulated other comprehensive earnings (loss), is a net after-tax loss of \$31 million associated with these contracts. A net loss of \$28 million is expected to be recognized in the consolidated statement of earnings during the next 12 months, the majority of which will be offset by pricing changes in sales and purchase contracts, thus resulting in little or no earnings impact to Ball.

Interest Rate Risk

The company's objective in managing exposure to interest rate changes is to minimize the impact of interest rate changes on earnings and cash flows and to lower our overall borrowing costs. To achieve these objectives, the company may use a variety of interest rate swaps, collars and options to manage our mix of floating and fixed-rate debt. At December 31, 2018, the company had outstanding interest rate swap and option contracts with notional amounts of approximately \$930 million paying fixed rates expiring within the next two years. The amount recorded in accumulated other comprehensive earnings (loss) at December 31, 2018, is insignificant.

Currency Exchange Rate Risk

The company's objective in managing exposure to currency fluctuations is to limit the exposure of cash flows and earnings from changes associated with currency exchange rate changes through the use of various derivative contracts. In addition, at times the company manages earnings translation volatility through the use of currency option strategies, and the change in the fair value of those options is recorded in the company's net earnings. At December 31, 2018, the company had outstanding exchange forward contracts and option contracts with notional amounts totaling approximately \$1.9 billion. Approximately \$1 million of net after-tax loss related to these contracts is included in accumulated other comprehensive earnings at December 31, 2018, substantially all of which is expected to be recognized in the consolidated statement of earnings during the next 12 months. The contracts outstanding at December 31, 2018, expire within two years.

Additionally, the company entered into a \$1 billion cross-currency swap contract to partially mitigate the risk on foreign currency denominated intercompany debt in 2016. Approximately \$22 million of net after-tax loss related to the intercompany debt is included in accumulated other comprehensive earnings at December 31, 2018, of which the amount expected to be recognized during the next 12 months is dependent upon changes in currency exchange rates. The contract expires within the next two years.

Common Stock Price Risk

The company's deferred compensation stock program is subject to variable plan accounting and, accordingly, is marked to fair value using the company's closing stock price at the end of the related reporting period. The company entered into total return swaps to reduce the company's earnings exposure to these fair value fluctuations that will be outstanding through November 2019 and have a combined notional value of 2.6 million shares. Based on the current number of shares in the program, each \$1 change in the company's stock price has an insignificant impact on pretax earnings, net of the impact of related derivatives.

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Collateral Calls

The company's agreements with its financial counterparties require the company to post collateral in certain circumstances when the negative mark to fair value of the contracts exceeds specified levels. Additionally, the company has collateral posting arrangements with certain customers on these derivative contracts. The cash flows of the margin calls are shown within the investing section of the company's consolidated statements of cash flows. As of December 31, 2018 and 2017, the aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a net liability position was \$46 million and \$27 million, respectively, and no collateral was required to be posted.

Fair Value Measurements

Ball has classified all applicable financial derivative assets and liabilities as Level 2 within the fair value hierarchy as of December 31, 2018 and 2017, and presented those values in the table below. The company's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of fair value assets and liabilities and their placement within the fair value hierarchy levels.

(\$ in millions)	Balance Sheet Location	December 31, 2018		Total
		Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments	
Assets:				
Commodity contracts		\$ 9	\$ 1	\$ 10
Foreign currency contracts		—	21	21
Cross-currency and other contracts		—	5	5
Total current derivative contracts	Other current assets	<u>\$ 9</u>	<u>\$ 27</u>	<u>\$ 36</u>
Liabilities:				
Commodity contracts		\$ 42	\$ 11	\$ 53
Foreign currency contracts		2	4	6
Cross-currency and other contracts		1	2	3
Total current derivative contracts	Other current liabilities	<u>\$ 45</u>	<u>\$ 17</u>	<u>\$ 62</u>
Commodity contracts		\$ 2	\$ —	\$ 2
Cross-currency and other contracts		62	—	62
Total noncurrent derivative contracts	Other noncurrent liabilities	<u>\$ 64</u>	<u>\$ —</u>	<u>\$ 64</u>

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		December 31, 2017		
		Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments	Total
Assets:				
Commodity contracts		\$ 46	\$ 3	\$ 49
Foreign currency contracts		5	10	15
Total current derivative contracts	Other current assets	\$ 51	\$ 13	\$ 64
Commodity contracts		\$ 6	\$ —	\$ 6
Total noncurrent derivative contracts	Other noncurrent assets	\$ 6	\$ —	\$ 6
Liabilities:				
Commodity contracts		\$ 4	\$ 4	\$ 8
Foreign currency contracts		—	21	21
Cross-currency and other contracts		—	2	2
Total current derivative contracts	Other current liabilities	\$ 4	\$ 27	\$ 31
Cross-currency and other contracts		\$ 117	\$ 3	\$ 120
Total noncurrent derivative contracts	Other noncurrent liabilities	\$ 117	\$ 3	\$ 120

The company uses closing spot and forward market prices as published by the London Metal Exchange, the Chicago Mercantile Exchange, Reuters and Bloomberg to determine the fair value of any outstanding aluminum, currency, energy, inflation and interest rate spot and forward contracts. Option contracts are valued using a Black-Scholes model with observable market inputs for aluminum, currency and interest rates. We value each of our financial instruments either internally using a single valuation technique or from a reliable observable market source. The company does not adjust the value of its financial instruments except in determining the fair value of a trade that settles in the future by discounting the value to its present value using 12-month LIBOR as the discount factor. Ball performs validations of our internally derived fair values reported for our financial instruments on a quarterly basis utilizing counterparty valuation statements. The company additionally evaluates counterparty creditworthiness and, as of December 31, 2018, has not identified any circumstances requiring the reported values of our financial instruments be adjusted.

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The following tables provide the effects of derivative instruments in the consolidated statement of earnings and on accumulated other comprehensive earnings (loss):

(\$ in millions)	Location of Gain (Loss) Recognized in Earnings on Derivatives	Year Ended December 31, 2018	
		Cash Flow Hedge - Reclassified Amount from Accumulated Other Comprehensive Earnings (Loss)	Gain (Loss) on Derivatives not Designated as Hedge Instruments
Commodity contracts - <i>manage exposure to customer pricing</i>	Net sales	\$ 1	\$ 1
Commodity contracts - <i>manage exposure to supplier pricing</i>	Cost of sales	54	8
Foreign currency contracts - <i>manage general exposure with the business</i>	Selling, general and administrative	1	70
Cross-currency swaps - <i>manage intercompany currency exposure within the business</i>	Selling, general and administrative	49	—
Cross-currency swaps - <i>manage intercompany currency exposure within the business</i>	Interest expense	14	—
Equity contracts	Selling, general and administrative	—	19
Total		\$ 119	\$ 98

(\$ in millions)	Location of Gain (Loss) Recognized in Earnings on Derivatives	Year Ended December 31, 2017	
		Cash Flow Hedge - Reclassified Amount from Accumulated Other Comprehensive Earnings (Loss)	Gain (Loss) on Derivatives not Designated as Hedge Instruments
Commodity contracts - <i>manage exposure to customer pricing</i>	Net sales	\$ (7)	\$ (4)
Commodity contracts - <i>manage exposure to supplier pricing</i>	Cost of sales	50	(5)
Foreign currency contracts - <i>manage general exposure with the business</i>	Selling, general and administrative	(1)	(57)
Cross-currency swaps - <i>manage intercompany currency exposure within the business</i>	Selling, general and administrative	(136)	—
Cross-currency swaps - <i>manage intercompany currency exposure within the business</i>	Interest expense	16	—
Other contracts	Selling, general and administrative	—	(1)
Total		\$ (78)	\$ (67)

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(\$ in millions)	Location of Gain (Loss) Recognized in Earnings on Derivatives	Year Ended December 31, 2016	
		Cash Flow Hedge - Reclassified Amount from Accumulated Other Comprehensive Earnings (Loss)	Gain (Loss) on Derivatives not Designated as Hedge Instruments
Commodity contracts - <i>manage exposure to customer pricing</i>	Net sales	\$ (1)	\$ —
Commodity contracts - <i>manage exposure to supplier pricing</i>	Cost of sales	(7)	(4)
Interest rate contracts - <i>manage exposure for outstanding debt</i>	Interest expense	(1)	—
Interest rate contracts - <i>manage exposure for forecasted Rexam financing</i>	Debt refinancing and other costs	—	(20)
Foreign currency contracts - <i>manage exposure to sales of products</i>	Cost of sales	1	1
Foreign currency contracts - <i>manage general exposure with the business</i>	Selling, general and administrative	3	53
Foreign currency contracts - <i>manage exposure for acquisition of Rexam</i>	Business consolidation and other activities	—	(191)
Cross-currency swaps - <i>manage exposure for acquisition of Rexam</i>	Business consolidation and other activities	—	(4)
Cross-currency swaps - <i>manage intercompany currency exposure within the business</i>	Selling, general and administrative	64	—
Commodity contracts and currency exchange contracts - <i>attributed to the Divestment Business</i>	Business consolidation and other activities	(5)	—
Other contracts	Selling, general and administrative	—	(1)
Total		\$ 54	\$ (166)

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The changes in accumulated other comprehensive earnings (loss) for effective derivatives were as follows:

(\$ in millions)	Years Ended December 31,		
	2018	2017	2016
Amounts reclassified into earnings:			
Commodity contracts	\$ (55)	\$ (43)	\$ 8
Cross-currency swap contracts	(63)	120	(64)
Interest rate contracts	—	—	1
Commodity and currency exchange contracts attributed to the divestment business	—	—	5
Currency exchange contracts	(1)	1	(4)
Change in fair value of cash flow hedges:			
Commodity contracts	(31)	67	22
Interest rate contracts	—	—	(1)
Cross-currency swap contracts	69	(137)	39
Currency exchange contracts	(5)	7	3
Foreign currency and tax impacts	19	20	(19)
	<u>\$ (67)</u>	<u>\$ 35</u>	<u>\$ (10)</u>

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22. Quarterly Results of Operations (Unaudited)

Set forth below are the company's 2018 and 2017 results for the quarters ended March 31, June 30, September 30 and December 31.

(\$ in millions, except per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
2018					
Net sales	\$ 2,785	\$ 3,101	\$ 2,946	\$ 2,803	\$ 11,635
Gross profit (a)	418	483	466	431	1,798
Earnings before taxes	\$ 152	\$ 166	\$ 192	\$ 123	\$ 633
Net earnings (loss) attributable to Ball Corporation	\$ 125	\$ 119	\$ 59	\$ 151	\$ 454
Basic earnings (loss) per share (b)	\$ 0.36	\$ 0.34	\$ 0.17	\$ 0.45	\$ 1.32
Diluted earnings (loss) per share (b)	\$ 0.35	\$ 0.34	\$ 0.17	\$ 0.44	\$ 1.29
2017					
Net sales	\$ 2,473	\$ 2,855	\$ 2,908	\$ 2,747	\$ 10,983
Gross profit (a)	390	431	455	481	1,757
Earnings before taxes	\$ 84	\$ 112	\$ 50	\$ 268	\$ 514
Net earnings attributable to Ball Corporation	\$ 68	\$ 99	\$ 48	\$ 159	\$ 374
Basic earnings per share (b)	\$ 0.19	\$ 0.28	\$ 0.14	\$ 0.45	\$ 1.07
Diluted earnings per share (b)	\$ 0.19	\$ 0.28	\$ 0.13	\$ 0.45	\$ 1.05

(a) Gross profit is shown after depreciation and amortization related to cost of sales of \$509 million and \$510 million for the years ended December 31, 2018 and 2017, respectively.

(b) Earnings per share calculations for each quarter are based on the weighted average shares outstanding for that period. As a result, the sum of the quarterly amounts may not equal the annual earnings per share amount.

The unaudited quarterly results of operations included business consolidation and other activities that affected the company's operating performance. Further details are included in Note 6.

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23. Contingencies

Ball is subject to numerous lawsuits, claims or proceedings arising out of the ordinary course of business, including actions related to product liability; personal injury; the use and performance of company products; warranty matters; patent, trademark or other intellectual property infringement; contractual liability; the conduct of the company's business; tax reporting in domestic and foreign jurisdictions; workplace safety and environmental and other matters. The company has also been identified as a potentially responsible party (PRP) at several 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. In addition, we have received claims alleging that employees in certain plants have suffered damages due to exposure to alleged workplace hazards. Some of these lawsuits, claims and proceedings involve substantial amounts, including as described below, and some of the environmental proceedings involve potential monetary costs or sanctions that may be material. Ball has denied liability with respect to many of these lawsuits, claims and proceedings and is vigorously defending such lawsuits, claims and proceedings. The company carries various forms of commercial, property and casualty, and other forms of insurance; however, such insurance may not be applicable or adequate to cover the costs associated with a judgment against Ball with respect to these lawsuits, claims and proceedings. The company estimates that potential liabilities for all currently known and estimable environmental matters are approximately \$30 million in the aggregate, and such amounts have been included in other current liabilities and other noncurrent liabilities at December 31, 2018.

As previously reported, the U.S. Environmental Protection Agency (USEPA) considers the company a PRP with respect to the Lowry Landfill site located east of Denver, Colorado. In 1992, the company was served with a lawsuit filed by the City and County of Denver (Denver) and Waste Management of Colorado, Inc., seeking contributions from the company and approximately 38 other companies. The company filed its answer denying the allegations of the complaint. Subsequently in 1992, the company was served with a third-party complaint filed by S.W. Shattuck Chemical Company, Inc., seeking contribution from the company and other companies for the costs associated with cleaning up the Lowry Landfill. The company denied the allegations of the complaint.

Also in 1992, Ball entered into a settlement and indemnification agreement with Chemical Waste Management, Inc., and Waste Management of Colorado, Inc. (collectively Waste Management) and Denver pursuant to which Waste Management and Denver dismissed their lawsuit against the company, and Waste Management agreed to defend, indemnify and hold harmless the company from claims and lawsuits brought by governmental agencies and other parties relating to actions seeking contributions or remedial costs from the company for the clean-up of the site. Waste Management, Inc., has agreed to guarantee the obligations of Waste Management. Waste Management and Denver may seek additional payments from the company if the response costs related to the site exceed \$319 million. In 2003 Waste Management, Inc., indicated that the cost of the site might exceed \$319 million in 2030, approximately three years before the projected completion of the project. In February 2018, Waste Management reported that total project costs through 2016 were approximately \$142 million. The company might also be responsible for payments (based on 1992 dollars) for any additional wastes that may have been disposed of by the company at the site but which are identified after the execution of the settlement agreement. While remediating the site, contaminants were encountered, which could add an additional clean-up cost of approximately \$10 million. This additional clean-up cost could, in turn, add approximately \$1 million to total site costs for the PRP group. At this time, there are no Lowry Landfill actions in which the company is actively involved. Based on the information available to the company at this time, we do not believe that this matter will have a material adverse effect upon the liquidity, results of operations or financial condition of the company.

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In November 2012, the USEPA wrote to the company asserting that it is one of at least 50 PRPs with respect to the Lower Duwamish site located in Seattle, Washington, based on the company's ownership of a glass container plant prior to 1995, and notifying the company of a proposed remediation action plan. A site was selected to begin data review on over 30 industrial companies and government entities and at least two PRP groups have been discussing various allocation proposals. The USEPA issued the site Record of Decision (ROD) in December 2014. Ball submitted its initial responses to the allocator's questionnaire in March 2015, and after reviewing submissions from the PRPs alleging deficiencies in certain of Ball's responses, the allocator denied certain of the allegations and directed the company to answer others, to which Ball responded during the fourth quarter of 2016. A group of de minimis PRPs, including Ball, retained a technical consultant to assist with their positions vis-à-vis larger PRPs, and further presentations were made to the site allocator during the fourth quarter of 2017 and the first quarter of 2018. Total site remediation costs of \$342 million, to cover remediation of approximately 200 acres of river bottom, are expected according to the proposed remediation action plan, which does not include \$100 million that has already been spent, and which will be allocated among the numerous PRPs in due course. Based on the information available to the company at this time, we do not believe that this matter will have a material adverse effect upon the liquidity, results of operations or financial condition of the company.

In February 2012, Ball Metal Beverage Container Corp. (BMBCC) filed an action against Crown Packaging Technology, Inc. (Crown) in the U.S. District Court for the Southern District of Ohio (the Court) seeking a declaratory judgment that the manufacture, sale and use of certain ends by BMBCC and its customers do not infringe certain claims of Crown's U.S. patents. Crown subsequently filed a counterclaim alleging infringement of certain claims in these patents seeking unspecified monetary damages, fees and declaratory and injunctive relief. The District Court issued a claim construction order at the end of December 2015 and held a scheduling conference on February 10, 2016, to determine the timeline for future steps in the litigation. The case was stayed by mutual agreement of the parties into the third quarter of 2016, during which Crown made preparations for its discovery with respect to certain ends previously produced by Rexam's U.S. subsidiary, Rexam Beverage Can Company (RBCC). Such discovery began during the first half of 2017 and concluded in the fourth quarter of 2018. The parties attempted to mediate the case on August 1, 2017, but no progress was made, and the case continued as scheduled. In December, 2018, BMBCC and RBCC filed a motion for summary judgment that the Crown patents at issue are invalid and that the applicable ends supplied by BMBCC and RBCC did not infringe the patents. Crown did not file a motion for summary judgment. Oral argument on the motion filed by BMBCC and RBCC was completed in January 2019. A trial date has been set for April 2019, although this setting may be removed and the trial delayed based on the summary judgment filing, so as to allow the Court to give full consideration to the motion. Based on the information available to the company at the present time, the company does not believe that this matter will have a material adverse effect upon the liquidity, results of operations or financial condition of the company.

A former Rexam Personal Care site in Annecy, France, was found in 2003 to be contaminated following a leak of chlorinated solvents (TCE) from an underground feedline. The site underwent extensive investigation and an active remediation treatment system was put in place in 2006. The business operating from the site was sold to Albea in 2013 and in turn to a French company CATIDOM (operating as Reboul). Reboul vacated the site in September 2014, and the site reverted back to Rexam during the first quarter of 2015. As part of the site closure regulatory requirements, a new regulatory permit (Prefectoral Order) was issued in June 2016, which includes requirements to undertake a cost-benefit analysis and pilot studies of further treatment for the known residual solvent contamination following the shutdown of the current on-site treatment system. A new management plan was proposed to the French Environmental Authorities (DREAL) during 2018 and will be the subject of further discussions in 2019 before a final plan for the site is addressed. Based on the information available to the company at this time, we do not believe that this matter will have a material adverse effect upon the liquidity, results of operations or financial condition of the company.

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The company's operations in Brazil are involved in various governmental assessments, principally related to claims for taxes on the internal transfer of inventory, gross revenue taxes and indirect tax incentives. The company does not believe that the ultimate resolution of these matters will materially impact its results of operations, financial position or cash flows. Under customary local regulations, the company's Brazilian subsidiaries may need to post cash or other collateral if the process to challenge any administrative assessment proceeds to the Brazilian court system; however, the level of any potential cash or collateral required would not significantly impact the liquidity of those subsidiaries or Ball Corporation.

During the first quarter of 2017, the Brazilian Supreme Court (the Court) ruled against the Brazilian tax authorities in a leading case related to the computation of certain indirect taxes. The Court ruled that the indirect tax base should not include a value-added tax known as "ICMS." By removing the ICMS from the tax base, the Court effectively eliminated a "tax on tax." The Court decision, in principle, affects all applicable judicial proceedings in progress. However, after publication of the decision in October 2017, the Brazilian tax authorities filed an appeal seeking clarification of certain matters, including the amount of ICMS to which taxpayers would be entitled in order to reduce their indirect tax base (i.e., the gross rate or net rate). The appeal also requested a modulation of the decision's effects, which may limit its impact on taxpayers.

Our Brazilian subsidiaries paid to the Brazilian tax authorities the gross amounts of certain indirect taxes (which included ICMS in their tax base) and filed lawsuits in 2014 and 2015 in order to challenge the legality of tax on tax amounts. Pursuant to these lawsuits, we have requested reimbursement of prior excess tax payments and entitlement to retain amounts not remitted. During the third quarter of 2018, the company learned of a further decision of the Court indicating that lawsuits filed prior to the trial resulting in its 2017 decision, such as those filed by the company, would likely be upheld. The company also noted that other Brazilian companies, including customers of its Brazilian subsidiaries, that timely filed equivalent lawsuits, have recorded income based on the applicable ICMS amounts retained. Accordingly, we now consider the portions of the ICMS-related cash collected but not yet remitted by our subsidiaries to be realizable, and in 2018 we recorded \$16 million of prior year collections in business consolidation and other activities within our consolidated statement of earnings. The company is in the process of seeking reimbursement for ICMS-related amounts previously paid to the Brazilian government, which may result in material reimbursements in respect of prior periods; however, such amounts cannot be estimated at this time. The company will record income for these reimbursements once the amounts are realized or realizable.

24. Indemnifications and Guarantees

General Guarantees

The company or its appropriate consolidated direct or indirect subsidiaries, including Rexam and its subsidiaries, have made certain indemnities, commitments and guarantees under which the specified entity may be required to make payments in relation to certain transactions. These indemnities, commitments and guarantees include indemnities to the customers of the subsidiaries in connection with the sales of their packaging and aerospace products and services; guarantees to suppliers of subsidiaries of the company guaranteeing the performance of the respective entity under a purchase agreement, construction contract or other commitment; guarantees in respect of certain foreign subsidiaries' pension plans; indemnities for liabilities associated with the infringement of third-party patents, trademarks or copyrights under various types of agreements; indemnities to various lessors in connection with facility, equipment, furniture and other personal property leases for certain claims arising from such leases; indemnities to governmental agencies in connection with the issuance of a permit or license to the company or a subsidiary; indemnities pursuant to agreements relating to certain joint ventures; indemnities in connection with the sale of businesses or substantially all of the assets and specified liabilities of businesses; and indemnities to directors, officers and employees of the company to the extent permitted under the laws of the State of Indiana and the United States of America. The duration of these indemnities, commitments and guarantees varies and, in certain cases, is indefinite.

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In addition, many of these indemnities, commitments and guarantees do not provide for any limitation on the maximum potential future payments the company could be obligated to make. As such, the company is unable to reasonably estimate its potential exposure under these items.

Other than the indemnifications provided in connection with the sale of the Divestment Business (refer to Note 4), the company has not recorded any material liabilities for these indemnities, commitments and guarantees in the accompanying consolidated balance sheets. The company does, however, accrue for payments under promissory notes and other evidences of incurred indebtedness and for losses for any known contingent liability, including those that may arise from indemnifications, commitments and guarantees, when future payment is both reasonably estimable and probable. Finally, the company carries specific and general liability insurance policies and has obtained indemnities, commitments and guarantees from third-party purchasers, sellers and other contracting parties, which the company believes would, in certain circumstances, provide recourse to any claims arising from these indemnifications, commitments and guarantees.

Debt Guarantees

The company's and its subsidiaries' obligations under the senior notes and senior credit facilities (or, in the case of U.S. domiciled foreign subsidiaries under the senior credit facilities, the obligations of foreign credit parties only) are guaranteed on a full, unconditional and joint and several basis by certain of the company's domestic subsidiaries and the domestic subsidiary borrowers, and obligations of other guarantors and the subsidiary borrowers under the senior credit facilities are guaranteed by the company, in each case with certain exceptions and subject to grace periods. These guarantees are required in support of the senior notes and senior credit facilities referred to above, are coterminous with the terms of the respective note indentures, senior notes and credit agreement, and could be enforced by the holders of the obligations thereunder during the continuation of an event of default under the note indentures, the senior notes or the credit agreement or any other loan document in respect thereof. The maximum potential amounts which could be required to be paid under such guarantees are essentially equal to the then-outstanding obligations under the respective senior notes or the credit agreement (or, in the case of U.S. domiciled foreign subsidiaries under the senior credit facilities, the obligations of foreign credit parties only), with certain exceptions. All obligations under the guarantees of the senior credit facilities are secured, with certain exceptions and subject to certain grace periods, by a valid first priority perfected lien or pledge on (i) 100 percent of the capital stock of each of the company's material wholly owned domestic subsidiaries directly owned by the company or any of its wholly owned domestic subsidiaries and (ii) 65 percent of the capital stock of each of the company's material wholly owned first-tier foreign subsidiaries directly owned by the company or any of its wholly owned domestic subsidiaries. In addition, the obligations of certain foreign borrowers and foreign pledgors under the loan documents will be secured, with certain exceptions and subject to certain grace periods, by a valid first priority perfected lien or pledge on 100 percent of the capital stock of certain of the company's material wholly owned foreign subsidiaries and material wholly owned U.S. domiciled foreign subsidiaries directly owned by the company or any of its wholly owned material subsidiaries. The company is not in default under the above senior notes or senior credit facilities. The required condensed consolidating financial information for the guarantor and non-guarantor subsidiaries is presented in Note 25. Separate financial statements for the guarantor and non-guarantor subsidiaries are not presented because management has determined that such financial statements are not required under the Securities and Exchange Commission (SEC) regulations.

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25. Subsidiary Guarantees of Debt

The following condensed consolidating financial information is presented in accordance with SEC Regulations S-X Rule 3-10, Financial Statements of Guarantors and Issuers of Guaranteed Securities Registered or Being Registered. For presentation purposes, the subsidiaries of the company providing the guarantees are referred to as the guarantor subsidiaries, and subsidiaries of the company other than the guarantor subsidiaries are referred to as the non-guarantor subsidiaries. The eliminating adjustments substantively consist of intercompany transactions and the elimination of equity investments and earnings of subsidiaries. Separate financial statements for the guarantor subsidiaries and the non-guarantor subsidiaries are not presented because management has determined that such financial statements are not required under SEC regulations.

The company's senior notes are guaranteed on a full and unconditional guarantee on a joint and several basis by certain domestic subsidiaries of the company. Each of the guarantor subsidiaries is 100 percent owned by the company. As described in the supplemental indentures governing the company's existing senior notes, the senior notes are to be guaranteed by any of the company's domestic subsidiaries that guarantee any other indebtedness of the company. The following is condensed consolidating financial information for the company, segregating the guarantor and non-guarantor subsidiaries, as of December 31, 2018 and 2017, and for the three years ended December 31, 2018, 2017 and 2016. The information for the years ended December 31, 2017 and 2016, has been retrospectively adjusted to reflect the addition of three new subsidiary guarantors of the company's debt obligations in March 2018, and for ownership transfers of group companies from a non-guarantor subsidiary to the parent. In addition, as a result of the July 31, 2018, sale of the U.S. steel food and steel aerosol business, certain guarantor subsidiaries ceased to be guarantors of Ball's debt obligations and are reflected in the following tables on a prospective basis. The condensed consolidating financial information presented below is not necessarily indicative of the financial position, results of operations, earnings or cash flows of the company or any of the company's subsidiaries on a stand-alone basis.

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(\$ in millions)	Condensed Consolidating Statement of Earnings For the Year Ended December 31, 2018				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Net sales	\$ —	\$ 6,558	\$ 5,874	\$ (797)	\$ 11,635
Cost and expenses					
Cost of sales (excluding depreciation and amortization)	—	(5,551)	(4,575)	797	(9,329)
Depreciation and amortization	(6)	(202)	(494)	—	(702)
Selling, general and administrative	(303)	15	(190)	—	(478)
Business consolidation and other activities	(108)	(29)	(54)	—	(191)
Equity in results of subsidiaries	758	82	—	(840)	—
Intercompany	287	(194)	(93)	—	—
	628	(5,879)	(5,406)	(43)	(10,700)
Earnings (loss) before interest and taxes	628	679	468	(840)	935
Interest expense	(311)	12	(2)	—	(301)
Debt refinancing and other costs	(1)	—	—	—	(1)
Total interest expense	(312)	12	(2)	—	(302)
Earnings (loss) before taxes	316	691	466	(840)	633
Tax (provision) benefit	138	(203)	(120)	—	(185)
Equity in results of affiliates, net of tax	—	(10)	15	—	5
Net earnings	454	478	361	(840)	453
Less net earnings attributable to noncontrolling interests	—	—	1	—	1
Net earnings attributable to Ball Corporation	\$ 454	\$ 478	\$ 362	\$ (840)	\$ 454
Comprehensive earnings (loss) attributable to Ball Corporation	\$ 275	\$ 467	\$ 182	\$ (649)	\$ 275

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(\$ in millions)	Condensed Consolidating Statement of Earnings				
	For the Year Ended December 31, 2017				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Net sales	\$ —	\$ 5,674	\$ 5,532	\$ (223)	\$ 10,983
Cost and expenses					
Cost of sales (excluding depreciation and amortization)	—	(4,722)	(4,218)	223	(8,717)
Depreciation and amortization	(8)	(209)	(512)	—	(729)
Selling, general and administrative	(168)	(151)	(195)	—	(514)
Business consolidation and other activities	(120)	(56)	(45)	—	(221)
Equity in results of subsidiaries	673	141	(40)	(774)	—
Intercompany	301	(150)	(151)	—	—
	678	(5,147)	(5,161)	(551)	(10,181)
Earnings (loss) before interest and taxes	678	527	371	(774)	802
Interest expense	(275)	6	(16)	—	(285)
Debt refinancing and other costs	—	—	(3)	—	(3)
Total interest expense	(275)	6	(19)	—	(288)
Earnings (loss) before taxes	403	533	352	(774)	514
Tax (provision) benefit	(29)	(79)	(57)	—	(165)
Equity in results of affiliates, net of tax	—	14	17	—	31
Net earnings	374	468	312	(774)	380
Less net earnings attributable to noncontrolling interests	—	—	(6)	—	(6)
Net earnings attributable to Ball Corporation	\$ 374	\$ 468	\$ 306	\$ (774)	\$ 374
Comprehensive earnings (loss) attributable to Ball Corporation	\$ 659	\$ 731	\$ 578	\$ (1,309)	\$ 659

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Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Earnings				
	For the Year Ended December 31, 2016				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Net sales	\$ —	\$ 5,011	\$ 4,257	\$ (207)	\$ 9,061
Cost and expenses					
Cost of sales (excluding depreciation and amortization)	—	(4,135)	(3,368)	207	(7,296)
Depreciation and amortization	(5)	(164)	(284)	—	(453)
Selling, general and administrative	(58)	(207)	(247)	—	(512)
Business consolidation and other activities	(577)	(49)	289	—	(337)
Equity in results of subsidiaries	692	455	(33)	(1,114)	—
Intercompany	345	(254)	(91)	—	—
	<u>397</u>	<u>(4,354)</u>	<u>(3,734)</u>	<u>(907)</u>	<u>(8,598)</u>
Earnings (loss) before interest and taxes	397	657	523	(1,114)	463
Interest expense	(207)	(1)	(21)	—	(229)
Debt refinancing and other costs	(97)	—	(12)	—	(109)
Total interest expense	<u>(304)</u>	<u>(1)</u>	<u>(33)</u>	<u>—</u>	<u>(338)</u>
Earnings (loss) before taxes	93	656	490	(1,114)	125
Tax (provision) benefit	170	(105)	61	—	126
Equity in results of affiliates, net of tax	—	8	7	—	15
Net earnings	<u>263</u>	<u>559</u>	<u>558</u>	<u>(1,114)</u>	<u>266</u>
Less net earnings attributable to noncontrolling interests	—	—	(3)	—	(3)
Net earnings attributable to Ball Corporation	<u>\$ 263</u>	<u>\$ 559</u>	<u>\$ 555</u>	<u>\$ (1,114)</u>	<u>\$ 263</u>
Comprehensive earnings (loss) attributable to Ball Corporation	<u>\$ (38)</u>	<u>\$ 296</u>	<u>\$ 287</u>	<u>\$ (583)</u>	<u>\$ (38)</u>

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Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Balance Sheet				
	December 31, 2018				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Assets					
Current assets					
Cash and cash equivalents	\$ 4	\$ —	\$ 717	\$ —	\$ 721
Receivables, net	21	613	1,168	—	1,802
Intercompany receivables	66	495	1,657	(2,218)	—
Inventories, net	—	527	744	—	1,271
Other current assets	32	35	79	—	146
Total current assets	123	1,670	4,365	(2,218)	3,940
Noncurrent assets					
Property, plant and equipment, net	24	1,378	3,140	—	4,542
Investment in subsidiaries	11,145	3,779	(99)	(14,825)	—
Goodwill	—	1,191	3,284	—	4,475
Intangible assets, net	18	409	1,761	—	2,188
Other assets	213	215	981	—	1,409
Total assets	\$ 11,523	\$ 8,642	\$ 13,432	\$ (17,043)	\$ 16,554
Liabilities and Shareholders' Equity					
Current liabilities					
Short-term debt and current portion of long-term debt	\$ 173	\$ —	\$ 46	\$ —	\$ 219
Accounts payable	50	1,178	1,867	—	3,095
Intercompany payables	2,310	49	466	(2,825)	—
Accrued employee costs	39	144	106	—	289
Other current liabilities	153	119	220	—	492
Total current liabilities	2,725	1,490	2,705	(2,825)	4,095
Noncurrent liabilities					
Long-term debt	6,504	—	6	—	6,510
Employee benefit obligations	871	286	298	—	1,455
Intercompany long-term notes	(1,977)	3	1,368	606	—
Deferred taxes	(172)	169	648	—	645
Other liabilities	114	45	128	—	287
Total liabilities	8,065	1,993	5,153	(2,219)	12,992
Common stock					
Common stock	1,157	2,523	5,314	(7,837)	1,157
Preferred stock	—	—	5	(5)	—
Retained earnings	5,341	4,712	3,316	(8,028)	5,341
Accumulated other comprehensive earnings (loss)	(835)	(586)	(460)	1,046	(835)
Treasury stock, at cost	(2,205)	—	—	—	(2,205)
Total Ball Corporation shareholders' equity	3,458	6,649	8,175	(14,824)	3,458
Noncontrolling interests					
Total shareholders' equity	3,458	6,649	8,279	(14,824)	3,562
Total liabilities and shareholders' equity	\$ 11,523	\$ 8,642	\$ 13,432	\$ (17,043)	\$ 16,554

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Balance Sheet				
	December 31, 2017				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Assets					
Current assets					
Cash and cash equivalents	\$ 5	\$ —	\$ 443	\$ —	\$ 448
Receivables, net	3	260	1,371	—	1,634
Intercompany receivables	39	1,285	102	(1,426)	—
Inventories, net	—	673	853	—	1,526
Other current assets	9	52	89	—	150
Total current assets	56	2,270	2,858	(1,426)	3,758
Noncurrent assets					
Property, plant and equipment, net	20	1,364	3,226	—	4,610
Investment in subsidiaries	8,639	3,885	389	(12,913)	—
Goodwill	—	1,545	3,388	—	4,933
Intangible assets, net	15	470	1,977	—	2,462
Other assets	185	282	939	—	1,406
Total assets	\$ 8,915	\$ 9,816	\$ 12,777	\$ (14,339)	\$ 17,169
Liabilities and Shareholders' Equity					
Current liabilities					
Short-term debt and current portion of long-term debt	\$ 351	\$ —	\$ 102	\$ —	\$ 453
Accounts payable	14	1,084	1,664	—	2,762
Intercompany payables	705	82	639	(1,426)	—
Accrued employee costs	28	182	142	—	352
Other current liabilities	170	111	259	—	540
Total current liabilities	1,268	1,459	2,806	(1,426)	4,107
Noncurrent liabilities					
Long-term debt	6,504	—	14	—	6,518
Employee benefit obligations	333	811	319	—	1,463
Intercompany long-term notes	(3,172)	1,305	1,867	—	—
Deferred taxes	(109)	107	697	—	695
Other liabilities	150	50	140	—	340
Total liabilities	4,974	3,732	5,843	(1,426)	13,123
Common stock					
Common stock	1,084	2,463	4,286	(6,749)	1,084
Preferred stock	—	—	5	(5)	—
Retained earnings	4,987	4,196	2,818	(7,014)	4,987
Accumulated other comprehensive earnings (loss)	(656)	(575)	(280)	855	(656)
Treasury stock, at cost	(1,474)	—	—	—	(1,474)
Total Ball Corporation shareholders' equity	3,941	6,084	6,829	(12,913)	3,941
Noncontrolling interests	—	—	105	—	105
Total shareholders' equity	3,941	6,084	6,934	(12,913)	4,046
Total liabilities and shareholders' equity	\$ 8,915	\$ 9,816	\$ 12,777	\$ (14,339)	\$ 17,169

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Cash Flows			
	For the Year Ended December 31, 2018			
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidated Total
Cash provided by (used in) operating activities	\$ 6	\$ 237	\$ 1,323	\$ 1,566
Cash flows from investing activities				
Capital expenditures	(10)	(431)	(375)	(816)
Business acquisition, net of cash acquired	—	—	—	—
Proceeds from dispositions, net of cash sold	(65)	604	—	539
Other, net	(4)	47	28	71
Cash provided by (used in) investing activities	(79)	220	(347)	(206)
Cash flows from financing activities				
Long-term borrowings	1,475	—	—	1,475
Repayments of long-term borrowings	(1,525)	—	(8)	(1,533)
Net change in short-term borrowings	(73)	—	(47)	(120)
Proceeds from issuances of common stock, net of shares used for taxes	28	—	—	28
Acquisitions of treasury stock	(739)	—	—	(739)
Common stock dividends	(137)	—	—	(137)
Intercompany	1,054	(456)	(598)	—
Other, net	(11)	(1)	(2)	(14)
Cash provided by (used in) financing activities	72	(457)	(655)	(1,040)
Effect of exchange rate changes on cash	—	—	(51)	(51)
Change in cash, cash equivalents and restricted cash	(1)	—	270	269
Cash, cash equivalents and restricted cash – beginning of period	5	—	454	459
Cash, cash equivalents and restricted cash – end of period	\$ 4	\$ —	\$ 724	\$ 728

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Cash Flows			
	For the Year Ended December 31, 2017			
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidated Total
Cash provided by (used in) operating activities	\$ 234	\$ 742	\$ 502	\$ 1,478
Cash flows from investing activities				
Capital expenditures	(6)	(301)	(249)	(556)
Proceeds from dispositions, net of cash sold	17	31	(50)	(2)
Other, net	(2)	31	(16)	13
Cash provided by (used in) investing activities	9	(239)	(315)	(545)
Cash flows from financing activities				
Long-term borrowings	765	—	—	765
Repayments of long-term borrowings	(741)	—	(1,069)	(1,810)
Net change in short-term borrowings	174	1	9	184
Proceeds from issuances of common stock, net of shares used for taxes	27	—	—	27
Acquisitions of treasury stock	(103)	—	—	(103)
Common stock dividends	(129)	—	—	(129)
Intercompany	(226)	(491)	717	—
Other, net	—	(3)	(4)	(7)
Cash provided by (used in) financing activities	(233)	(493)	(347)	(1,073)
Effect of exchange rate changes on cash	(6)	1	(3)	(8)
Change in cash, cash equivalents and restricted cash	4	11	(163)	(148)
Cash, cash equivalents and restricted cash – beginning of period	1	(11)	617	607
Cash, cash equivalents and restricted cash – end of period	\$ 5	\$ —	\$ 454	\$ 459

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Cash Flows			
	For the Year Ended December 31, 2016			
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidated Total
Cash provided by (used in) operating activities	\$ (1,047)	\$ 630	\$ 610	\$ 193
Cash flows from investing activities				
Capital expenditures	(15)	(225)	(366)	(606)
Business acquisition, net of cash acquired	2,303	(1,741)	(3,930)	(3,368)
Business dispositions, net of cash sold	1,010	24	1,904	2,938
Settlement of Rexam acquisition related derivatives	(252)	—	—	(252)
Other, net	2	49	(46)	5
Cash provided by (used in) investing activities	3,048	(1,893)	(2,438)	(1,283)
Cash flows from financing activities				
Long-term borrowings	2,610	—	1,760	4,370
Repayments of long-term borrowings	(1,038)	—	(3,586)	(4,624)
Net change in short-term borrowings	71	(31)	(17)	23
Proceeds from issuances of common stock, net of shares used for taxes	48	—	—	48
Acquisitions of treasury stock	(107)	—	—	(107)
Common stock dividends	(83)	—	—	(83)
Intercompany	(5,467)	1,284	4,183	—
Other, net	(2)	(3)	(9)	(14)
Cash provided by (used in) financing activities	(3,968)	1,250	2,331	(387)
Effect of exchange rate changes on cash	(190)	2	(111)	(299)
Change in cash, cash equivalents and restricted cash	(2,157)	(11)	392	(1,776)
Cash, cash equivalents and restricted cash – beginning of period	2,158	—	225	2,383
Cash, cash equivalents and restricted cash – end of period	\$ 1	\$ (11)	\$ 617	\$ 607

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

There were no matters required to be reported under this item.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Ball Corporation has established disclosure controls and procedures to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms, and that such information is accumulated and communicated to management of the company, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. As of December 31, 2018, Ball Corporation, under the supervision of the Chief Executive Officer and Chief Financial Officer of the company, has conducted an evaluation of the effectiveness of the design and operation of the company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended) and the Chief Executive Officer and Chief Financial Officer have concluded that the company's disclosure controls and procedures were effective.

Management's Report on Internal Control Over Financial Reporting

Ball Corporation is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework described in "*Internal Control — Integrated Framework*" (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2018.

The effectiveness of our internal control over financial reporting as of December 31, 2018, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report, which is included herein.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2018, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

There were no matters required to be reported under this item.

Part III

Item 10. Directors, Executive Officers and Corporate Governance of the Registrant

The executive officers of the company as of February 22, 2019, were as follows:

Charles E. Baker, 61, Vice President, General Counsel and Corporate Secretary since July 2011; Vice President, General Counsel and Assistant Corporate Secretary from 2004 to 2011; Associate General Counsel, 1999 to 2004; various other positions within the company, 1993 to 1999.

Nate C. Carey, 40, Vice President and Controller since November 2017; Assistant Controller from 2014 to November 2017; Senior Manager, PricewaterhouseCoopers LLP, 2001 to 2014.

Daniel W. Fisher, 46, Senior Vice President, Ball Corporation, and Chief Operating Officer, Global Beverage Packaging, since December 2016; President, Beverage Packaging North and Central America from 2014 to 2016; Senior Vice President, Finance and Planning, Beverage Packaging North and Central America, 2013 to 2014; various other positions within the company, 2010 to 2014.

John A. Hayes, 53, Chairman, President and Chief Executive Officer since 2013; President and Chief Executive Officer, 2011 to 2013; President and Chief Operating Officer during 2010; Executive Vice President and Chief Operating Officer from 2008 to 2009; various other positions within the company, 1999 to 2008.

Jeffrey A. Knobel, 47, Vice President and Treasurer since 2011; Treasurer from 2010 to 2011; Senior Director, Treasury, 2008 to 2010; Director, Treasury Operations, 2005 to 2008; various other positions within the company, 1997 to 2005.

Scott C. Morrison, 56, Senior Vice President and Chief Financial Officer since 2010; Vice President and Treasurer from 2002 to 2009; and Treasurer, 2000 to 2002.

Lisa A. Pauley, 57, Senior Vice President, Human Resources and Administration, since 2011; Vice President, Administration and Compliance, 2007 to 2011; Senior Director, Administration and Compliance, 2004 to 2007; various other positions within the company, 1981 to 2004.

Robert D. Strain, 62, Senior Vice President, Ball Corporation, and President, Ball Aerospace & Technologies Corp. since 2013; Chief Operating Officer, Ball Aerospace & Technologies Corp. from 2012 to 2013; and Director at NASA Goddard Space Flight Center from 2008 to 2012.

Other information required by Item 10 appearing under the caption “Director Nominees and Continuing Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance,” of the company’s proxy statement to be filed pursuant to Regulation 14A within 120 days after December 31, 2018, is incorporated herein by reference.

Item 11. Executive Compensation

The information required by Item 11 appearing under the caption “Executive Compensation” in the company’s proxy statement, to be filed pursuant to Regulation 14A within 120 days after December 31, 2018, is incorporated herein by reference. Additionally, the Ball Corporation 2000 Deferred Compensation Company Stock Plan, the Ball Corporation 2005 Deferred Compensation Company Stock Plan, the Ball Corporation Deposit Share Program and the Ball Corporation Directors Deposit Share Program were created to encourage key executives and other participants to acquire a larger equity ownership interest in the company and to increase their interest in the company’s stock performance. Nonemployee directors may also be a participant in each of these plans.

Item 12. Security Ownership of Certain Beneficial Owners and Management

The information required by Item 12 appearing under the caption “Voting Securities and Principal Shareholders,” in the company’s proxy statement to be filed pursuant to Regulation 14A within 120 days after December 31, 2018, is incorporated herein by reference.

Securities authorized for issuance under equity compensation plans are summarized below:

Plan Category	Equity Compensation Plan Information		
	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (A)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (B)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (A)) (C)
Equity compensation plans approved by security holders	22,371,159	\$ 27.45	22,371,159
Equity compensation plans not approved by security holders	—	—	—
Total	22,371,159	\$ 27.45	22,371,159

Item 13. Certain Relationships and Related Transactions

The information required by Item 13 appearing under the caption “Ratification of the Appointment of Independent Registered Public Accounting Firm,” in the company’s proxy statement to be filed pursuant to Regulation 14A within 120 days after December 31, 2018, is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services

The information required by Item 14 appearing under the caption “Certain Committees of the Board,” in the company’s proxy statement to be filed pursuant to Regulation 14A within 120 days after December 31, 2018, is incorporated herein by reference.

Part IV.

Item 15. Exhibits, Financial Statement Schedules

(a) (1) **Financial Statements:**

The following documents are included in Part II, Item 8:

- Report of independent registered public accounting firm
- Consolidated statements of earnings — Years ended December 31, 2018, 2017 and 2016
- Consolidated statements of comprehensive earnings (loss) — Years ended December 31, 2018, 2017 and 2016
- Consolidated balance sheets — December 31, 2018 and 2017
- Consolidated statements of cash flows — Years ended December 31, 2018, 2017 and 2016
- Consolidated statements of shareholders' equity — Years ended December 31, 2018, 2017 and 2016
- Notes to consolidated financial statements

(2) **Financial Statement Schedules:**

Financial statement schedules have been omitted, as they are either not applicable, are considered insignificant or the required information is included in the consolidated financial statements or notes thereto.

(3) **Exhibits:**

Exhibit Number	Description of Exhibit
3.i	Amended Articles of Incorporation revised May 4, 2017 (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 2017) filed March 1, 2018.
3.ii	Bylaws of Ball Corporation as amended September 5, 2018. (Filed herewith.)
4.1(a)	Indenture, dated as of March 27, 2006, by and between Ball Corporation and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.), as Trustee (filed by incorporation by reference to the Current Report on Form 8-K dated March 27, 2006) filed March 30, 2006.
4.1(b)	Seventh Supplemental Indenture, dated as of March 9, 2012, among Ball Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.) (filed by incorporation by reference to the Current Report on Form 8-K dated March 8, 2012) filed March 9, 2012.
4.1(c)	Eighth Supplemental Indenture dated as of May 16, 2013, among Ball Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.) (filed by incorporation by reference to Exhibit 4.2 of the Current Report on Form 8-K dated May 16, 2013) filed May 17, 2013.

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
4.1(d)	Tenth Supplemental Indenture, dated as of March 27, 2015, among Ball Corporation, the guarantors named therein and The Bank of New York Mellon Trust Company, N.A. (formerly known as The Bank of New York Trust Company, N.A.) (filed by incorporation by reference to Exhibit 4.2 of the Current Report on Form 8-K dated June 22, 2015) filed June 25, 2015.
4.1(e)	Indenture, dated as of November 27, 2015, by and between Ball Corporation and Deutsche Bank Trust Company Americas (filed by incorporation by reference to Exhibit 4.7 of the Registration Statement on Form S-3 dated November 27, 2015) filed November 27, 2015.
4.1(f)	First Supplemental Indenture, dated as of December 14, 2015, among Ball Corporation, the guarantors named therein and Deutsche Bank Trust Company Americas (filed by incorporation by reference to Exhibit 4.2 of the Current Report on Form 8-K dated December 14, 2015) filed December 16, 2015.
4.1(g)	Second Supplemental Indenture, dated as of December 14, 2015, among Ball Corporation, the guarantors named therein and Deutsche Bank Trust Company Americas (filed by incorporation by reference to Exhibit 4.4 of the Current Report on Form 8-K dated December 14, 2015) filed December 16, 2015.
4.1(h)	Third Supplemental Indenture, dated as of December 14, 2015, among Ball Corporation, the guarantors named therein and Deutsche Bank Trust Company Americas (filed by incorporation by reference to Exhibit 4.6 of the Current Report on Form 8-K dated December 14, 2015) filed December 16, 2015.
10.2	Ball Corporation 1986 Deferred Compensation Plan, as amended July 1, 1994 (filed by incorporation by reference to the Quarterly Report on Form 10-Q for the quarter ended July 3, 1994) filed August 17, 1994.*
10.3	Ball Corporation 1988 Deferred Compensation Plan, as amended July 1, 1994 (filed by incorporation by reference to the Quarterly Report on Form 10-Q for the quarter ended July 3, 1994) filed August 17, 1994.*
10.4	Ball Corporation 1989 Deferred Compensation Plan, as amended July 1, 1994 (filed by incorporation by reference to the Quarterly Report on Form 10-Q for the quarter ended July 3, 1994) filed August 17, 1994.*
10.5	Amended and Restated Form of Severance Benefit Agreement that exists between the company and its executive officers, effective as of August 1, 1994, and as amended on January 24, 1996 (filed by incorporation by reference to the Quarterly Report on Form 10-Q for the quarter ended March 22, 1996) filed May 15, 1996, and as amended on December 17, 2008.*
10.6	Ball Corporation 1986 Deferred Compensation Plan for Directors, as amended October 27, 1987 (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 1990) filed April 1, 1991.*
10.7	Ball Corporation Economic Value Added Incentive Compensation Plan dated January 1, 1994 (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 1994) filed March 29, 1995, and as amended on August 11, 2011 (filed by incorporation by reference to Exhibit 10.7 of the Annual Report on Form 10-K for the year ended December 31, 2013) filed February 24, 2014, and as amended on April 26, 2016. (Filed herewith.)*
10.8	Ball Corporation 1997 Stock Incentive Plan (filed by incorporation by reference to the Form S-8 Registration Statement, No. 333-26361) filed May 1, 1997.*

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
10.9	Ball Corporation 2005 Deferred Compensation Plan, effective January 1, 2005 (filed by incorporation by reference to Exhibit 10.1 of the Current Report on Form 8-K dated December 23, 2005) filed December 23, 2005, and as amended and restated on January 1, 2013 (filed by incorporation by reference to Exhibit 10.10 of the Annual Report on Form 10-K for the year ended December 31, 2013), filed February 24, 2014.*
10.10	Ball Corporation 2005 Deferred Compensation Company Stock Plan, effective January 1, 2005 (filed by incorporation by reference to Exhibit 10.2 of the Current Report on Form 8-K dated December 23, 2005) filed December 23, 2005, and as amended and restated on January 1, 2013 (filed by incorporation by reference to Exhibit 10.11 of the Annual Report on Form 10-K for the year ended December 31, 2013), filed February 24, 2014.*
10.11	Ball Corporation 2005 Deferred Compensation Plan for Directors, effective January 1, 2005 (filed by incorporation by reference to Exhibit 10.3 of the Current Report on Form 8-K dated December 23, 2005) filed December 23, 2005, and as amended and restated on January 1, 2013 (filed by incorporation by reference to Exhibit 10.12 of the Annual Report on Form 10-K for the year ended December 31, 2013), filed February 24, 2014.*
10.12	Ball Corporation Long-Term Cash Incentive Plan dated October 25, 1994, amended and restated effective January 1, 2003 (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 2003) filed March 12, 2004, amended and restated as of April 26, 2016. (Filed herewith.)*
10.13	Ball Corporation 2005 Stock and Cash Incentive Plan filed by incorporation by reference to the Proxy Statement filed March 18, 2005.*
10.14	Ball Corporation 2010 Stock and Cash Incentive Plan filed by incorporation by reference to the Proxy Statement filed March 12, 2010.*
10.15	Ball Corporation Deposit Share Program for United States Participants as amended (filed by incorporation by reference to the Quarterly report on Form 10-Q for the quarter ended July 4, 2014) filed on August 11, 2004 and amended and restated as of July 27, 2016. (Filed herewith.)*
10.16	Ball Corporation Deposit Share Program for International Participants effective as of March 7, 2001 (filed by incorporation by reference to the 10-K for the year ended December 31, 2000), filed March 30, 2001, and amended and restated as of July 27, 2016. (Filed herewith.)*
10.17	Ball Corporation Directors Deposit Share Program, as amended and restated on July 27, 2016. This plan is referred to in Item 11, the Executive Compensation section of the Form 10-K (filed by incorporation by reference to the Quarterly Report on Form 10-Q for the quarter ended July 4, 2004) filed August 11, 2004, as amended and restated on July 27, 2016. (Filed herewith.)*
10.18	Ball Corporation 2013 Stock and Cash Incentive Plan filed by incorporation by reference to the Proxy Statement filed March 8, 2013, amended and restated on April 26, 2017 and filed as the Ball Corporation Amended and Restated 2013 Stock and Cash Incentive Plan (filed by incorporation by reference to the Proxy Statement filed March 15, 2017.)*
10.19	Ball Corporation 2017 Deferred Compensation Company Stock Plan for Directors, effective April 1, 2017 (filed by incorporation by reference to Exhibit 10.1 of the Quarterly Report on Form 10-Q for the quarter ended March 31, 2017) filed May 8, 2017.*

<u>Exhibit Number</u>	<u>Description of Exhibit</u>
10.20	Credit Agreement, dated as of March 18, 2016, among Ball Corporation, certain subsidiaries of Ball Corporation party thereto as borrowers, Deutsche Bank AG New York Branch as administrative agent and collateral agent, and certain financial institutions party thereto as lenders and initial facing agents (filed by incorporation by reference to Exhibit 10.1 of the Current Report on Form 8-K dated March 18, 2016) filed March 18, 2016.
11	Statement re: Computation of Earnings per Share (filed by incorporation by reference to the notes to the consolidated financial statements in Item 8, “Financial Statements and Supplementary Data”.)
14	Ball Corporation Executive Officers and Board of Directors Business Ethics Statement, revised July 29, 2015 (filed by incorporation by reference to Exhibit 14 of the Annual Report on Form 10-K for the year ended December 31, 2015) filed February 16, 2016.
18.1	Letter re: Change in Accounting Principles regarding change in pension plan valuation measurement date (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 2002) filed March 27, 2003.
18.2	Letter re: Change in Accounting Principles regarding the change in accounting for certain inventories (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 2006) filed February 22, 2007.
18.3	Letter re: Change in Accounting Principles regarding the change in testing date for potential impairment of goodwill (filed by incorporation by reference to the Annual Report on Form 10-K for the year ended December 31, 2009) filed February 25, 2010.
21	List of Subsidiaries of Ball Corporation. (Filed herewith.)
23	Consent of Independent Registered Public Accounting Firm. (Filed herewith.)
24	Limited Power of Attorney. (Filed herewith.)
31.1	Certifications pursuant to Rule 13a-14(a) or Rule 15d-14(a), by John A. Hayes, Chairman, President and Chief Executive Officer of Ball Corporation. (Filed herewith.)
31.2	Certifications pursuant to Rule 13a-14(a) or Rule 15d-14(a), by Scott C. Morrison, Senior Vice President and Chief Financial Officer of Ball Corporation. (Filed herewith.)
32.1	Certifications pursuant to Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code, by John A. Hayes, Chairman, President and Chief Executive Officer of Ball Corporation. (Furnished herewith.)
32.2	Certifications pursuant to Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code, by Scott C. Morrison, Senior Vice President and Chief Financial Officer of Ball Corporation. (Furnished herewith.)
99	Cautionary statement for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, as amended. (Filed herewith.)

Exhibit Number	Description of Exhibit
101	The following financial information from Ball Corporation's Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statements of Earnings, (ii) the Consolidated Statements of Comprehensive Earnings, (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, (v) the Consolidated Statements of Shareholders' Equity and Comprehensive Earnings and (vi) Notes to the Consolidated Financial Statements. (Filed herewith.)

* Represents a management contract or compensatory plan or agreement.

Item 16. Form 10-K Summary

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.

BALL CORPORATION
(Registrant)

By: /s/ John A. Hayes
John A. Hayes
Chairman, President and Chief Executive Officer
February 22, 2019

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

(1) Principal Executive Officer:

/s/ John A. Hayes Chairman, President and Chief Executive Officer
John A. Hayes February 22, 2019

(2) Principal Financial Officer:

/s/ Scott C. Morrison Senior Vice President and Chief Financial Officer
Scott C. Morrison February 22, 2019

(3) Principal Accounting Officer:

/s/ Nate C. Carey Vice President and Controller
Nate C. Carey February 22, 2019

(4) A Majority of the Board of Directors:

/s/ Robert W. Alspaugh * Director
Robert W. Alspaugh February 22, 2019

/s/ John Bryant * Director
John Bryant February 22, 2019

/s/ Michael J. Cave * Director
Michael J. Cave February 22, 2019

/s/ John A. Hayes * Chairman of the Board and Director
John A. Hayes February 22, 2019

/s/ Daniel J. Heinrich * Director
Daniel J. Heinrich February 22, 2019

/s/ Pedro H. Mariani * Director
Pedro H. Mariani February 22, 2019

/s/ Georgia R. Nelson * Director
Georgia R. Nelson February 22, 2019

/s/ Cynthia A. Niekamp * Director
Cynthia A. Niekamp February 22, 2019

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<u>/s/ Cathy D. Ross</u> *	Director
Cathy D. Ross	February 22, 2019
<u>/s/ Theodore M. Solso</u> *	Director
Theodore M. Solso	February 22, 2019
<u>/s/ Stuart A. Taylor II</u> *	Director
Stuart A. Taylor II	February 22, 2019

* By John A. Hayes as Attorney-in-Fact pursuant to a Limited Power of Attorney executed by the directors listed above, which Power of Attorney has been filed with the Securities and Exchange Commission.

BALL CORPORATION
(Registrant)

By: /s/ John A. Hayes
John A. Hayes
As Attorney-in-Fact
February 22, 2019

**Bylaws
of
Ball Corporation
(As of September 5, 2018)**

**Article One
Capital Stock**

Section A. Classes of Stock. The capital stock of the corporation shall consist of shares of such kinds and classes, with such designations and such relative rights, preferences, qualifications, limitations and restrictions, including voting rights, and for such consideration as shall be stated in or determined in accordance with the Amended Articles of Incorporation and any amendment or amendments thereof, or the Indiana Business Corporation Law. Consistent with the Indiana Business Corporation Law, capital stock of the corporation owned by the corporation may be referred to and accounted for as treasury stock.

Section B. Certificates for Shares. All share certificates shall be consecutively numbered as issued and shall be signed by the chairman and the corporate secretary.

Section C. Transfer of Shares. The shares of the capital stock of the corporation shall be transferred only on the books of the corporation by the holder thereof, or by his attorney, upon the surrender and cancellation of the stock certificate, whereupon a new certificate shall be issued to the transferee. The transfer and assignment of such shares of stock shall be subject to the laws of the State of Indiana. The board of directors shall have the right to appoint and employ one or more stock registrars and/or transfer agents in the State of Indiana or in any other state.

Section D. Control Share Acquisition Statute Inapplicable. Chapter 42 of the Indiana Business Corporation Law (IC 23-1-42) shall not apply to control share acquisitions of shares of the corporation.

**Article Two
Shareholders**

Section A. Annual Meetings. The regular annual meeting of the shareholders of the corporation shall be held on the fourth (4th) Wednesday after the first (1st) Wednesday in April of each year, or on such other date within a reasonable interval after the close of the corporation's last fiscal year as may be designated from time to time by the board of directors, for the election of directors of the corporation, and for the transaction of such other business as is authorized or required to be transacted by the shareholders.

Section B. Special Meetings. Special meetings of the shareholders may be called by the chairman of the board or by the board of directors or as otherwise may be required by law.

Section C. Time and Place of Meetings. All meetings of the shareholders shall be held at the principal office of the corporation or at such other place within or without the State of Indiana and at such time as may be designated from time to time by the board of directors.

Section D. Notice of Shareholder Nominations of Directors. Only persons who are nominated in accordance with the following procedures shall be eligible for election as directors of the corporation, except as may be otherwise provided in the Amended Articles of Incorporation of the corporation with respect to the right of holders of preferred stock of the corporation to nominate and elect a specified number of directors in certain circumstances. Nominations of persons for election to the board of directors may be made at any annual meeting of shareholders (a) by or at the direction of the board of directors (or any duly authorized committee thereof) or (b) by any shareholder of the corporation (i) who is a shareholder of record on the date of the giving of the notice provided for in this Section D and on the record date for the determination of shareholders entitled to vote at such annual meeting and (ii) who complies with the notice procedures set forth in this Section D.

In addition to any other applicable requirements, for a nomination to be made by a shareholder, such shareholder must have given timely notice thereof in proper written form to the Secretary of the corporation.

To be timely, a shareholder's notice to the Secretary must be delivered to or mailed and received at the principal executive offices of the corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of shareholders; provided, however, that in the event that the annual meeting is called for a date that is not within thirty (30) days before or after such anniversary date, notice by the shareholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which such notice of the date of the annual meeting was mailed or such public disclosure of the date of the annual meeting was made, whichever first occurs. In no event shall the public

disclosure of an adjournment of an annual meeting commence a new time period for the giving of a shareholder's notice as described above.

To be in proper written form, a shareholder's notice to the Secretary must set forth as to each person whom the shareholder proposes to nominate for election as a director and as to the shareholder giving the notice and any Shareholder Associated Person (as defined below) (i) the name, age, business address, residence address and record address of such person, (ii) the principal occupation or employment of such person, (iii) the class or series and number of shares of capital stock of the corporation which are owned beneficially or of record by such person, (iv) any information relating to such person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors pursuant to Section 14 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules and regulations promulgated thereunder, (v) the nominee holder for, and number of, shares owned beneficially but not of record by such person, (vi) whether and the extent to which any hedging or other transaction or series of transactions has been entered into by or on behalf of, or any other agreement, arrangement or understanding (including any derivative or short positions, profit interests, options or borrowed or loaned shares) has been made, the effect or intent of which is to mitigate loss to or manage risk or benefit of share price changes for, or to increase or decrease the voting power of, such person with respect to any share of stock of the corporation, (vii) to the extent known by the shareholder giving the notice, the name and address of any other shareholder supporting the nominee for election or reelection as a director on the date of such shareholder's notice, (viii) a description of all arrangements or understandings between or among such persons pursuant to which the nomination(s) are to be made by the shareholder and any relationship between or among the shareholder giving notice and any Shareholder Associated Person, on the one hand, and each proposed nominee, on the other hand, and (ix) a representation that the shareholder intends to appear in person or by proxy at the meeting to nominate the persons named in its notice. Any information required by this paragraph shall be supplemented by the shareholder giving the notice not later than ten (10) days after the record date for the meeting as of the record date. Such notice must be accompanied by a written consent of each proposed nominee to being named as a nominee and to serve as a director if elected. The corporation may require any proposed nominee to furnish such other information as may reasonably be required by the corporation to determine the eligibility of such proposed nominee to serve as an independent director of the corporation or that could be material to a reasonable shareholder's understanding of the independence, or lack thereof, of such nominee.

No person shall be eligible for election as a director of the corporation unless nominated in accordance with the procedures set forth in this Section D (including the provision of the information required pursuant to the immediately preceding paragraph). If the Chairman of the meeting determines that a nomination was not made in accordance with the foregoing procedures, the Chairman shall declare to the meeting that the nomination was defective and such defective nomination shall be disregarded.

Notwithstanding anything in the third paragraph of this Section D to the contrary, in the event that the number of directors to be elected to the board of directors of the corporation is increased and there is no public disclosure by the corporation naming all of the nominees for director or specifying the size of the increased board of directors at least one hundred (100) days prior to the first anniversary of the preceding year's annual meeting, a shareholder's notice required by this Bylaw shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary at the principal executive offices of the corporation not later than the close of business on the tenth (10th) day following the day on which such public disclosure is first made by the corporation.

Section E. Notice of Shareholder Proposals of Business. No business may be transacted at an annual meeting of shareholders, other than business that is either (a) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors (or any duly authorized committee thereof), (b) otherwise properly brought before the annual meeting by or at the direction of the board of directors (or any duly authorized committee thereof) or (c) otherwise properly brought before the annual meeting by any shareholder of the corporation (i) who is a shareholder of record on the date of the giving of the notice provided for in this Section E and on the record date for the determination of shareholders entitled to vote at such annual meeting and (ii) who complies with the notice procedures set forth in this Section E.

In addition to any other applicable requirements, for business to be properly brought before an annual meeting by a shareholder, such shareholder must have given timely notice thereof in proper written form to the Secretary of the corporation.

To be timely, a shareholder's notice to the Secretary must be delivered to or mailed and received at the principal executive offices of the corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the anniversary date of the immediately preceding annual meeting of shareholders; provided, however, that in the event that the annual meeting is called for a date that is not within thirty (30) days before or after such anniversary date, notice by the shareholder in order to be timely must be so received not later than the close of business on the tenth (10th) day following the day on which such notice of the date of the annual meeting was mailed or such public disclosure of the date of the annual meeting was made, whichever first occurs. In no event shall the public disclosure of an adjournment of an annual meeting commence a new time period for the giving of a shareholder's notice as described above.

To be in proper written form, a shareholder's notice to the Secretary must set forth as to each matter such shareholder proposes to bring before the annual meeting a brief description of the business desired to be brought before the annual meeting and the reasons for conducting such business at the annual meeting and as to the shareholder giving the notice and any Shareholder Associated Person, (i) the name and record address of such person, (ii) the class or series and number of shares of capital stock of the corporation which are owned beneficially or of record by such person, (iii) the nominee holder for, and number of, shares owned beneficially but not of record by such person, (iv) whether and the extent to which any hedging or other transaction or series of transactions has been entered into by or on behalf of, or any other agreement, arrangement or understanding (including any derivative or short positions, profit interests, options or borrowed or loaned shares) has been made, the effect or intent of which is to mitigate loss to or manage risk or benefit of share price changes for, or to increase or decrease the voting power of, such person with respect to any share of stock of the corporation, (v) to the extent known by the shareholder giving the notice, the name and address of any other shareholder supporting the proposal of business on the date of such shareholder's notice, (vi) a description of all arrangements or understandings between or among such persons in connection with the proposal of such business by such shareholder and any material interest in such business and (vii) a representation that the shareholder giving the notice intends to appear in person or by proxy at the annual meeting to bring such business before the meeting. Any information required pursuant to this paragraph shall be supplemented by the shareholder giving the notice not later than ten (10) days after the record date for the meeting as of the record date.

No business shall be conducted at the annual meeting of shareholders except business brought before the annual meeting in accordance with the procedures set forth in this Section E (including the provision of the information required pursuant to the immediately preceding paragraph); provided, however, that, once business has been properly brought before the annual meeting in accordance with such procedures, nothing in this Section E shall be deemed to preclude discussion by any shareholder of any such business. If the Chairman of an annual meeting determines that business was not properly brought before the annual meeting in accordance with the foregoing procedures, the Chairman shall declare to the meeting that the business was not properly brought before the meeting and such business shall not be transacted.

Section F. Definitions.

For purposes of Article Two of these Bylaws:

"Public disclosure" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or comparable national news service or in a document publicly filed by the corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act.

"Shareholder Associated Person" of any shareholder shall mean (i) any person acting in concert, directly or indirectly, with such shareholder and (ii) any person controlling, controlled by or under common control with such shareholder or any Shareholder Associated Person.

Article Three Directors

Section A. Number and Terms of Office. The business of the corporation shall be controlled and managed in accordance with the Indiana Business Corporation Law by a board of eleven directors, divided into classes as provided in the Amended Articles of Incorporation.

Section B. Eligibility. No person shall be eligible for election or reelection as a director after having attained the age of seventy-two prior to or on the day of election or reelection. A director who attains the age of seventy-two during his or her term of office shall be eligible to serve only until the annual meeting of shareholders of the corporation next following such director's seventy-second birthday, or until his or her successor is elected and qualified.

Section C. Director Resignation Policy.

In an uncontested election of directors of the corporation, any nominee who receives a greater number of votes "withheld" from his or her election than votes "for" his or her election will, within ten (10) days following the certification of the shareholder vote, tender his or her written resignation to the chairman of the board for consideration by the Nominating/Corporate Governance Committee (the "Committee"). As used in this Section C, an "uncontested election of directors of the corporation" is an election in which the only nominees are persons nominated by the board of directors of the corporation.

The Committee will consider such tendered resignation and, within sixty (60) days following the certification of the shareholder vote, will make a recommendation to the board of directors concerning the acceptance or rejection of such resignation. In determining its recommendation to the board, the Committee will consider all factors deemed relevant by the members of the Committee.

The Committee also will consider a range of possible alternatives concerning the director's tendered resignation as the members of the Committee deem appropriate, including, without limitation, acceptance of the resignation, rejection of the resignation or rejection of the resignation coupled with a commitment to seek to address and cure the underlying reasons reasonably believed by the Committee to have substantially resulted in the "withheld" votes.

The board of directors of the corporation will take formal action on the Committee's recommendation no later than ninety-five (95) days following the certification of the shareholder vote. In considering the Committee's recommendation, the board will consider the information, factors and alternatives considered by the Committee and such additional information, factors and alternatives as the board deems relevant.

Following the board's decision on the Committee's recommendation, the corporation, within four (4) business days after such decision is made, will publicly disclose, in a Current Report on Form 8-K filed with the Securities and Exchange Commission, the board's decision, together with an explanation of the process by which the decision was made and, if applicable, the board's reason or reasons for its decision.

No director who, in accordance with this Section C, is required to tender his or her resignation, shall participate in the Committee's deliberations or recommendation, or in the board's deliberations or determination, with respect to accepting or rejecting his or her resignation as a director. If a majority of the members of the Committee received a greater number of votes "withheld" from their election than votes "for" their election, then the independent directors then serving on the board of directors who received a greater number of votes "for" their election than votes "withheld" from their election, and the directors, if any, who were not standing for election, will appoint an ad hoc board committee from among themselves (the "Ad Hoc Committee"), consisting of such number of directors as they may determine to be appropriate, solely for the purpose of considering and making a recommendation to the board with respect to the tendered resignations. The Ad Hoc Committee shall serve in place of the Committee and perform the Committee's duties for purposes of this Section C. Notwithstanding the foregoing, if an Ad Hoc Committee would have been created but fewer than three directors would be eligible to serve on it, the entire board of directors (other than the director whose resignation is being considered) will make the determination to accept or reject the tendered resignation without any recommendation from the Committee and without the creation of an Ad Hoc Committee.

This director resignation policy set forth in this Section C, as it may from time to time be amended, will be summarized or included in the corporation's proxy statement for each meeting of shareholders (annual or special) at which directors are to be elected.

Section D. Regular Meetings. The regular annual meeting of the board of directors shall be held immediately after the adjournment of each annual meeting of the shareholders. Regular quarterly meetings of the board of directors shall be held on the fourth (4th) Wednesday after the first (1st) Wednesday of January, July, and October of each year, or on such other date as may be designated from time to time by the board of directors.

Section E. Special Meetings. Special meetings of the board of directors may be called at any time by the chairman of the board or by the board, by giving to each director an oral or written notice setting the time, place and purpose of holding such meetings.

Section F. Time and Place of Meetings. All meetings of the board of directors shall be held at the principal office of the corporation, or at such other place within or without the State of Indiana and at such time as may be designated from time to time by the board of directors.

Section G. Notices. Any notice, of meetings or otherwise, which is given or is required to be given to any director may be in the form of oral notice.

Section H. Committees. The board of directors is expressly authorized to create committees and appoint members of the board of directors to serve on them, as follows:

(1) Temporary and standing committees, including an executive committee, and the respective chairmen thereof, may be appointed by the board of directors, from time to time. The board of directors may invest such committees with such powers and limit the authority of such committees as it may see fit, subject to conditions as it may prescribe. The executive committee shall consist of three or more members of the board. All other committees shall consist of one or more members of the board. All committees so appointed shall keep regular minutes of the transactions of their meetings, shall cause them to be recorded in books kept for that purpose in the office of the corporation, and shall report the same to the board of directors at its next meeting. Within its area of responsibility, each committee shall have and exercise all of the authority of the board of directors, except as limited by the board of directors or by law, and shall have the power to authorize the execution of an affixation of the seal of the corporation to all papers or documents which may require it.

(2) Neither the designation of any of the foregoing committees or the delegation thereto of authority shall operate to relieve the board of directors, or any member thereof, of any responsibility imposed by law.

Section I. Loans to Directors. Except as consistent with the Indiana Business Corporation Law, the corporation shall not lend money to or guarantee the obligation of any director of the corporation.

Article Four Officers

Section A. Election and Term of Office. The officers of the corporation shall be elected by the board of directors at the regular annual meeting of the board, unless the board shall otherwise determine, and shall consist of a chairman of the board of directors, if so designated as an officer by the board, a chief executive officer, a president, one or more vice presidents (any one or more of whom may be designated "corporate," "group," or other functionally described vice president), a corporate secretary, a treasurer, a controller, and may include a vice-chairman of the board of directors. The board of directors may, from time to time, designate a chief operating officer and a chief financial officer from among the officers of the corporation. At any one time a person may hold more than one office of the corporation. Only the chairman and any vice-chairman of the board must be a director of the corporation. Each officer shall continue in office until his successor shall have been duly elected and qualified or until removed with or without cause by the board of directors. Vacancies in any of such offices may be filled for the unexpired portion of the term by the board of directors.

Section B. Chairman of the Board. The chairman of the board shall preside at all meetings of the board of directors and of the shareholders. He shall confer from time to time with members of the board and the officers of the corporation and shall perform such other duties as may be assigned to him by the board. Except where by law the signature of another officer is required, the chairman of the board shall possess the power to sign all certificates, deeds, mortgages, bonds, contracts and other instruments of the corporation which may be authorized by the board of directors. During the absence or inability to act of the chief executive officer, the chairman of the board shall act as the chief executive officer of the corporation and shall exercise all the powers and discharge all the duties of the chief executive officer.

Section C. Vice-Chairman of the Board. The vice-chairman of the board, if elected, shall, in the absence of the chairman of the board, preside at all meetings of the board of directors and of the shareholders. He shall have and exercise the powers and duties of the chairman of the board in the event of the chairman's absence or inability to act or during a vacancy in the office of chairman of the board. He shall possess the same power as the chairman to sign all certificates, contracts, and other instruments of the corporation which may be authorized by the board of directors. He shall also have such other duties and responsibilities as shall be assigned to him by the board of directors or the chairman.

Section D. The Chief Executive Officer. The chief executive officer shall have general charge, supervision and management of the business, affairs and operations of the corporation in all respects, subject to such directions as the board of directors may from time to time provide. The chief executive officer shall be the senior executive officer of the corporation, shall perform such other duties as are customarily incident to such office and shall have full power and authority to see that all directions and resolutions of the board of directors are carried out and, without limitation, the power and authority to determine and direct:

- (a) The management, supervision and coordination of all business divisions and functional areas;
- (b) The implementation of strategic objectives, the setting of operating priorities and the allocation of human and material resources;
- (c) The management, supervision and coordination of all other executive officers and all business division heads; and
- (d) The briefing of the directors at meetings of the board of directors concerning the corporation's business, affairs and operations.

The chief executive officer shall have the power to sign and execute all certificates, deeds, mortgages, bonds, contracts, and other instruments of the corporation as authorized by the board of directors, except in cases where the signing and execution thereof shall be expressly designated by the board of directors or by these bylaws to some other officer or agent of the corporation.

Section E. The President. The president shall perform such duties as the board of directors or the chief executive officer shall from time to time specify and other duties incident to the office of president and as are required of him by these bylaws. The president shall have the power to sign and execute all certificates, deeds, mortgages, bonds, contracts and other instruments of the corporation as authorized by the board of directors, except in cases where the signing and execution thereof shall be expressly designated by the board of directors or by these bylaws to some other officer or agent of the corporation.

Section F. The Vice Presidents. The vice presidents shall possess the same power as the president to sign all certificates, contracts, and other instruments of the corporation which may be authorized by the board of directors, except where by law the signature

of the president is required. All vice presidents shall perform such duties as may from time to time be assigned to them by the board of directors, the chairman of the board, and the president. In the event of the absence or disability of the president, and at the request of the chairman of the board, or in his absence or disability, at the request of the vice-chairman of the board, or in his absence or disability at the request of the board of directors, the vice presidents in the order designated by the chairman of the board, or in his absence or disability by the vice-chairman of the board, or in his absence or disability by the board of directors, shall perform all of the duties of the president, and when so acting they shall have all of the powers of and be subject to the restrictions upon the president and shall act as a member of, or as a chairman of, any standing or special committee of which the president is a member or chairman by designation or ex officio.

Section G. The Corporate Secretary. The corporate secretary of the corporation shall:

- (1) Keep the minutes of the meetings of the shareholders and the board of directors in books provided for that purpose.
- (2) See that all notices are duly given in accordance with the provisions of these bylaws and as required by law.
- (3) Be custodian of the records and of the seal of the corporation and see that the seal is affixed to all documents, the execution of which on behalf of the corporation under its seal is duly authorized in accordance with the provisions of these bylaws.
- (4) Keep a register of the post office address of each shareholder, which shall be furnished to the corporate secretary at his request by such shareholder, and make all proper changes in such register, retaining and filing his authority for all such entries.
- (5) See that the books, reports, statements, certificates and all other documents and records required by law are properly kept, filed, and authenticated.
- (6) In general, perform all duties incident to the office of corporate secretary and such other duties as may from time to time be assigned to him by the board of directors.

Section H. The Treasurer. The treasurer of the corporation shall:

- (1) Give bond for the faithful discharge of his duties if required by the board of directors.
- (2) Have the charge and custody of, and be responsible for, all funds and securities of the corporation, and deposit all such funds in the name of the corporation in such banks, trust companies, or other depositories as shall be selected in accordance with the provisions of these bylaws.
- (3) At all reasonable times, exhibit his books of account and records, and cause to be exhibited the books of account and records of any corporation a majority of whose stock is owned by the corporation, to any of the directors of the corporation upon application during business hours at the office of this corporation or such other corporation where such books and records are kept.
- (4) Render a statement of the conditions of the finances of the corporation at all regular meetings of the board of directors, and a full financial report at the annual meeting of the shareholders, if called upon so to do.
- (5) Receive and give receipts for monies due and payable to the corporation from any source whatsoever.
- (6) In general, perform all of the duties incident to the office of treasurer and such other duties as may from time to time be assigned to him by the board of directors.
- (7) All acts affecting the treasurer's duties and responsibilities shall be subject to the review and approval of the corporation's chief financial officer.

Section I. The Controller. The controller of the corporation shall:

- (1) Direct the financial closings and the preparation of monthly, quarterly and annual consolidated historical financial statements and reports to executive and operating management.
- (2) Direct the preparation of financial reports required by federal, state and local regulatory agencies and the preparation of quarterly and annual financial statements and reports to shareholders, the Securities and Exchange Commission and other interested parties.
- (3) Provide primary contact for the corporation's independent accountants and all of its consolidated domestic and foreign subsidiaries and represent management to the corporation's domestic and international independent accountants.

- (4) Perform and/or direct technical accounting and financial reporting research and monitor developments in accounting and regulatory standards (e.g., FASB, SEC, EITF, IRS).
- (5) Direct the corporation's domestic and foreign tax planning, preparation and compliance.
- (6) In general, perform all of the duties incident to the office of controller and such other duties as may from time to time be assigned by the board of directors.
- (7) In case of absence or disability of the controller, the assistant controllers, in the order designated by the chief financial officer, shall perform the duties of controller.
- (8) All acts affecting the controller's duties and responsibilities shall be subject to the review and approval of the corporation's chief financial officer.

**Article Five
Indemnification**

Section A. Indemnification of Directors and Officers - General. Certain of the terms used herein are more specifically defined in Section F of this Article Five.

- (1) The corporation shall indemnify an individual made a party to a proceeding because he is or was a director or officer of the corporation against liability incurred in connection with a proceeding to the fullest extent permitted by the Indiana Business Corporation Law (the "IBCL"), as the same now exist or may hereafter be amended (but only to the extent any such amendment permits the corporation to provide broader indemnification rights than the IBCL permitted the corporation to provide prior to such amendment).
- (2) The termination of a proceeding by judgment, order, settlement, or conviction, or upon a plea of nolo contendere or its equivalent is not, of itself, determinative that the director or officer did not meet the standard of conduct set forth in the IBCL.
- (3) To the extent that a director or officer has been wholly successful, on the merits or otherwise, in the defense of any proceeding to which he was a party, or in defense of any claim, issue, or matter therein, because he is or was a director or officer of the corporation, the corporation shall indemnify the director or officer against reasonable expenses incurred by him in connection therewith regardless of whether the director or officer has met the standards set forth in the IBCL and without any action or determination under Section D of this Article Five.

Section B. Advancement of Expenses.

(1) The corporation shall pay for or reimburse the reasonable expenses incurred by a director or officer who is a party to a proceeding in advance of final disposition of the proceeding if:

(a) The director or officer furnishes the corporation a written affirmation of his good faith belief that he has met the standard of conduct set forth in the IBCL;

(b) The director or officer furnishes the corporation a written undertaking, executed personally or on his behalf, to repay any advances if it is ultimately determined that he is not entitled to indemnification under this Article Five; and

(c) A determination is made that the facts then known to those making the determination would not preclude indemnification under the IBCL.

(2) The undertaking required by paragraph (b) of subsection (1) of this Section B must be an unlimited general obligation of the director or officer but need not be secured and may be accepted without reference to financial ability to make repayment.

Section C. Limitations on Indemnification.

(1) The corporation shall not indemnify a director or officer under Section A of this Article Five unless a determination has been made in the specific case that indemnification of the director is permissible in the circumstances because he has met the standard of conduct set forth in the IBCL. Such determination shall be made within sixty (60) days of the request for indemnification:

(a) By the board of directors by majority vote of a quorum consisting of directors not at the time parties to the proceeding;

(b) If a quorum cannot be obtained under paragraph (a) of this subsection, by majority vote of a committee duly designated by the board of directors (in which designation directors who are parties may participate), consisting solely of two or more directors not at the time parties to the proceeding;

(c) By special legal counsel:

(i) Selected by the board of directors or its committee in the manner prescribed in paragraph (a) or (b) of this subsection; or

(ii) If a quorum of the board of directors cannot be obtained under paragraph (a) of this subsection and a committee cannot be designated under paragraph (b) of this subsection, selected by majority vote of the full board of directors (in which selection directors who are parties may participate); or

(d) By the shareholders, but the shares owned by or voted under the control of the officers and directors who are at the time parties to the proceeding may not be voted on the determination; provided, however, that following a change of control of the corporation, with respect to all matters thereafter arising out of acts, omissions or events prior to the change of control of the corporation concerning the rights of any person seeking indemnification under this Article Five, such determination shall be made by special legal counsel selected by such person and approved by the board of directors or its committee in the manner described in Section C(1)(c) above (which approval shall not be unreasonably withheld), which counsel has not otherwise performed services (other than in connection with similar matters) within the five (5) years preceding its engagement to render such opinion for such person or for the corporation or any affiliates (as such term is defined in Rule 405 under the Securities Act of 1933, as amended) of the corporation (whether or not they were affiliates when services were so performed) ("Independent Counsel"). Unless such person has theretofore selected Independent Counsel pursuant to this Section C and such Independent Counsel has been approved by the corporation, legal counsel approved by a resolution or resolutions of the board of directors of the corporation prior to a change of control of the corporation shall be deemed to have been approved by the corporation as required. Such Independent Counsel shall determine as promptly as practicable whether and to what extent such person would be permitted to be indemnified under applicable law and shall render its written opinion to the corporation and such person to such effect. In making a determination under this Section C, the special legal counsel and Independent Counsel referred to above shall determine that indemnification is permissible unless clearly precluded by this Article Five or the applicable provisions of the IBCL. The corporation agrees to pay the reasonable fees of the Independent Counsel referred to above and to fully indemnify such Independent Counsel against any and all expenses, claims, liabilities and damages arising out of or relating to this Article Five or its engagement pursuant hereto.

(2) Authorization of indemnification or an obligation to indemnify and evaluation as to reasonableness of expenses shall be made as set forth in paragraph (a) above, except that if the determination is made by special legal counsel (pursuant to Section C(1)(c) above), authorization of indemnification and evaluation as to reasonableness of expenses shall be made by those entitled under Section C(1)(c) above to select counsel.

(3) Indemnification under this Article Five in connection with a proceeding by or in the right of the corporation shall be limited to reasonable expenses incurred in connection with the proceeding.

Section D. Enforceability. The provisions of this Article Five shall be applicable to all proceedings commenced after its adoption, whether such arise out of events, acts, omissions or circumstances which occurred or existed prior or subsequent to such adoption, and shall continue as to a person who has ceased to be a director or officer and shall inure to the benefit of the heirs, executors and administrators of such person. This Article Five shall be deemed to grant each person who is entitled to indemnification hereunder rights against the corporation to enforce the provisions of this Article Five, and any repeal or other modification of this Article Five or any repeal or modification of the IBCL or any other applicable law shall not limit any rights of indemnification then existing or arising out of events, acts, omissions, circumstances occurring or existing prior to such repeal or modification, including, without limitation, the right to indemnification for proceedings commenced after such repeal or modification to enforce this Article Five with regard to acts, omissions, events or circumstances occurring or existing prior to such repeal or modification.

Section E. Severability. If this Article Five or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the corporation shall nevertheless indemnify each director or officer of the corporation as to liabilities incurred in connection with any proceeding, including an action by or in the right of the corporation, to the full extent permitted by any applicable portion of this Article Five that shall not have been invalidated and to the full extent permitted by the Articles and by applicable law.

Section F. Definitions.

As used in this Article, the term:

(1) "Change of control," for purposes of this Article Five, means (a) an acquisition by any person of 30 percent (30%) or more of the corporation's voting shares; (b) a merger in which the shareholders of the corporation before the merger own 50 percent (50%) or less of the corporation's (or the ultimate parent corporation's) voting shares after the merger; (c) shareholder approval of a plan of liquidation or to sell or dispose of substantially all of the assets of the corporation; and (d) if, during any two-(2) year period, directors at the beginning of the period (and any new directors nominated by a majority of the directors at the beginning of such period) fail to constitute a majority of the board of directors. Notwithstanding the foregoing, a change of control shall not be deemed to occur solely because 30 percent (30%) or more of the then outstanding voting securities is acquired by (i) a trustee or other fiduciary holding securities under one or more employee benefit plans maintained by the corporation or any of its subsidiaries or (ii) any corporation which, immediately prior to such acquisition, is owned directly or indirectly by the shareholders of this corporation in the same proportion as their ownership of shares in this corporation immediately prior to such acquisition.

(2) "Corporation" includes Ball Corporation and any domestic or foreign predecessor entity of the corporation or a corporation in a merger or other transaction in which the predecessor's existence ceased upon consummation of the transaction.

(3) "Director" means an individual who is or was a director of the corporation or an individual who, while a director of the corporation, is or was serving at the corporation's request as a director, officer, partner, member, manager, trustee, employee, or agent of another foreign or domestic corporation, partnership, limited liability company, joint venture, trust, employee benefit plan, or other enterprise, whether for profit or not. A director is considered to be serving an employee benefit plan at the corporation's request if his duties to the corporation also impose duties on, or otherwise involve services by, him to the plan or to participants in or beneficiaries of the plan. Director includes, unless the context requires otherwise, the estate or personal representative of a director.

(4) "Expenses" include attorneys' fees.

(5) "Liability" means the obligation to pay a judgment, settlement, penalty, fine (including an excise tax assessed with respect to an employee benefit plan), or reasonable expenses incurred with respect to a proceeding.

(6) "Party" includes an individual who was, is, or is threatened to be made a named defendant or respondent in a proceeding.

(7) "Proceeding" means any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative and whether formal or informal, except for a proceeding (or part thereof) initiated by a person against the corporation or any director, officer, employee or agent thereof (other than to enforce his rights under this Article Five) and not consented to by the corporation.

**Article Six
Corporate Seal**

The corporate seal of the corporation shall be a round, metal disc with the words “Ball Corporation” around the outer margin thereof, and the words “Corporate Seal,” in the center thereof, so mounted that it may be used to impress words in raised letters upon paper.

**Article Seven
Amendment**

These bylaws may be altered, added to, amended, or repealed by the board of directors of the corporation at any regular or special meeting thereof.

**Article Eight
Adjudication of Certain Disputes**

Section A. Forum for Adjudication of Certain Disputes. Consistent with the Indiana Business Corporation Law (the “IBCL”), unless the corporation consents in writing to the selection of an alternative forum (an “Alternative Forum Consent”), the circuit or superior courts of the State of Indiana shall be the sole and exclusive forum for (a) any derivative action brought on behalf of, or in the name of the corporation; (b) any action asserting a claim for breach of a fiduciary duty owed by any director, officer, employee, or agent of the corporation to the corporation or any of the corporation’s constituents identified in Chapter 35 of the IBCL (IC 23-1-35-l(d)); (c) any action asserting a claim arising under any provision of the IBCL, the corporation’s Amended Articles of Incorporation and any amendment or amendments thereof, or these bylaws; or (d) any actions otherwise relating to the internal affairs of the corporation; *provided, however,* that, in the event that the circuit or superior courts of the State of Indiana lack subject matter jurisdiction over any such action or proceeding, the sole and exclusive forum for such action or proceeding shall be a federal court located within the State of Indiana, in each such case, unless a circuit or superior court of the State of Indiana (or federal court located within the State of Indiana, as applicable) has dismissed a prior action by the same plaintiff asserting the same claims because such court lacked personal jurisdiction over an indispensable party named as a defendant therein. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the corporation shall be deemed to have notice of and consented to the provisions of this Article 8. The existence of any prior Alternative Forum Consent shall not act as a waiver of the corporation’s ongoing consent right as set forth above in this Section A of Article 8 with respect to any current or future actions or claims.

Section B. Consent to Jurisdiction and Service. If any action the subject matter of which is within the scope of Section A of this Article 8 is filed in a court other than a court located within the State of Indiana (a “Foreign Action”) in the name of any shareholder, such shareholder shall be deemed to have consented to (a) the personal jurisdiction of the state and federal courts located within the State of Indiana in connection with any action brought in such court to enforce Section A of this Article 8 (an “FSC Enforcement Action”) and (b) having service of process made upon such shareholder in any such FSC Enforcement Action by service upon such shareholder’s counsel in the Foreign Action as agent for such shareholder.

Ball Corporation

Long-Term Cash Incentive Plan



Amended and Restated on April 26, 2016.

Effective for new Awards beginning on or after April 26, 2016 and for new Performance Cycles beginning on or after January 1, 2017.

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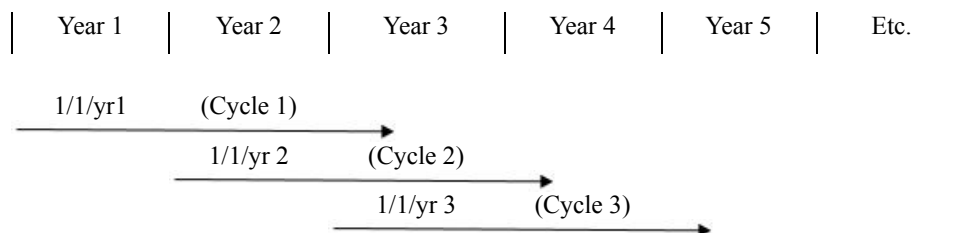
Long-Term Cash Incentive Plan (LTCIP)

1. Purpose

The purpose of the Plan is to advance the interests of the Company by providing a long-term financial incentive to selected key executives who contribute and are expected to continue to contribute materially to the success of the Company through their leadership skills, vision and dedication.

2. Definitions

- 2.1 “Award” means the incentive earned by a Participant under the terms of the Plan during a Performance Cycle.
- 2.2 “Committee” means the Human Resources Committee of the Board of Directors of Ball Corporation.
- 2.3 “Company” means Ball Corporation and its subsidiaries.
- 2.5 “Effective Date” for this amended and restated Plan is April 26, 2016.
- 2.5 “GICS” means the S&P Global Industry Classification Standards.
- 2.6 “Invested Capital” means the Monthly Average Invested Capital, defined as total operating assets excluding financial assets less total operating liabilities excluding financial liabilities, calculated as the total for each of the year’s twelve months, divided by 12.
- 2.7 “NOPAT” means the net operating income before financing costs, reduced by income taxes charged at the year’s effective tax rate.
- 2.8 “Participation” means an executive who has been selected for participation in the Plan by management. Participation is discretionary and is not a contractual right. Participation is determined on a year-by-year basis and participation in one Performance Cycle does not imply continued participation in subsequent Performance Cycles. Participants will be notified regarding their Participation Level in each Performance Cycle.
- 2.9 “Performance Cycle” means a period of three consecutive calendar years that comprises a single performance measurement period. Performance Cycles overlap as illustrated:



- 2.10 “Plan” means this Amended and Restated Long-Term Cash Incentive Plan as set forth in this document and as amended from time to time.
- 2.11 “ROAIC” means Return on Average Invested Capital.

- 2.12 “Retirement” means termination of employment by a participant for whatever reason other than death or disability after attainment of age and service years which, when combined, equals or exceeds seventy (70), subject to a minimum age of fifty-five (55). This definition of Retirement is subject to any existing or additional statutory requirements or prescribed definition of retirement as set forth by local laws in jurisdictions where the Plan is to be implemented and which would take precedence.
- 2.13 “Target Long-Term Cash Compensation” means the cash amount available to a participant for a specific Performance Cycle as established by the Committee. This cash amount is used in the Award calculations during such Performance Cycle.
- 2.14 “Total Shareholder Return” means the change in share price plus dividends during a Performance Cycle.

3. Calculation of Performance Measures and Awards

Performance is measured and awards are calculated based on two independent components. Each component will account for one-half of the Participation level.

3.1 ROAIC Component

Awards for this component are based upon ROAIC. ROAIC is calculated by dividing the average of Net Operating Profits After Tax or “NOPAT” over a Performance Cycle by the average of the “Invested Capital” over a Performance Cycle. The performance requirements are as follows:

- Minimum - 7% ROAIC
- Target - 9% ROAIC
- Maximum - 11% ROAIC

Awards for performance between the minimum, target and maximum requirements will be prorated.

A Participant’s Award for this component for a Performance Cycle is calculated by multiplying the Participant’s Target Long-Term Cash Compensation for that Performance Cycle by 50%, which is then adjusted for actual performance using the requirements above.

3.2 Comparative Total Shareholder Return Component

Awards for this component are based upon Total Shareholder Return for a Performance Cycle measured by comparing the average daily closing stock price and dividends of the Company in the third year of the Performance Cycle with the average daily closing stock price and dividends in the year prior to the start of the Performance Cycle compared to the distribution of the Total Shareholder Returns during the Performance Cycle for each of the companies comprising the GICS. The performance requirements are as follows:

- Minimum - the 37.5th percentile of the GICS
- Target - the 50th percentile of the GICS
- Maximum - the 75th percentile of the GICS

Awards for performance between the minimum, target and maximum requirements will be prorated.

A Participant's Award for this component for a Performance Cycle is calculated by multiplying the Participant's Target Long-Term Cash Compensation for that Performance Cycle by 50%, which is then adjusted for actual performance using the requirements above.

4. Form and Timing of Payment

The Awards will be made in cash as soon as practicable after the close of a Performance Cycle, but no later than March 15 of the year following the close of such Performance Cycle.

5. Miscellaneous

- 5.1 Administration of the Plan - The Committee shall be the sole administrator of the Plan. The Committee shall have full power to formulate additional details and regulations for carrying out this Plan. The Committee shall also be empowered to make any and all of the determinations not herein specifically authorized which may be necessary or desirable for the effective administration of the Plan. Any decision or interpretation of any provision of this Plan adopted by the Committee shall be final and conclusive.
- 5.2 Amendment and Termination of the Plan - The Company retains the right to terminate or amend the Plan, but only with respect to Performance Cycles not yet begun.
- 5.3 Applicable Law - This plan shall be governed and construed in accordance with the laws of the State of Indiana, or, if not possible, in accordance with applicable local laws.
- 5.4 Beneficiary Designation for Termination by Death - A Participant may designate a beneficiary or beneficiaries who, upon the Participant's death, are to receive the amounts that otherwise would have been paid to the Participant. All designations shall be in writing and signed by the Participant. The designation shall be effective only if and when delivered to the Company during the lifetime of the Participant. The Participant may change beneficiary or beneficiaries with a signed, written instrument delivered to the Company. Payouts shall be in accordance with the last unrevoked written designation of beneficiary that has been signed and delivered to the Company's Executive Compensation Department, or its designated Plan administrator. In locations where there is a mandatory line of succession, payment will be made in accordance with local law.
- 5.5 Captions - The captions to the articles, sections, and paragraphs of this Plan are for convenience only and shall not control or affect the meaning or construction of any of its provisions.
- 5.6 Gender, Singular and Plural - All pronouns and any variation thereof shall be deemed to refer to the masculine and feminine gender as the identity of the person or persons may require. As the context may require, the singular may be read as the plural and the plural as the singular.

- 5.7 Merger, Consolidation or Acquisition - In the event of a merger, consolidation or acquisition such that the Company is not the surviving corporation, Awards will become immediately payable based on the performance achieved as of the end of the most recently completed calendar year for each Performance Cycle to which the grant of Award opportunities has occurred at least six months previously.
- 5.8 Non-Alienation of Benefits - Neither the Participant nor any designated beneficiary under the Plan shall have the power to transfer, assign, anticipate, hypothecate, or otherwise encumber in advance any of the benefits payable hereunder, nor shall said benefits be subject to seizure for the payment of any debts or judgments or be transferable by operation of law in the event of bankruptcy, insolvency or otherwise.
- 5.9 No Right to Continued Employment or Participation - Nothing contained in this Plan, nor any action taken hereunder, shall be construed as a contract of employment or as giving any eligible employee, Participant or former Participant any right to be retained in the employ of the Employer. Participation is discretionary and is not a contractual right. Participation is determined on a year-by-year basis and participation in one Performance Cycle does not imply continued participation in subsequent Performance Cycles.
- 5.10 Termination of Employment Due to Death, Disability or Retirement - If death, disability or Retirement occurs prior to the end of one or more Performance Cycles in which an executive was a Participant, the Participant's Award for each such Performance Cycle will be calculated as provided in Section 3, then prorated by multiplying by a fraction the numerator of which shall be the number of days of employment actually served during the Performance Cycle, and the denominator of which shall be the total number of days in the Performance Cycle, and paid in accordance with Section 4. Any Participant whose employment terminates for cause, or any reason other than as set forth in this section, shall not be eligible to receive any Awards.
- 5.11 Termination of Employment for Reasons Other Than Death, Disability or Retirement - A Participant shall not be entitled to any Award or payout with respect to any incomplete Performance Cycle, unless such termination is by reason of death, disability or Retirement.
- 5.12 Validity - In the event any provision of this Plan is held invalid, void, or unenforceable, the same shall not affect, in any respect whatsoever, the validity of any other provision of this Plan.

Ball Corporation

Deposit Share Program

for United States Participants



Confidential

Effective Date March 7, 2001
Amended and Restated July 27, 2016

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Deposit Share Program (“Program”)

1. Purpose

To encourage key executives to acquire a larger equity ownership interest in the Corporation to further align the personal interests of the Participants with the interests of the shareholders of the Corporation, in order to promote share price growth and enhancement of shareholder value.

2. Definitions

- 2.1 Award Date means the actual date the Participant is given the opportunity to purchase Newly Acquired Shares pursuant to the Program.
- 2.2 Award Letter means the document notifying the Participant of his/her participation in the Program along with specific terms related to such participation.
- 2.3 Acquisition Period means the time period during which the Participant may acquire shares pursuant to this Program.
- 2.4 Change in Control means “Change in Control” as defined in the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor.
- 2.5 Cliff Lapse means restrictions lapse at one time on the date established on the date of grant of Restricted Stock Units under the Program.
- 2.6 Committee means the Human Resources Committee of the Board of Directors of Ball Corporation.
- 2.7 Disability means a bodily injury or disease that totally and continuously prevents the Participant, for a period as defined in the Corporation’s applicable policies, from engaging in the Participant’s regular occupation.
- 2.8 Effective Date means July 27, 2016, which is the effective date of the Amended and Restated Deposit Share Program.
- 2.9 Grant Date means the actual date the Restricted Stock Units are granted pursuant to this Program.
- 2.10 Holding Period means the time period during which a Participant is required to retain Newly Acquired Shares in order to have the restrictions lapse on Restricted Stock Units.

- 2.11 Newly Acquired Shares means Ball Corporation Common Stock acquired during the Acquisition Period, including shares acquired via market purchase, stock option / stock appreciation right exercise or units acquired through the deferral of economic value added incentive compensation to the Ball Corporation 2005 Deferred Compensation Company Stock Plan. It does not include Ball Corporation Common Stock obtained via a restricted stock unit grant or vesting that is unrelated to this Program, employer matching contributions to the Ball Corporation 2005 Deferred Compensation Company Stock Plan, or its successor, or by a Participant through the Corporation's other benefit plans, which include but are not limited to the Ball Corporation 401(k) and Employee Stock Ownership Plan and the Employee Stock Purchase Plan.
- 2.12 Participant means an employee who has been selected for participation in the Program by management and approved by the Committee.
- 2.13 Program means the Amended and Restated Deposit Share Program as set forth in this document and as amended from time to time.
- 2.14 Restricted Stock Units ("RSUs") means units of stock that are awarded to a Participant under this Program pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor.
- 2.15 Retirement means termination of employment by a Participant for whatever reason other than death or disability after attainment of age and service years which, when combined, equals or exceeds seventy (70), subject to a minimum age of fifty-five (55). This definition of Retirement is subject to any existing or additional statutory requirements or prescribed definition of retirement as set forth by local laws in jurisdictions where the Program is to be implemented and which would take precedence.
3. RSU Grant
- 3.1 Form of Grant—The grant under this Program shall be a RSU grant pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor. If, at any time or from time to time, during the Acquisition Period, or within 45 days thereafter, the Participant provides documentation to the Executive Compensation Programs Department of the Corporation, reasonably satisfactory to the Corporation, of Participant's acquisition of Newly Acquired Shares during the Acquisition Period, together with a written promise by the Participant to retain the shares for the Holding Period, then the Corporation will grant the Participant a designated number of RSUs for each Newly Acquired Share so acquired as specified in the Participant's Award Letter, up to the maximum number of RSUs also specified in the Participant's Award Letter.
- 3.2 Minimum Number of Newly Acquired Shares—The minimum number of Newly Acquired Shares pursuant to market purchase or stock option/stock appreciation

right exercise that will be matched by RSUs at one time is the lesser of 500 shares or the amount required to complete the award. The Participant may accumulate purchases, and when the total number of accumulated shares is equal to or exceeds 500 shares or the amount required to complete the award, the Participant may then request that matching RSUs be granted. There is no minimum number of Newly Acquired Shares pursuant to deferral of economic value added incentive compensation that will be matched at one time.

- 3.3 Granting of RSUs—Unless otherwise specified in the Award Letter, the RSUs will be granted on the 15th of each month provided the documentation required in this Section 3 is received on or before the 5th of that month, otherwise it will be granted the following month. If the 15th occurs on a holiday or weekend, the RSUs will be issued on the workday immediately prior to that holiday or weekend.

4. Holding Period for the Newly Acquired Shares

The Participant must agree that the Newly Acquired Shares for which the RSUs were granted will not be sold, transferred, or diversified, prior to the lapse of restrictions on the RSUs. Corporate officers are discouraged from pledging such shares, and should check with the General Counsel before doing so. For Participants that are not officers of the Corporation, a pledge of Newly Acquired Shares as collateral for any loan during the Holding Period is not considered to be a sale or transfer of the shares for purposes of this Program; however, in the event of default on the loan during the Holding Period, the Newly Acquired Shares will be considered to be sold and the RSUs will be forfeited.

5. Lapse of Restrictions

5.1 Cliff Lapse—Except as provided herein, restrictions on all RSUs will cliff lapse on the date that is specified in the Award Letter and the Participant will be issued Ball Corporation Common Stock.

5.2 Accelerated Lapse Rate—The restrictions may lapse at an accelerated rate as specified in the Award Letter and the Participant will be issued Ball Corporation Common Stock.

6. Additional Cash Payment

The Participant also will receive a dividend equivalent, if any, payable with respect to the RSUs from the date of grant until restrictions lapse.

7. Retirement, Disability or Death

7.1 Retirement—Participants who retire before restrictions lapse on RSUs granted under this Program will receive a prorated portion of their outstanding RSUs and

the restrictions on the prorated RSUs will lapse. Fractional RSUs will be rounded up at proration.

Proration Calculation

$$\begin{array}{rcl} \text{Number of RSUs} & & \text{Number of days from grant to retirement} \\ \text{outstanding on date of} & \times & \text{Number of days from grant to scheduled} \\ \text{retirement} & & \text{cliff lapse} \end{array} = \begin{array}{l} \text{Number of} \\ \text{RSUs} \\ \text{outstanding after} \\ \text{proration} \end{array}$$

7.2 Disability or Death—Restrictions on the RSUs outstanding at disability or death will lapse and Ball Corporation common stock will be issued to the Participant or the Participant’s estate or beneficiary.

8. Forfeiture

All rights in and to any and all RSUs granted pursuant to this Program which have not had restrictions lapse as described above in this Program, shall be forfeited upon the Participant’s termination from the Corporation, except as provided for in Section 7. Any Participant whose employment terminates for cause, regardless of Retirement status, shall forfeit all outstanding RSUs under this Program. In addition, any RSUs granted pursuant to this Program shall be forfeited if the Newly Acquired Shares to which the RSUs relate are sold or transferred by the Participant prior to the lapse of restrictions on such RSUs. For each RSU for which the restrictions have lapsed, the holding period requirement for the Newly Acquired Shares for which the RSUs were granted shall also end.

9. Defer Release of RSUs

Certain Participants may be eligible to defer the release of their RSUs where allowed by laws of the country that apply to the Participant. Such opportunity to defer is not guaranteed.

If deferral is permitted, Participants in the Program may defer RSUs granted under this Program into the Ball Corporation 2005 Deferred Compensation Company Stock Plan, or its successor, by making an election to defer by the election deadline applicable to their RSU grant date. If a Participant elects to defer, their deferred RSUs will be credited as units to the Participant’s designated account(s) in the Ball Corporation 2005 Deferred Compensation Company Stock Plan or its successor upon lapse. Upon deferral, the units credited may be eligible for employer matching contributions under the Ball Corporation 2005 Deferred Compensation Company Stock Plan or its successor. Restrictions and the Participant’s rights with respect to such units will be determined under the terms of the Program. The actual of the RSUs will not occur until restrictions lapse on the RSUs.

10. Miscellaneous

10.1 Administration of the Program—The Human Resources Committee of the Board of Directors shall be the sole administrator of the Program. The Committee shall

have full power to formulate additional details and regulations for carrying out this Program. The Committee shall also be empowered to make any and all of the determinations not herein specifically authorized which may be necessary or desirable for the effective administration of the Program. Any decision or interpretation of any provision of this Program adopted by the Committee shall be final and conclusive.

- 10.2 Amendment and Termination of Program—The Committee may at any time amend the Program in whole or in part; provided, however, that no amendment shall be effective to affect the Participant's vested right therein, and, except as provided below, no amendment shall be effective to decrease the future benefits under the Program payable to any Participant or beneficiary with respect to any amount granted or vested prior to the date of the amendment. Written notice of any amendments shall be given promptly to each Participant. No notice shall be required with respect to amendments that are non-material or administrative in nature.
- 10.3 Successors and Mergers, Consolidations, or Change in Control—The terms and conditions of this Program shall enure to the benefit of and bind the Corporation, the Participants, their successors, assignees, and personal representatives. If a Change in Control shall occur then the rights and obligations shall be those outlined in the 2013 Stock and Cash Incentive Plan, or its successor.
- 10.4 Recoupment of Awards Resulting from Fraud or Intentional Misconduct—If the Board or an appropriate Committee of the Board determines that any fraud or intentional misconduct by one or more Officers or other executives of the Corporation, or an affiliate, at a level of Vice President or above caused the Corporation, directly or indirectly, to restate its financial statements and the Officer or such executive has received more compensation than would have been paid absent the fraud or intentional misconduct, the Board or Committee, in its discretion, shall take such action as it deems necessary or appropriate to remedy the fraud or intentional misconduct and prevent its recurrence. Such action may include, to the extent permitted by applicable law, in appropriate cases, requiring partial or full reimbursement of any incentive compensation paid to the Officer or such executive or causing partial or full cancellation of any outstanding RSUs previously granted to such Officer or such executive in the amount by which the value of the such compensation exceeds or exceeded any lower value that would have resulted based on the restated financial results.
- 10.5 Employment or Future Eligibility to Participate Not Guaranteed—Nothing contained in this Program, nor any action taken hereunder, shall be construed as a contract of employment or as giving any Participant any right to be retained in the employ of the Corporation. Designation as a Participant is discretionary, is not a contractual right, and may be revoked at any time by the Committee with respect to any RSUs not yet granted.

- 10.6 Gender, Singular and Plural—All pronouns and any variations thereof shall be deemed to refer to the masculine and feminine gender as the identity of the person or persons may require. As the context may require, the singular may be read as the plural and the plural as the singular.
- 10.7 Captions—The captions to the articles, sections, and paragraphs of this Program are for convenience only and shall not control or affect the meaning or construction of any of its provisions.
- 10.8 Applicable Law—This Program shall be governed and construed in accordance with the laws of the State of Indiana.
- 10.9 Validity—In the event any provision of this Program is held invalid, void, or unenforceable, the same shall not affect, in any respect whatsoever, the validity of any other provision of this Program.

Ball Corporation

Deposit Share Program

for International Participants



Confidential

Effective Date March 7, 2001
Amended and Restated July 27, 2016

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Deposit Share Program (“Program”)

1. Purpose

To encourage key executives to acquire a larger equity ownership interest in the Corporation to further align the personal interests of the Participants with the interests of the shareholders of the Corporation, in order to promote share price growth and enhancement of shareholder value.

2. Definitions

- 2.1 Award Date means the actual date the Participant is given the opportunity to purchase Newly Acquired Shares pursuant to the Program.
- 2.2 Award Letter means the document notifying the Participant of his/her participation in the Program along with specific terms related to such participation.
- 2.3 Acquisition Period means the time period during which the Participant may acquire shares pursuant to this Program.
- 2.4 Change in Control means “Change in Control” as defined in the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor.
- 2.5 Cliff Lapse means restrictions lapse at one time on the date established on the date of grant of Restricted Stock Units under the Program.
- 2.6 Committee means the Human Resources Committee of the Board of Directors of Ball Corporation.
- 2.7 Disability means a bodily injury or disease that totally and continuously prevents the Participant, for a period as defined in the Corporation’s applicable policies, from engaging in the Participant’s regular occupation.
- 2.8 Effective Date means July 27, 2016, which is the effective date of the Amended and Restated Deposit Share Program.
- 2.9 Grant Date means the actual date the Restricted Stock Units are granted pursuant to this Program.
- 2.10 Holding Period means the time period during which a Participant is required to retain Newly Acquired Shares in order to have the restrictions lapse on Restricted Stock Units.

- 2.11 Newly Acquired Shares means Ball Corporation Common Stock acquired during the Acquisition Period, including shares acquired via market purchase or stock option / stock appreciation right exercise. It does not include Ball Corporation Common Stock obtained via a restricted stock unit grant or vesting that is unrelated to this Program, or by a Participant through the Corporation's other benefit plans, which include but are not limited to the Ball Corporation 401(k) and Employee Stock Ownership Plan and the Employee Stock Purchase Plan.
- 2.12 Participant means an employee who has been selected for participation in the Program by management and approved by the Committee.
- 2.13 Program means the Amended and Restated Deposit Share Program as set forth in this document and as amended from time to time.
- 2.14 Restricted Stock Units ("RSUs") means units of stock that are awarded to a Participant under this Program pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor.
- 2.15 Retirement means termination of employment by a Participant for whatever reason other than death or disability after attainment of age and service years which, when combined, equals or exceeds seventy (70), subject to a minimum age of fifty-five (55). This definition of Retirement is subject to any existing or additional statutory requirements or prescribed definition of retirement as set forth by local laws in jurisdictions where the Program is to be implemented and which would take precedence.
3. RSU Grant
- 3.1 Form of Grant—The grant under this Program shall be a RSU grant pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor. If, at any time or from time to time, during the Acquisition Period, or within 45 days thereafter, the Participant provides documentation to the Executive Compensation Programs Department of the Corporation, reasonably satisfactory to the Corporation, of Participant's acquisition of Newly Acquired Shares during the Acquisition Period, together with a written promise by the Participant to retain the shares for the Holding Period, then the Corporation will grant the Participant a designated number of RSUs for each Newly Acquired Share so acquired as specified in the Participant's Award Letter, up to the maximum number of RSUs also specified in the Participant's Award Letter.
- 3.2 Minimum Number of Newly Acquired Shares—The minimum number of Newly Acquired Shares that will be matched by RSUs at one time is the lesser of 500 shares or the amount required to complete the award. The Participant may accumulate purchases, and when the total number of accumulated shares is equal to or exceeds

500 shares or the amount required to complete the award, the Participant may then request that matching RSUs be granted.

- 3.3 Granting of RSUs—Unless otherwise specified in the Award Letter, the RSUs will be granted on the 15th of each month provided the documentation required in this Section 3 is received on or before the 5th of that month, otherwise it will be granted the following month. If the 15th occurs on a holiday or weekend, the RSUs will be issued on the workday immediately prior to that holiday or weekend.

4. Holding Period for the Newly Acquired Shares

The Participant must agree that the Newly Acquired Shares for which the RSUs were granted will not be sold or transferred prior to the lapse of restrictions on the matching RSUs. Corporate officers are discouraged from pledging such shares, and should check with the General Counsel before doing so. For Participants that are not officers of the Corporation, a pledge of Newly Acquired Shares as collateral for any loan during the Holding Period is not considered to be a sale or transfer of the shares for purposes of this Program; however, in the event of default on the loan during the Holding Period, the Newly Acquired Shares will be considered to be sold and the matching RSUs will be forfeited.

5. Lapse of Restrictions

- 5.1 Cliff Lapse—Except as provided herein, restrictions on all RSUs will cliff lapse on the date that is specified in the Award Letter and the Participant will be issued Ball Corporation Common Stock.
- 5.2 Accelerated Lapse Rate—The restrictions may lapse at an accelerated rate as specified in the Award Letter and the Participant will be issued Ball Corporation Common Stock.

6. Additional Cash Payment

The Participant also will receive a dividend equivalent, if any, payable with respect to the RSUs from the date of grant until restrictions lapse.

7. Retirement, Disability or Death

- 7.1 Retirement—Participants who retire before restrictions lapse on RSUs granted under this Program will receive a prorated portion of their outstanding RSUs and the restrictions on the prorated RSUs will lapse. Fractional RSUs will be rounded up at proration.

Proration Calculation

$$\begin{array}{rcccl} \text{Number of RSUs outstanding} & & & & \text{Number of} \\ \text{on date of retirement} & \times & \frac{\text{Number of days from grant to retirement}}{\text{Number of days from grant to scheduled cliff}} & = & \text{RSUs} \\ & & \text{lapse} & & \text{outstanding after} \\ & & & & \text{proration} \end{array}$$

7.2 Disability or Death—Restrictions on the RSUs outstanding at disability or death will lapse and Ball Corporation common stock will be issued to the Participant or the Participant's estate or beneficiary.

8. Forfeiture

All rights in and to any and all RSUs granted pursuant to this Program which have not had restrictions lapse as described above in this Program, shall be forfeited upon the Participant's termination from the Corporation, except as provided for in Section 7. Any Participant whose employment terminates for cause, regardless of Retirement status, shall forfeit all outstanding RSUs under this Program. In addition, any RSUs granted pursuant to this Program shall be forfeited if the Newly Acquired Shares to which the RSUs relate are sold or transferred by the Participant prior to the lapse of restrictions on such RSUs. For each RSU for which the restrictions have lapsed, the holding period requirement for the Newly Acquired Shares for which the RSUs were granted shall also end.

9. Miscellaneous

9.1 Administration of the Program—The Human Resources Committee of the Board of Directors shall be the sole administrator of the Program. The Committee shall have full power to formulate additional details and regulations for carrying out this Program. The Committee shall also be empowered to make any and all of the determinations not herein specifically authorized which may be necessary or desirable for the effective administration of the Program. Any decision or interpretation of any provision of this Program adopted by the Committee shall be final and conclusive.

9.2 Amendment and Termination of Program—The Committee may at any time amend the Program in whole or in part; provided, however, that no amendment shall be effective to affect the Participant's vested right therein, and, except as provided below, no amendment shall be effective to decrease the future benefits under the Program payable to any Participant or beneficiary with respect to any amount granted or vested prior to the date of the amendment. Written notice of any amendments shall be given promptly to each Participant. No notice shall be required with respect to amendments that are non-material or administrative in nature.

9.3 Successors and Mergers, Consolidations, or Change in Control—The terms and conditions of this Program and Election Form shall enure to the benefit of and

bind the Corporation, the Participants, their successors, assignees, and personal representatives. If a Change in Control shall occur then the rights and obligations shall be those outlined in the 2013 Stock and Cash Incentive Plan, or its successor.

- 9.4 Recoupment of Awards Resulting from Fraud or Intentional Misconduct—If the Board or an appropriate Committee of the Board determines that any fraud or intentional misconduct by one or more Officers or other executives of the Corporation, or an affiliate, at a level of Vice President or above caused the Corporation, directly or indirectly, to restate its financial statements and the Officer or such executive has received more compensation than would have been paid absent the fraud or intentional misconduct, the Board or Committee, in its discretion, shall take such action as it deems necessary or appropriate to remedy the fraud or intentional misconduct and prevent its recurrence. Such action may include, to the extent permitted by applicable law, in appropriate cases, requiring partial or full reimbursement of any incentive compensation paid to the Officer or such executive or causing partial or full cancellation of any outstanding RSUs previously granted to such Officer or such executive in the amount by which the value of the such compensation exceeds or exceeded any lower value that would have resulted based on the restated financial results.
- 9.5 Employment or Future Eligibility to Participate Not Guaranteed—Nothing contained in this Program, nor any action taken hereunder, shall be construed as a contract of employment or as giving any Participant any right to be retained in the employ of the Corporation. Designation as a Participant is discretionary, is not a contractual right, and may be revoked at any time by the Committee with respect to any RSUs not yet granted.
- 9.6 Gender, Singular and Plural—All pronouns and any variations thereof shall be deemed to refer to the masculine and feminine gender as the identity of the person or persons may require. As the context may require, the singular may be read as the plural and the plural as the singular.
- 9.7 Captions—The captions to the articles, sections, and paragraphs of this Program are for convenience only and shall not control or affect the meaning or construction of any of its provisions.
- 9.8 Applicable Law—This Program shall be governed and construed in accordance with the laws of the State of Indiana.
- 9.9 Validity—In the event any provision of this Program is held invalid, void, or unenforceable, the same shall not affect, in any respect whatsoever, the validity of any other provision of this Program.

Ball Corporation

Directors Deposit Share Program



Confidential

Effective Date April 25, 2001
Amended and Restated July 27, 2016

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Directors Deposit Share Program (“Program”)**1. Purpose**

To encourage Directors to acquire a larger equity ownership interest in the Corporation to further align their personal interests with the interests of the shareholders of the Corporation, in order to promote share price growth and enhancement of shareholder value.

2. Definitions

- 2.1 “Award Date” means the actual date the Participant is given the opportunity to purchase Newly Acquired Shares pursuant to the Program.
- 2.2 “Award Letter” means the document notifying the Participant of his/her participation in the Program along with specific terms related to such participation.
- 2.3 “Acquisition Period” means the time period during which the Participant may acquire shares pursuant to this Program.
- 2.4 “Change in Control” means “Change in Control” as defined in the Ball Corporation 2013 Stock and Incentive Plan or its successor.
- 2.5 “Committee” means the Human Resources Committee of the Board of Directors of Ball Corporation.
- 2.6 “Effective Date” means July 27, 2016, which is the effective date of the Amended and Restated Directors Deposit Share Program.
- 2.7 “Grant Date” means the actual date of issuance of the Restricted Stock Units pursuant to this Program.
- 2.8 “Holding Period” means the time period during which a Participant is required to retain Newly Acquired Shares in order to have the restrictions lapse as specified in the Award Letter on Restricted Stock Units.
- 2.9 “Newly Acquired Shares” means Ball Corporation Common Stock acquired by a Participant during the Acquisition Period, including shares acquired via stock option/stock appreciation right exercise.
- 2.10 “Participant” means any Director, except Directors who are employees of the corporation, who is in office at the time he/she receives an Award Letter.
- 2.11 “Program” means the Amended and Restated Directors Deposit Share Program as set forth in this document and as amended from time to time.
- 2.12 “Restricted Stock Units” means units of stock that are awarded to a Participant under this Program pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor.
- 2.13 “Voluntary Resignation” means resignation by a Director during a three-year term.

3. Restricted Stock Unit Grant

- 3.1 **Form of Grant** – The grant under this Program shall be a Restricted Stock Unit Grant, pursuant to the Ball Corporation 2013 Stock and Cash Incentive Plan or its successor. If, at any time or from time to time, during the Acquisition Period or within 45 days thereafter, the Participant provides documentation to the Executive Compensation Programs Department of the Corporation, reasonably satisfactory to the Corporation, of Participant's acquisition of Newly Acquired Shares during the Acquisition Period, together with a written promise by the Participant to hold the shares for the Holding Period, then the Corporation will grant the Participant a designated number of Restricted Stock Units for each Newly Acquired Share so acquired as specified in the Participant's Award Letter, up to the maximum number of Restricted Stock Units also specified in the Participant's Award Letter.
- 3.2 **Minimum Number of Newly Acquired Shares** – The minimum number of Newly Acquired Shares that will be matched by Restricted Stock Units at one time is the lesser of 500 shares or the amount required to complete the award. The Participant may accumulate purchases, and when the total number of accumulated shares is equal to or exceeds 500 shares or the amount required to complete the award, the Participant may then request that matching Restricted Stock Units be issued.
- 3.3 **Grant Date** – Unless otherwise specified in the Award Letter, the Restricted Stock Units will be granted on the 15th of each month provided the documentation required in this Section 3 is received on or before the 5th of that month, otherwise it will be granted the following month. If the 15th occurs on a holiday or weekend, the Restricted Stock Units will be issued on the workday immediately prior to that holiday or weekend.

4. Holding Period for the Newly Acquired Shares

The Participant must agree that the Newly Acquired Shares for which the Restricted Stock Units were granted will not be sold or transferred during the Holding Period specified in the Award Letter. Except as provided in Section 5, if the Newly Acquired Shares are not retained during the entire Holding Period, the Restricted Stock Units are forfeited.

5. Lapse of Restrictions/Forfeiture of Restricted Stock Units

Restrictions on Restricted Stock Units granted pursuant to this Program will lapse as specified in the Award Letter or earlier if a Participant ceases to serve as a Director of Ball Corporation for any reason other than Voluntary Resignation. A Director who decides not to stand for reelection or is not reelected for a three-year term or a Director who retires at the time of mandatory retirement will not be determined to have voluntarily resigned. In the event of Voluntary Resignation, the Restricted Stock Units will be forfeited. Also, Restricted Stock Units will be forfeited if the Newly Acquired Shares to which the Restricted Stock Units relate are not retained by the Participant during the Holding Period specified in the Award Letter.

6. Additional Cash Payment/Dividend Equivalents

The Participant also will receive a dividend equivalent, if any, payable with respect to the Restricted Stock Units from the date of grant until restrictions lapse.

7. Miscellaneous

- 7.1 Administration of the Program – The Human Resources Committee of the Board of Directors shall be the sole administrator of the Program. The Committee shall have full power to formulate additional details and regulations for carrying out this Program. The Committee shall also be empowered to make any and all of the determinations not herein specifically authorized which may be necessary or desirable for the effective administration of the Program. Any decision or interpretation of any provision of this Program adopted by the Committee shall be final and conclusive.
- 7.2 Amendment and Termination of Program – The Committee may at any time amend the Program in whole or in part; provided, however, that no amendment shall be effective to affect the Participant's vested right therein, and, except as provided below, no amendment shall be effective to decrease the future benefits under the Program payable to any Participant or beneficiary with respect to any amount granted or vested prior to the date of the amendment. Written notice of any amendments shall be given promptly to each Participant. No notice shall be required with respect to amendments that are non-material or administrative in nature.
- 7.3 Successors and Mergers, Consolidations, or Change in Control – The terms and conditions of this Program shall enure to the benefit of and bind the Corporation, the Participants, their successors, assignees, and personal representatives. If a Change in Control shall occur then the rights and obligations created hereunder shall be those outlined in the 2013 Stock and Cash Incentive Plan, or its successor.
- 7.4 Gender, Singular and Plural – All pronouns and any variations thereof shall be deemed to refer to the masculine and feminine gender as the identity of the person or persons may require. As the context may require, the singular may be read as the plural and the plural as the singular.
- 7.5 Captions – The captions to the articles, sections, and paragraphs of this Program are for convenience only and shall not control or affect the meaning or construction of any of its provisions.
- 7.6 Applicable Law – This Program shall be governed and construed in accordance with the laws of the State of Indiana.
- 7.7 Validity – In the event any provision of this Program is held invalid, void, or unenforceable, the same shall not affect, in any respect whatsoever, the validity of any other provision of this Program.

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BALL CORPORATION

**ECONOMIC VALUE ADDED
INCENTIVE COMPENSATION PLAN**

Updated April 26, 2016
Replaces August 11, 2011

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BALL CORPORATION

**ECONOMIC VALUE ADDED
INCENTIVE COMPENSATION PLAN**

1. Statement of Purpose

The purpose of the Ball Corporation (the "Company") Economic Value Added Incentive Compensation Plan (the "Plan") is to produce sustained shareholder value improvement by establishing a direct link between Economic Value Added ("EVA") and annual short-term incentive compensation payments.

2. Administration of the Plan

The Committee of management of the Company (the "EVA Committee") shall be the administrator of the Plan, with oversight and governance by the Human Resources Committee of the Board of Directors (the "HR Committee"). The HR Committee shall have full power to formulate additional regulations and make interpretations for carrying out the Plan. The HR Committee shall also be empowered to make any and all of the determinations not herein specifically authorized which may be necessary or desirable for the effective administration of the Plan. Any decision or interpretation of any provision of this Plan adopted by the HR Committee shall be final and conclusive. The Corporate Compensation Department is responsible for executing the administration of the Plan.

3. Eligibility

Eligibility to participate is limited to employees in locations and positions approved by the EVA Committee or in the case of an Officer of the Company by the HR Committee.

4. Targets

- 4.1. Establishment of Target Incentive Percent - At the time a Participant commences participation in the Plan, there shall be established for each Participant a Target Incentive Percent. The Target Incentive Percent for such Participant for any future Year(s) may be increased, decreased or left unchanged from the prior Year. Following the end of each Year, the Target Incentive Percent for that Year will be multiplied by the Base Salary of such Participant for that Year to arrive at the Target Incentive Amount for such Participant. The Target Incentive Amount will then be multiplied by the Performance Factor for that Year to arrive at the amount of the Award, if any, and the amount of adjustment to the Participant's Bank balance, if any.

- 4.2. Establishment of Target EVA - For any one Year, Target EVA shall equal the sum of (i) the prior year's Target EVA and (ii) one-half (1/2) the amount of the prior year's Incremental EVA.

Adjustments to the Target EVA (as computed above) may be made, with the approval of the HR Committee due to changes in the composition of the Participating Units, or for other reasons at the discretion of the HR Committee.

5. Calculation of Performance Factors, Awards, Banks, and Distributions

5.1. Calculation of the Performance Factor

- a. If Incremental EVA (i.e., Actual EVA less Target EVA) is positive, the Performance Factor is determined as follows:

$$\text{Performance Factor} = 1 + \frac{\text{Incremental EVA}}{\text{Positive Leverage Factor}}$$

- b. If Incremental EVA is zero (0), the Performance Factor is 1.00.

- c. If Incremental EVA is negative, the Performance Factor is determined as follows:

$$\text{Performance Factor} = 1 - \frac{\text{Incremental EVA}}{\text{Negative Leverage Factor}}$$

- 5.2. Calculation of Participant's Award - The Performance Factor will be multiplied by the Participant's Target Incentive Amount to arrive at each Participant's Award for the Year.

If a Participant has multiple Participation Bases, the Performance Factor for each Participation Basis will be determined separately and accumulated to compute the Participant's total Award.

Except with the prior approval of the HR Committee, the total Award for a Participating Unit may not exceed one-third (1/3) of Positive Incremental EVA generated by that Unit, computed before consideration of such Awards. The Leverage Factor of the Participating Unit will be amended if the total Award of the Unit exceeds one-third (1/3).

- 5.3. Determination of Distributions, Bank Balances and Distribution Date - To encourage sustained improvements to EVA, there are cases when earned incentive will be deferred and credited to a Participant's Bank balance. Correspondingly, to ensure accountability for performance in

down periods, there are cases when a negative Bank balance will be created for a Participant. Appendix A sets out the Plan distribution rules.

The distribution date shall be once each year and no later than March 15 of the year following the year for which an Award was calculated.

The formulas and examples of Determination of Distributions and Bank Balances are contained in Appendix A and B and are incorporated by reference herein and form a part of the Plan.

5.4. De Minimis Bank Balances - If after determination of the Distribution for the Year, the Bank balance is positive but less than Ten Thousand Dollars (\$10,000.00) or equivalent in the Participant's local currency using the most recent calendar year-end foreign exchange rate, then such balance will be added to the Distribution for the Year, and the Bank balance will thereby be brought to zero.

5.5. Calculation of Award Distributions When a Participant has Multiple Participation Bases - In the event a Participant has multiple Participation Bases for a Year, then Awards, Banks, Performance Factors and Target Incentive Amounts shall be calculated separately and independently for each Participation Basis.

Bank balances shall be maintained separately for each Participation Basis. A Bank Balance from one Participation Basis may not be offset against a Bank balance of another Participation Basis.

5.6. Changes in Participation Basis - In the event a Participant experiences a change in Participation Basis during a Year, then Awards, Banks, Performance Factors and Target Incentive Amounts shall be calculated separately and independently for each Participation Basis of such Participant using those portions of the Participant's Base Salary actually paid for service while included in each separate Participation Basis.

Bank balances shall be maintained separately for each Participation Basis.

5.7. Changes in Target Incentive Percent - In the event a Participant experiences a change in Target Incentive Percent without experiencing a change in Participation Basis during a Year, then Award calculations and Bank adjustments will be made separately using those portions of the Participant's Base Salary actually paid for service while participating at each separate Target Incentive Percent.

Separate Bank accounts shall not be maintained because of changes in a Participant's Target Incentive Percent.

5.8. Qualification of Distributions for Other Plans - Distributions from the Plan to active Participants shall qualify as incentive payments for the purpose

of any deferred compensation plan(s) maintained by the Company, and as such, may be deferred by Participants eligible to defer under the terms and conditions of such plan(s). Such eligibility for deferral is not automatic and shall only be as authorized for eligible employees under the rules of such plan(s). Notwithstanding anything to the contrary in such plan(s), no portion of any Award or any Bank, prior to actual Distribution, shall qualify for the purposes of deferral under the terms and conditions of such plan(s).

6. Leverage Factors

- 6.1. Establishment of Positive Leverage Factor - The Positive Leverage Factor is determined by the EVA Committee, with the approval of the HR Committee. The determination of the Positive Leverage Factor considers a number of judgmental factors including, but not limited to, the volatility of earnings and the capital invested in each Participating Unit and the Total Incentive Amount for all Participants in each Participating Unit.

It is anticipated that changes to the Positive Leverage Factor will not be made often. Circumstances which may warrant a change in the Positive Leverage factor include significant changes which affect the Participating Unit, including a change in the composition of the Participating Unit, permanent changes in market conditions, and acquisitions and/or divestitures.

- 6.2. Establishment of Negative Leverage Factor - The Negative Leverage Factor is equal to the Positive Leverage Factor multiplied by a factor of two (2.0).

7. Distributions Following Termination

- 7.1. Eligibility - A Participant who terminates employment prior to the Distribution Date of a Year shall not be eligible for any Distribution for such Year or any future Distributions, unless such termination is by reason of Retirement, Death or Disability. Regardless of Retirement status, any Participant whose employment terminates for cause shall not be eligible to receive any Distributions. In cases involving location closures or reduction in force programs, the EVA Committee may approve an exception to these eligibility guidelines and pro-rate as needed for time of service.
- 7.2. Distributions for the Year of Retirement, Death or Disability - Distributions for a Participant for the Year of such Participant's termination of employment by reason of Retirement, Death or Disability shall be on the same basis as for all other Participants and pro-rated as needed for time of service.

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Complete Distribution of Bank(s) of Participants who have experienced a termination of employment by reason of Retirement, Death or Disability shall be accomplished no later than the normal Distribution Date following the Year of such termination by reason of Retirement, Death or Disability.

- 7.3. Obligation for Negative Bank Balances - If, after the Distribution made for the Year of Retirement, Death or Disability, the Participant's Bank balance is negative, then such Bank balance will be eliminated without further obligation of the Participant to the Company. Participants who terminate for reasons other than Retirement, Death or Disability and at the time of termination have a negative Bank balance will have no obligation to the Company related to the negative Bank balance.

8. Beneficiary Designation

The Participant shall have the right, at any time and from time to time, to designate and/or change or cancel any person/persons or entity as to his Beneficiary (both principal and contingent) to whom Distribution under this Plan shall be made in the event of such Participant's death prior to a Distribution. Any Beneficiary change or cancellation shall become effective only when filed in writing with the Corporate Compensation Department during the Participant's lifetime on a form provided by or otherwise acceptable to the Company. In locations where there is a mandatory line of succession, payment will be made in accordance with local law.

The filing of a new Beneficiary designation form will cancel all Beneficiary designations previously filed. Any finalized divorce of a Participant subsequent to the date of filing of a Beneficiary designation form shall revoke any prior designation of the divorced spouse as a Beneficiary. The spouse of a Participant domiciled in a community property jurisdiction shall be required to join in any designation of Beneficiary other than the spouse in order for the Beneficiary designation to be effective.

If a Participant fails to designate a Beneficiary as provided above, or, if such Beneficiary designation is revoked by divorce, or otherwise, without execution of a new designation, or if all designated Beneficiaries predecease the Participant, then the Distribution shall be made to the Participant's estate.

9. Miscellaneous

- 9.1. Unsecured General Creditor - Participants and their beneficiaries, heirs, successors and assigns shall have no legal or equitable rights, interests, or other claim in any property or assets of the Employer. Any and all assets shall remain general, unpledged, unrestricted assets of the Employer. The Company's obligation under the Plan shall be that of an unfunded and unsecured promise to pay money in the future, and there shall be no obligation to establish any fund, any security or any

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otherwise restricted asset, in order to provide for the payment of amounts under the Plan.

- 9.2. Obligations To The Employer - If a Participant becomes entitled to a Distribution under the Plan, and, if, at the time of the Distribution, such Participant has outstanding any debt, obligation or other liability representing an amount owed to the Employer, then the Employer may offset such amounts owing to it or any affiliate against the amount of any Distribution. Such determination shall be made by the EVA Committee. Any election by the EVA Committee not to reduce any Distribution shall not constitute a waiver of any claim for any outstanding debt, obligation, or other liability representing an amount owed to the Employer.
- 9.3. Nonassignability - Neither a Participant nor any other person shall have any right to commute, sell, assign, transfer, pledge, anticipate, mortgage or otherwise encumber, transfer, hypothecate or convey in advance of actual receipt the amounts, if any, payable hereunder, or any part thereof, which are, and all rights to which are, expressly declared to be unassignable and nontransferable. No part of an Award and/or Bank, prior to actual Distribution, shall be subject to seizure or sequestration for the payment of any debts, judgments, alimony or separate maintenance owed by a Participant or any other person, nor shall it be transferable by operation of law in the event of the Participant's or any other person's bankruptcy or insolvency.
- 9.4. Taxes: Withholding - To the extent required by law, the Company shall withhold from all cash Distributions made, any amount required to be withheld by the federal, state, provincial or local government.
- 9.5. No Right to Continued Employment or Participation - Nothing contained in this Plan, nor any action taken hereunder, shall be construed as a contract of employment or as giving any Eligible Employee, Participant or former Participant any right to be retained in the employ of the Employer. Participation is discretionary and is not a contractual right. Designation as an Eligible Employee or as a Participant is on a year-by-year basis and may or may not be renewed for any employment years not yet commenced.
- 9.6. Applicable Law - This Plan shall be governed and construed in accordance with the laws of the State of Indiana, or if not possible, in accordance with applicable local laws.
- 9.7. Validity - In the event any provision of the Plan is held invalid, void, or unenforceable, the same shall not affect, in any respect whatsoever, the validity of any other provision of the Plan.
- 9.8. Notice - Any notice or filing required or permitted to be given to the HR Committee shall be sufficient if in writing and hand delivered, or sent by

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registered or certified mail, to the principal office of the Company, directed to the attention of the President and CEO of the Company. Such notice shall be deemed given as of the date of delivery or, if delivery is made by mail, as of the date shown on the postmark on the receipt for registration or certification.

10. Amendment and Termination of the Plan

10.1. Amendment - The HR Committee may at any time amend the Plan in whole or in part provided, however, that no amendment shall be effective to affect the Participant's right to designate a beneficiary.

10.2. Termination of the Plan

- a. Employer's Right to Terminate. The HR Committee may at any time terminate the Plan as to prospective earning of Awards, if it determines in good faith that the continuation of the Plan is not in the best interest of the Company and its shareholders. No such termination of the Plan shall reduce any Distribution already made.
- b. Payments Upon Termination of the Plan. Upon any termination of the Plan under this Section, Awards for future years shall not be made. With respect to the Year in which such termination takes place, the employer will pay to each Participant the Participant's Award for such Year or partial Year, no later than March 15 in the calendar year following the year of termination of the Plan. Bank Distributions shall be made in their entirety to the Participants no later than March 15 in the calendar year following the year of termination of the Plan.

11. Definitions

11.1. Award - "Award" means the dollar amount (positive or negative) which results from the multiplication of the Participant's Target Incentive Amount for the Year, by the Performance Factor for the same Year.

11.2. Bank - "Bank" means a dollar amount account that maintains the balance of unpaid positive and negative Awards earned in accordance with the terms and conditions of the Plan. Bank balances are maintained by Participant, and the Company does not transfer cash into such Bank accounts. The Bank accounts exist only as bookkeeping records to evidence the Company's obligation to pay these amounts in accordance with Plan requirements. (See Appendix A for bank rules.)

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No interest is charged or credited on amounts in the Bank. Participants are never vested in amounts in the Bank, and such amounts are not earned until the respective Distribution Date.

- 11.3. Base Salary - "Base Salary" means the Participant's actual base salary earnings paid during the Year, excluding incentive payments, salary continuation, and other payments which are not, in the sole determination of the EVA Committee, actual base salary.
- 11.4. Beneficiary - "Beneficiary" means the person or persons designated as such in accordance with Section 8.
- 11.5. Disability - "Disability" means a bodily injury or disease, as determined by the Company, that totally and continuously prevents the Participant, for at least six (6) consecutive months, from engaging in an "occupation" for pay or profit. During the first twenty-four (24) months of total disability, "occupation" means the Participant's regular occupation. After that period, "occupation" means any occupation for which the Participant is reasonably fitted, based upon the Participant's education, training or experience as determined by the Company.
- 11.6. Distribution - "Distribution" means the payment of incentive compensation in cash or bank balance adjustment(s).
- 11.7. Distribution Date - "Distribution Date" means the date on which the Employer makes Distributions. The Distribution Date shall be once each Year and no later than March 15 of the Year following the Year for which an Award was calculated.
- 11.8. Economic Value Added - "Economic Value Added" ("EVA") is a measure of corporate performance. EVA is computed by subtracting a charge for the use of invested capital from Net Operating Profit After Tax.

EVA = Net Operating Profit After Tax less (Invested Capital X
Required Rate of Return on Capital)
- 11.9. Effective Date - "Effective Date" means the date on which the Plan commences.
- 11.10. Eligible Employee - "Eligible Employee" means an employee who is in a location and position approved for participation by the EVA Committee or in the case of an Officer of the Company by the HR Committee.
- 11.11. Employer - "Employer" (also referred to as the "Company") means Ball Corporation and its wholly owned subsidiaries.
- 11.12. EVA Committee - "EVA Committee" is a Committee of the management of the Company that consists of the Chief Executive Officer, Chief Financial Officer, the senior most Human Resources position of the

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Company and other key positions as determined by the Chief Executive Officer.

- 11.13. Incremental EVA - "Incremental EVA" is the difference (positive or negative) between the year's Target EVA and actual EVA.
- 11.14. Invested Capital - "Invested Capital" means total assets less non-interest bearing current liabilities. Average Invested Capital for the year represents the average of twelve month-end amounts.
- 11.15. HR Committee - "HR Committee" means the HR Committee of the Board of Directors.
- 11.16. Negative Leverage Factor - "Negative Leverage Factor" means that amount of negative Incremental EVA required to obtain a Performance Factor of zero (0).
- 11.17. Net Operating Profit After Tax - "Net Operating Profit After Tax" (also referred to as "NOPAT") means operating income before financing costs and income taxes reduced by income taxes which are computed by applying a statistical tax rate appropriate to the jurisdiction(s) in which the Company or Participating Unit operates.
- 11.18. Participant - "Participant" means an Eligible Employee in the Plan. Designation as a Participant must be renewed annually.
- 11.19. Participating Unit - "Participating Unit" means an organization within the Company or a wholly owned subsidiary for which EVA Targets are established.
- 11.20. Participation Basis - "Participation Basis" means the Company or Participating Unit or combination of Participating Units and/or Company upon whose performance the Performance Factor for the Year is calculated for a Participant.
- 11.21. Performance Factor - "Performance Factor" means that number described in Section 5.1 and which is multiplied by a Participant's Target Incentive Amount to arrive at such Participant's Award.
- 11.22. Plan - "Plan" means this Economic Value Added Incentive Compensation Plan.
- 11.23. Positive Leverage Factor - "Positive Leverage Factor" means that amount of positive Incremental EVA required to obtain a Performance Factor of two (2.0).

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- 11.24. Retirement - "Retirement" means termination of employment by a Participant for whatever reason other than Death or Disability after attainment of age and service years which, when combined, equals or exceeds seventy (70), subject to a minimum age of fifty-five (55). This definition of Retirement is subject to any existing or additional statutory requirements or prescribed definition of retirement as set forth by local laws in jurisdictions where the Plan is to be implemented and which would take precedence., A Participant who has experienced a Retirement as defined herein shall be termed a "Retiree."
- 11.25. Target EVA - "Target EVA" means that amount of EVA (positive or negative) which, if attained, produces a Performance Factor of one (1.000).
- 11.26. Target Incentive Amount - "Target Incentive Amount" means that dollar amount determined by multiplying the Participant's Base Salary by such Participant's Target Incentive Percent.
- 11.27. Target Incentive Percent - "Target Incentive Percent" means that percent of Base Salary which is established by management, consistent with the guidelines approved by the EVA Committee or in the case of an Officer of the Company by the HR Committee, as being the percent of Base Salary to be paid to the Participant if Target EVA is achieved.
- 11.28. Year - "Year" means the calendar year in respect of which performance is measured under the Plan.

Appendix A
Determination of Distributions
and Bank Balances

Beginning Bank Balance for the Year	Performance Factor	Distribution	Change in Bank Balance for the Year	Example
Zero	Negative	Zero.	Negative balance equal to the negative Award.	1
Zero	Zero – 2x	100% of Award.	No change.	2
Zero	> 2x	100% of Award up to 2x, plus 1/3 of Award in excess of 2x.	Positive balance equal to 2/3 of the Award in excess of 2x.	3
Negative	Negative	Zero.	Negative balance increased by the negative award.	4
Negative	Zero – 1x	100% of Award.	No change.	5
Negative	1x – 2x	100% of Award less 1/3 of Award above 1x until the negative bank is eliminated.	Negative balance reduced by 1/3 of Award above 1x, until negative balance is eliminated.	6
Negative	> 2x	100% of Award to 2x, less 1/3 of Award between 1x to 2x and, if needed to eliminate the negative bank, 100% of Award over 2x until negative balance is eliminated.	Negative balance reduced by 1/3 of Award between 1x to 2x and, if needed to eliminate the negative bank, 100% of the Award over 2x until the negative balance is eliminated. If the negative balance is "repaid", then the Distribution is capped at 2x and the remaining Award creates a positive bank.	7
Positive	Negative	1/3 of bank balance after applying the current negative Award. If the negative Award exceeds the beginning bank balance, the Distribution is zero.	The positive balance is reduced by the negative Award and any Distribution from the bank.	8
Positive	Zero – 2x	100% of Award plus 1/3 of the beginning bank balance.	The positive balance is reduced by the 1/3 of the beginning balance Distributed.	9
Positive	> 2x	100% of Award up to 2x, plus 1/3 of Award in excess of 2x, plus 1/3 of the beginning bank balance.	The positive balance is increased by 2/3 of the Award in excess of 2x and then reduced by 1/3 of the beginning bank balance Distributed.	10

**Appendix B
Payout Examples**

Payout Examples	Example 1	Example 2	Example 3
	No Beginning Bank Balance EVA Performance Factor less than 0	No Beginning Bank Balance EVA Performance Factor between 0 to 2x	No Beginning Bank Balance EVA Performance Factor greater than 2x
Annual Gross Pay	125,000.00	125,000.00	125,000.00
EVA Target %	25.0%	25.0%	25.0%
Target EVA Amount	31,250.00	31,250.00	31,250.00
EVA Performance Factor	-0.25	1.50	2.50
Total Award	-7,812.50	46,875.00	78,125.00
Award up to 2x	0.00	46,875.00	62,500.00
Excess Award greater than 2x	0.00	0.00	15,625.00
Bank Balance			
Previous Bank Balance	0.00	0.00	0.00
Bank Deposit	-7,812.50	0.00	10,416.67
Ending Bank Balance	-7,812.50	0.00	10,416.67
Payout Distribution			
Current Award Distribution	0.00	46,875.00	67,708.33
Total Payout	0.00	46,875.00	67,708.33
Final Bank Balance	-7,812.50	0.00	10,416.67

Effective January 1, 1994
Replaces July 9, 2008

Appendix B Payout Examples

Payout Examples	Example 4	Example 5	Example 6	Example 6
	Negative Beginning Bank Balance EVA Performance Factor less than 0	Negative Beginning Bank Balance EVA Performance Factor between 0 to 1x	Negative Beginning Bank Balance EVA Performance Factor between 1x to 2x	Negative Beginning Bank Balance EVA Performance Factor greater than 2x
Annual Gross Pay	125,000.00	125,000.00	125,000.00	125,000.00
EVA Target%	25.0%	25.0%	25.0%	25.0%
Target EVA Amount	31,250.00	31,250.00	31,250.00	31,250.00
EVA Performance Factor	-0.25	0.80	1.50	2.50
Total Award	-7,812.50	25,000.00	46,875.00	78,125.00
Award up to 1x	0.00	25,000.00	31,250.00	31,250.00
Award between 1x and 2x	0.00	0.00	15,625.00	31,250.00
Excess Award greater than 2x	0.00	0.00	0.00	15,625.00
Bank Balance				
Previous Bank Balance	-10,000.00	-10,000.00	-10,000.00	-10,000.00
Bank Deposit	-7,812.50	0.00	5,208.33	26,041.67
New Bank Balance	-17,812.50	-10,000.00	-4,791.67	16,041.67
Payout Distribution				
Current Award Distribution	0.00	25,000.00	41,666.67	52,083.33
Total Payout	0.00	25,000.00	41,666.67	52,083.33
Final Bank Balance	-17,812.50	-10,000.00	-4,791.67	16,041.67

Effective January 1, 1994
Replaces July 9, 2008

**Appendix B
Payout Examples**

Payout Examples	Example 8	Example 9	Example 10
	Positive Beginning Bank Balance EVA Performance Factor less than 0	Positive Beginning Bank Balance EVA Performance Factor between 0 to 2x	Positive Beginning Bank Balance EVA Performance Factor greater than 2x
Annual Gross Pay	125,000.00	125,000.00	125,000.00
EVA Target %	25.0%	25.0%	25.0%
Target EVA Amount	31,250.00	31,250.00	31,250.00
EVA Performance Factor	-0.25	1.50	2.50
Total Award	-7,812.50	46,875.00	78,125.00
Award up to 2x	0.00	46,875.00	62,500.00
Excess Award greater than 2x	0.00	0.00	15,625.00
Bank Balance			
Previous Bank Balance	25,000.00	25,000.00	25,000.00
Bank Deposit	-7,812.50	0.00	10,416.67
Ending Bank Balance	17,187.50	25,000.00	35,416.67
Less 1/3 bank distribution	5,729.17	-8,333.33	-8,333.33
New Bank Balance	11,458.33	16,666.67	27,083.33
Payout Distribution			
Current Award Distribution	0.00	46,875.00	67,708.33
1/3 Bank Distribution	5,729.17	8,333.33	8,333.33
Total Payout	5,729.17	55,208.33	76,041.67
Final Bank Balance	11,458.33	16,666.67	27,083.33

Effective January 1, 1994
Replaces July 9, 2008

EXAMPLE CALCULATIONS

Effective January 1, 1994
Replaces July 9, 2008

SUBSIDIARIES OF BALL CORPORATION (Public Reporting) ⁽¹⁾

December 31, 2018

The following is a list of subsidiaries of Ball Corporation (an Indiana Corporation)

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Aerosol Research Co (Great Britain) Limited	England	100%
American Can (UK) Limited	England	100%
American Can Holdings (UK) Limited	England	100%
Archer Insurance Limited	Guernsey	100%
Assetsteady Limited	England	100%
AUK Holding Ltd.	United Kingdom	100%
B O Morris (Holdings) Limited	England	100%
Ball (France) Holdings S.A.S.	France	100%
Ball (Luxembourg) Finance S.a.r.l.	Luxembourg	100%
Ball (Swiss) Holding GmbH	Switzerland	100%
Ball Advanced Aluminum Technologies Canada Inc. (f/k/a Neuman Aluminum Canada Inc.)	Quebec	100%
Ball Advanced Aluminum Technologies Canada L.P. (f/k/a Neuman Aluminum Canada L.P.)	Quebec	100%
Ball Advanced Aluminum Technologies Corp. (f/k/a Neuman USA Ltd.)	Delaware	100%
Ball Advanced Aluminum Technologies Holding Canada Inc. (f/k/a Neuman Holding Canada Inc.)	New Brunswick	100%
Ball Aerocan CZ s.r.o. (f/k/a Aerocan CZ s.r.o.)	Czech Republic	100%
Ball Aerocan Europe S.A.S. (f/k/a Aerocan S.A.S.; Name Change on 6/28/13)	France	100%
Ball Aerocan France S.A.S. (f/k/a Aerocan France S.A.S.)	France	100%
Ball Aerocan India Private Limited (f/k/a Metacan Manufacturing Private Limited; Name Change on 01/28/16)	India	100%
Ball Aerocan Mexico S.A. de C.V. (f/k/a Envases del Plata S.A. de C.V.)	Mexico	100%
Ball Aerocan Operations S.a.r.l. (f/k/a Mendoza Investments S.a.r.l.; Name Change on 09/06/13)	Luxembourg	100%
Ball Aerocan UK Limited (f/k/a Aerocan UK Ltd.; Name Change on 03/16/11)	United Kingdom	100%
Ball Aerosol and Specialty Container Holding Corporation (f/k/a U.S. Can Corporation; Name Change on 03/31/06 from Ball Aerosol and Specialty Container Corporation)	Delaware	100%
Ball Aerosol Packaging Argentina S.A.U (f/k/a Formametal S.A.)	Argentina	100%
Ball Aerospace & Technologies Corp.	Delaware	100%
Ball America Holdings Inc. (f/k/a Rexam America Holdings Inc.)	Delaware	100%
Ball America LLC (f/k/a Rexam America LLC)	Delaware	100%
Ball Americas Holdings B.V.	The Netherlands	100%
Ball Asia Pacific (Beijing) Metal Container Limited (f/k/a Beijing FTB Packaging Limited)	PRC	100%
Ball Asia Pacific (Foshan) Metal Container Limited (f/k/a Sanshui Jianlibao FTB Packing Limited)	PRC	100%
Ball Asia Pacific (Hubei) Metal Container Limited (f/k/a Hubei FTB Packaging Limited)	PRC	96%
Ball Asia Pacific (Qingdao) Metal Container Limited	PRC	100%
Ball Asia Pacific (Yangon) Metal Container Limited	Myanmar	100%
Ball Asia Pacific Investments Limited	Hong Kong	100%
Ball Asia Pacific Limited	Hong Kong	100%
Ball Asia Services Limited	Delaware	100%
Ball Beverage Can Americas Inc. (f/k/a Rexam Beverage Can Americas Inc.)	Delaware	100%
Ball Beverage Can Americas SA de CV	Mexico	100%
Ball Beverage Can Delaware Company (f/k/a Rexam Beverage Can Delaware Company)	Delaware	100%
Ball Beverage Can Egypt SAE	Egypt	100%
Ball Beverage Can Holding GmbH	Austria	100%
Ball Beverage Can Iberica SL	Spain	100%
Ball Beverage Can Mexico SA de CV	Mexico	100%
Ball Beverage Can Overseas LLC (f/k/a Rexam Beverage Can Overseas LLC)	Delaware	100%
Ball Beverage Can South America S.A. (f/k/a Rexam Beverage Can South America SA)	Brazil	100%
Ball Beverage Packaging (India) Private Limited (f/k/a Rexam Beverage Can (India) Private Limited)	India	100%

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Ball Beverage Packaging AMEA Limited <i>(f/k/a Rexam Beverage Can AMEA Limited)</i>	England	100%
Ball Beverage Packaging Czech Republic sro <i>(f/k/a Rexam Beverage Can Czech Republic sro)</i>	Czech Republic	100%
Ball Beverage Packaging Europe Limited <i>(f/k/a Rexam Beverage Can Europe Limited)</i>	England	100%
Ball Beverage Packaging Fosie AB <i>(f/k/a Rexam Beverage Can Fosie AB)</i>	Sweden	100%
Ball Beverage Packaging France SAS <i>(f/k/a Rexam Beverage Can France SAS)</i>	France	100%
Ball Beverage Packaging Fredericia A/S <i>(f/k/a Rexam Beverage Can Fredericia A/S)</i>	Denmark	100%
Ball Beverage Packaging Gelsenkirchen GmbH <i>(f/k/a Rexam Beverage Can Gelsenkirchen GmbH)</i>	Germany	100%
Ball Beverage Packaging Holdings UK Limited <i>(f/k/a Rexam Beverage Can Holdings UK Limited)</i>	England	100%
Ball Beverage Packaging Iberica SL <i>(f/k/a Rexam Beverage Can Iberica SL)</i>	Spain	100%
Ball Beverage Packaging Ireland Limited <i>(f/k/a Rexam Beverage Can Ireland Limited)</i>	Ireland	100%
Ball Beverage Packaging Italia SRL <i>(f/k/a Rexam Beverage Can Italia SRL)</i>	Italy	100%
Ball Beverage Packaging Ludesch GmbH <i>(f/k/a Rexam Beverage Can Enzesfeld GmbH)</i>	Austria	100%
Ball Beverage Packaging Mäntsälä Oy <i>(f/k/a Rexam Beverage Can Mäntsälä Oy)</i>	Finland	100%
Ball Beverage Packaging Naro-Fominsk LLC <i>(f/k/a Rexam Beverage Can Naro-Fominsk LLC)</i>	Russia	100%
Ball Beverage Packaging Oss BV <i>(f/k/a Rexam Beverage Can Oss BV)</i>	Netherlands	100%
Ball Beverage Packaging Recklinghausen GmbH <i>(f/k/a Rexam Beverage Can Recklinghausen GmbH)</i>	Germany	100%
Ball Beverage Packaging Rus LLC <i>(f/k/a Rexam Beverage Can Rus LLC)</i>	Russia	100%
Ball Beverage Packaging UK Limited <i>(f/k/a Rexam Beverage Can UK Limited)</i>	England	100%
Ball Beverage Packaging Vsevolozhsk LLC <i>(f/k/a Rexam Beverage Can Vsevolozhsk LLC)</i>	Russia	100%
Ball Beverage Packaging Widnau GmbH <i>(f/k/a Rexam Beverage Can Widnau GmbH)</i>	Switzerland	100%
Ball Beverage Turkey Paketleme Sanayi ve Ticaret AŞ <i>(f/k/a Rexam Paketleme Sanayi ve Ticaret AS)</i>	Turkey	100%
Ball BP Holding Company <i>(f/k/a Rexam BP Holding Company)</i>	Delaware	100%
Ball Canada Plastics Container Corp.	Nova Scotia	100%
Ball Capital Corp. II	Delaware	100%
Ball Cayman International Limited	Cayman Islands	100%
Ball Chile S.A. <i>(f/k/a Rexam Chile S.A.)</i>	Chile	100%
Ball Company	United Kingdom	100%
Ball Container LLC	Delaware	100%
Ball Corporation	Indiana	100%
Ball Corporation	Nevada	100%
Ball Delaware Corporation <i>(f/k/a Rexam Delaware Corporation)</i>	Delaware	100%
Ball Delaware Holdings S.C.S. <i>(f/k/a Ball Holdings S.a.r.l.)</i>	Luxembourg	100%
Ball Delaware Holdings, LLC	Delaware	100%
Ball Delaware International Holdings Corp.	Delaware	100%
Ball do Brasil Ltda <i>(f/k/a Rexam do Brasil Ltda)</i>	Brazil	100%
Ball Embalagens Ltda.	Brazil	100%
Ball Envases de Aluminio S.A. <i>(f/k/a Rexam Argentina S.A.)</i>	Argentina	100%
Ball Europe Limited	United Kingdom	100%
Ball European Holdings S.a.r.l.	Luxembourg	100%
Ball Finance LLC <i>(f/k/a Rexam Finance LLC)</i>	Delaware	100%
Ball Foundation – not for profit	Colorado	100%
Ball Funding Inc. <i>(f/k/a Rexam Funding Inc.)</i>	Delaware	100%
Ball Glass Containers, Inc.	Delaware	100%
Ball Global Business Services Corp.	Delaware	100%
Ball Global Services Americas S. de R.L. de C.V.	Mexico	100%
Ball Holdings Corp.	Delaware	100%
Ball Holdings LLC	Delaware	100%
Ball Inc. <i>(f/k/a Rexam Inc.)</i>	Delaware	100%
Ball Industria e Comercio de Latas e Tampas Ltda <i>(f/k/a Rexam Industria e Comercio de Latas e Tampas Ltda)</i>	Brazil	100%
Ball International Holdings B.V. <i>(f/k/a recan B.V.)</i>	Netherlands	100%
Ball International Holdings II, LLC	Delaware	100%
Ball International Holdings LLC	Delaware	100%
Ball International Holdings S.a.r.l.	Luxembourg	100%

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Ball International Partners SCS	Luxembourg	100%
Ball International, LLC	Delaware	100%
Ball Luxembourg Holdings S.a.r.l.	Luxembourg	100%
Ball Luxembourg I S.a.r.l.	Luxembourg	100%
Ball Marketing Limited (f/k/a Rexam Marketing Limited)	England	100%
Ball Metal Beverage Container Corp.	Colorado	100%
Ball Metal Beverage Mexico Holdings B.V. (f/k/a Ball Saudi Arabia Holdings B.V.)	The Netherlands	100%
Ball Metal Beverage Mexico S. de R.L. de C.V. (f/k/a Ball Mexico Holdings Corp S del RL de C.V.)	Mexico	100%
Ball Metal Container Corporation	Indiana	100%
Ball Metallising Inc. (f/k/a Rexam Metallising Inc.)	Delaware	100%
Ball MI Holding Company (f/k/a Rexam MI Holding Company)	Delaware	100%
Ball Nacanco Netherlands BV	Netherlands	100%
Ball Packaging Europe Belgrade d.o.o.	Serbia	100%
Ball Packaging Europe France S.A.S. (f/k/a Ball Packaging Europe La Ciotat S.A.S. merged into Ball Packaging Europe Bierne S.A.S. on 7/31/12 thereafter name change to Ball Packaging Europe France S.A.S.)	France	100%
Ball Packaging Europe Holding B.V. (f/k/a Ball (The Netherlands) Holdings, B.V.)	The Netherlands	100%
Ball Packaging Europe Lublin Sp. z o.o.	Poland	100%
Ball Packaging Europe Metall GmbH (f/k/a Ball Packaging Europe Vorrats GmbH)	Germany	100%
Ball Packaging Europe Rostov LLC (f/k/a AzovTrubPlast LLC)	Russia	100%
Ball Packaging India Private Limited – in liquidation since 9/20/13	India	100%
Ball Packaging Products Canada Corp.	Nova Scotia	100%
Ball Packaging, LLC (f/k/a Ball Packaging Corp., f/k/a Ball Packaging Holdings Corp.)	Colorado	100%
Ball Pan-European Holdings, LLC (f/k/a Ball Pan-European Holdings, Inc.)	Delaware	100%
Ball Paraguay Sociedad Anomia	Paraguay	100%
Ball Pension Holdings GmbH	Germany	100%
Ball Peru S.A.C. (f/k/a Rexam Peru S.A.C.)	Peru	100%
Ball Southeast Asia Holdings (Singapore) PTE LTD. (f/k/a Sencroft Enterprises Pte Ltd.)	Singapore	100%
Ball Technologies Holdings Corp. (f/k/a Ball Aerospace Systems Group, Inc.)	Colorado	100%
Ball Technology Services Corporation (f/k/a Veratech, Inc.)	California	100%
Ball Trading France S.A.S. (f/k/a Ball France Operations S.A.S.)	France	100%
Ball Trading Mexico S. de R.L. de C.V.	Mexico	100%
Ball UK Acquisition Limited	United Kingdom	100%
Ball UK Holdco Limited	United Kingdom	100%
Ball UK Holdings Ltd	United Kingdom	100%
Ball UK Investments Limited	United Kingdom	100%
BD Print Limited	England	100%
Berkeley Nominees Limited	England	100%
BMB Real Estate Holdings, LLC	Delaware	100%
Bookprint Limited	England	100%
Bowater SCG Limited	England	100%
Bowaters Canadian Holdings Limited	England	100%
B-R Secretariat Limited	England	100%
Brackenbush Limited	England	100%
Brookhill Mouldings Limited	England	100%
Causton Printing Limited	England	100%
Citiforms (Sales) Limited	England	100%
Controladora Envases Universales Rexam SA – JV	Guatemala	50%
Copal S.A.S. (majority owned by unrelated third party)	France	51%
Cope Allman Holdings Limited	England	100%
Cope Allman Int (Management Services) Limited	England	100%
Cope Allman Packaging Group Limited	England	100%
Cope Allman Packaging Limited	England	100%
Corsec Mercantile Services Limited	England	100%
Counting House Computer Systems Limited	England	100%
CPRX-Hughesville Inc.	Delaware	100%

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Deister Handels & Beteiligungs GmbH	Germany	100%
Dimgate Limited	England	100%
DRG Australia Limited	England	100%
DRG France Limited	England	100%
DRG Medical Packaging Supplies (Flexpak) Ltd	England	100%
DRG Medical Packaging Supplies (Malago) Ltd	England	100%
DRG Medical Packaging Supplies Limited	England	100%
Ejectoret Limited	England	100%
Envases del Istmo SA – JV	Panama	50%
Envases Universales Ball De Panama SA – JV	Panama	50%
Envases Universales Rexam de Centroamerica SA (trading company) – JV	Guatemala	50%
Filmset Limited	England	100%
Foshan Packaging Holdings Limited (<i>f/k/a Cassandra Limited</i>)	Hong Kong	100%
FTB Corporate Services Limited (<i>f/k/a Fjully Wide Industrial Ltd.</i>)	Hong Kong	100%
FTB Packaging Limited (<i>f/k/a Grandearn Investments Limited</i>)	Hong Kong	100%
Gainer Developments Ltd.	BVI	100%
Hanil Can Co Limited (Associate) – JV	Korea	40%
Heekin Can, Inc.	Colorado	100%
Impact Packaging Limited	England	100%
Jambalaya S.A.	Uruguay	60.1%
Jauntbrook Limited	England	100%
Jesse Broad Limited	England	100%
John Dunhill & Co Limited	England	100%
KB Järnåldern 3	Sweden	100%
Kemsley Fields Limited – JV	England	43%
Knightsbridge Trustees Limited	England	100%
Latalog Logistica Ltda.	Brazil	100%
Latas De Aluminio Ball, Inc.	Delaware	100%
M.C. Packaging (Hong Kong) Limited	Hong Kong	100%
Magnaparva Packaging Limited – JV	England	50%
McCorquodale & Blades Trust Limited	England	100%
McCorquodale Commercial Products Limited	England	100%
McCorquodale Leasing Limited	England	100%
McCorquodale Limited	England	100%
MCP Beverage Packaging Limited	Hong Kong	100%
MCP Device Limited	BVI	100%
MCP Intellectual Property Holdings Limited	BVI	100%
Mertonlight Limited	England	100%
N O Limited	England	100%
N O Packaging Limited	England	100%
N O Pensions Administration Limited	England	100%
N&W Properties Limited	England	100%
Nacanco Deutschland GmbH	Germany	100%
National Trading Corporation	Delaware	100%
Nellford Limited	England	100%
OPD Packaging Limited	England	100%
PLM Septanus AB	Sweden	100%
Poland Glassworks Holding BV	Netherlands	100%
Prestadora de Servicios de Dentroamerica SA (employing company) - JV	Guatemala	50%
Rayeil International Limited	BVI	100%
RBT (London) Limited	England	100%
recan (Fund)	Serbia	100%
Restlat Investments Limited	England	100%
Rexam (AK) Limited	England	100%
Rexam (Jersey) Limited	Jersey	100%
Rexam AB	Sweden	100%

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Rexam BC Limited	England	100%
Rexam Beauty (Taiwan Holdings) Limited	England	100%
Rexam Beverage Can (India Holdings) Limited	England	100%
Rexam Beverage Can Berlin GmbH	Germany	100%
Rexam Beverage Can Company	Delaware	100%
Rexam Beverage Can Holdings BV	Netherlands	100%
Rexam Beverage Can SAS	France	100%
Rexam Beverage Cans Limited	England	100%
Rexam Beverage Packaging Holdings Limited	England	100%
Rexam Beverage Packaging Invest BV	Netherlands	100%
Rexam Book Printing Limited	England	100%
Rexam C S Pension Trustees Limited	England	100%
Rexam CFP Limited	England	100%
Rexam Closures Limited	England	100%
Rexam Coated Products Limited	England	100%
Rexam CW Limited	England	100%
Rexam DFR China Limited	England	100%
Rexam DFR Taiwan Limited	England	100%
Rexam European Holdings AB	Sweden	100%
Rexam European Holdings Limited	England	100%
Rexam Finance Company Limited	England	100%
Rexam Finance Germany Limited	England	100%
Rexam Finance Netherlands Limited	England	100%
Rexam Finance Poland Limited	England	100%
Rexam Finance Sweden Limited	England	100%
Rexam Financial Services Limited	England	100%
Rexam Flexibles Viking Limited	England	100%
Rexam Foundation – not for profit	Delaware	100%
Rexam France SAS	France	100%
Rexam FW Limited	England	100%
Rexam Graphics Limited	England	100%
Rexam Group Holdings Limited	England	100%
Rexam Healthcare Innovation SAS	France	100%
Rexam High Performance Flexibles Limited	England	100%
Rexam Holding GmbH	Germany	100%
Rexam Holdings AB	Sweden	100%
Rexam Holdings Germany AB	Sweden	100%
Rexam Holdings Limited	England	100%
Rexam Industrial Bulk Packaging Limited	England	100%
Rexam Jersey 2007 Limited	Jersey	100%
Rexam Leasing AB	Sweden	100%
Rexam Limited (f/k/a Rexam PLC)	England	100%
Rexam Liquid Packaging Limited	England	100%
Rexam Nederland Holdings BV	Netherlands	100%
Rexam Overseas Holdings Limited	England	100%
Rexam Packaging Limited	England	100%
Rexam Packaging Systems Limited	England	100%
Rexam Pension Trustees Limited	England	100%
Rexam Pharmaceutical Packaging Limited	England	100%
Rexam Plastic Containers Limited	England	100%
Rexam Property Developments Limited	England	100%
Rexam Property Holdings Limited	England	100%
Rexam RDI Limited	England	100%
Rexam UK Holdings Limited	England	100%
Rexam United Arab Can Manufacturing Limited - JV	Saudi Arabia	51%
Rexam US Investments Limited	England	100%

Name	State or Country of Incorporation or Organization	Percentage ⁽²⁾ Ownership Direct & Indirect
Rexam WCL Limited	England	100%
Rexam WCP Limited	England	100%
Rexam Webster Limited	England	100%
Rexam WM Limited	England	100%
Ruth Jersey 2009 Limited	Jersey	100%
Sario Grundstücks-Vermietungsgesellschaft mbH & CO. Objekt Elfi <i>(not relevant for reporting)</i>	Germany	99%
SCI le Marais	France	100%
Sir Joseph Causton & Sons Limited	England	100%
Sofab Limited	England	100%
Solray Plastics Limited	England	100%
Specialty Coatings Group UK Trustees Limited	England	100%
The Renaissance Insurance Company	Vermont	100%
Unit Moulders Limited	England	100%
USC May Verpackungen Holding Inc.	Delaware	100%
Victor International Plastics (London) Limited	England	100%
Victor International Plastics (Manchester) Limited	England	100%
Victor International Plastics (Midlands) Limited	England	100%
Victor International Plastics (South) Limited	England	100%
Viking Packaging Limited	England	100%
Wavefront Technologies, Inc.	Maryland	100%
Wembley Press Limited	England	100%
Wessex Typesetters Limited	England	100%
Wise Champion Investments Limited	Hong Kong	100%

green=Joint Venture/Associates

red=in liquidation

blue=not for profit

(1) In accordance with Regulation S-K, Item 601(b)(21)(ii), the names of certain subsidiaries have been omitted from the foregoing lists. The unnamed subsidiaries, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as defined in Regulation S-X, Rule 1-02(w).

(2) Represents the Registrant's direct and/or indirect ownership in each of the subsidiaries' voting capital share.

The following is a list of affiliates of BALL CORPORATION included in the financial statements under the equity or cost accounting methods:

Lam Soon-Ball Yamamura - JV	Taiwan	8%
Rocky Mountain Metal Container, LLC	Colorado	50%
TBC-Ball Beverage Can Holdings Limited	Hong Kong	50%
TBC-Ball Beverage Can Vietnam Limited	Vietnam	50%
Thai Beverage Can Ltd. – JV	Thailand	7%

The following is a list of affiliates of BALL PACKAGING EUROPE included in the financial statements under cost accounting methods:

Sekopac d.o.o. <i>(majority owned by unrelated third party)</i>	Serbia	11%
Slopak <i>(majority owned by unrelated third party)</i>	Slovenia	3.33%

*) the percentage of the participation is not known. In general, the share is not material.

Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-129292 and 333-208235) and Registration Statements on Form S-8 (Nos. 333-32393, 333-52862, 333-62550, 333-67180, 333-67284, 333-84561, 333-124449, 333-150457, 333-166376, 333-188116, 333-204061 and 333-217518) of Ball Corporation of our report dated February 22, 2019 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Denver, Colorado
February 22, 2019

Certification

I, John A. Hayes, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ball Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(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 period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth 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 (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

/s/ John A. Hayes
John A. Hayes
Chairman, President and Chief Executive Officer

Certification

I, Scott C. Morrison, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ball Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(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 period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth 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 (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 22, 2019

/s/ Scott C. Morrison
Scott C. Morrison
Senior Vice President and Chief Financial Officer

**Certification of Chief Executive Officer
Pursuant to 18 U.S.C. Section 1350
and Rule 13a-14(b) or Rule 15d-14(b)**

My name is John A. Hayes and I am the Chairman, President and Chief Executive Officer of Ball Corporation (the "Company").

I hereby certify pursuant to 18 U.S.C. Section 1350 as adopted by Section 906 of the Sarbanes—Oxley Act of 2002 that to the best of my knowledge and belief:

- (1) the Annual Report on Form 10-K for the year ended December 31, 2018, filed with the U.S. Securities and Exchange Commission on February 22, 2019 ("Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of the operations of Ball Corporation as of, and for, the periods presented in the Report.

/s/ John A. Hayes

John A. Hayes
Chairman, President and Chief Executive Officer
Ball Corporation

Date: February 22, 2019

This certification, which accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

**Certification of Chief Financial Officer
Pursuant to 18 U.S.C. Section 1350
and Rule 13a-14(b) or Rule 15d-14(b)**

My name is Scott C. Morrison and I am the Senior Vice President and Chief Financial Officer of Ball Corporation (the “Company”).

I hereby certify pursuant to 18 U.S.C. Section 1350 as adopted by Section 906 of the Sarbanes—Oxley Act of 2002 that to the best of my knowledge and belief:

- (1) the Annual Report on Form 10-K for the year ended December 31, 2018, filed with the U.S. Securities and Exchange Commission on February 22, 2019 (“Report”), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as amended; and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of the operations of Ball Corporation as of, and for, the periods presented in the Report.

/s/ Scott C. Morrison

Scott C. Morrison
Senior Vice President and Chief Financial Officer
Ball Corporation

Date: February 22, 2019

This certification, which accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

**SAFE HARBOR STATEMENT UNDER THE PRIVATE SECURITIES
LITIGATION REFORM ACT OF 1995**

In connection with the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 (the Reform Act), Ball is hereby filing cautionary statements identifying important factors that could cause Ball's actual results to differ materially from those described in forward-looking statements made by or on behalf of Ball. Forward-looking statements may be made in several different contexts; for example, in the company's Form 10-K, 10-Q, 8-K and other filings with the Securities and Exchange Commission ("SEC"), quarterly and annual earnings news releases, quarterly earnings conference calls hosted by the company, public presentations at investor and credit conferences, the company's Annual Report and in other periodic communications with investors. As time passes, the relevance and accuracy of forward-looking statements may change; however, except as required by law, the company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. You are advised to consult any further disclosures and cautionary statements Ball makes on related subjects in our Form 10-K, 10-Q and 8-K reports and other filings with the SEC. The Reform Act defines forward-looking statements as statements that express or imply an expectation or belief and contain a projection, plan or assumption with regard to, among other things, future revenues, income, earnings per share, cash flow or capital structure. Words such as "expects," "anticipates," "estimates," "believes," "targets," "likely," "foresees," "positions" and similar expressions typically identify forward-looking statements, which are generally any statements other than statements of historical facts. These forward-looking statements are not guarantees of future performance, and you should therefore not place undue reliance upon such statements. Rather, these statements involve estimates, assumptions uncertainties and known and unknown risks, many of which are outside our control, and such statements are therefore qualified in their entirety by reference to the following important factors, among others (including those described in any "Risk Factors" section of our most current Form 10-K, 10-Q or other filings with the SEC), that could cause Ball's actual results or performance to differ materially from those expressed or implied in forward-looking statements made by or on behalf of Ball:

- Fluctuation in customer and consumer growth, spending, demand or preferences, both on a seasonal basis and those that may be longer-term or structural in nature, including any effect on demand for our products as a result of the enactment of laws and programs aimed at discouraging the consumption or altering the package or portion size of certain of our customers' products.
- Customer, competitor or supplier consolidation and potential correspondent supply chain influence.
- Loss of one or more major customers or suppliers or changes to contracts with one or more customers or suppliers.
- Failure to achieve anticipated productivity improvements or cost reductions including those associated with capital expenditures; failure to achieve an appropriate or optimal level of maintenance and capital expenditures; and failure to achieve expectations with respect to expansion plans, accretion to reported earnings, working capital improvements and investment income or cash flow projections.
- Changes in climate and weather; acts of war, terrorism or other significant or catastrophic geopolitical events or natural disasters, or the catastrophic loss of one of our key manufacturing or operating facilities.
- Financial risks, including changes in interest rates affecting our debt or our ability to comply with the terms of our debt instruments; changes in the hedging markets or our inability or failure to economically hedge or insure against certain risks or potential exposures; changes in foreign exchange rates of the currencies in the countries in which the company and its joint ventures carry on business; counterparty risk; liquidity risk; inflation or deflation; and changes in capital availability and our access to financing, including the risk of constraints on financing in the event of a credit rating downgrade.

- Competition in each line of business, including with respect to pricing and the possible decrease in, or loss of, sales or margins resulting therefrom; product development and introductions by our competitors; and technology changes, including the effect on us of technological or product advances made by our competitors.
- The ability or inability to achieve and protect technological and product extensions or new technological and product advances in the company's businesses, including our ability to maintain develop and capitalize on competitive technologies for the design and manufacture of products and to withstand competitive and legal challenges to the proprietary nature of such technology (or protect any unpatented proprietary know-how and trade secrets).
- Ball's ability or inability to have available sufficient production capacity, or have such capacity available in the right locations, in a timely manner, as well as footprint adjustments and other manufacturing changes.
- Overcapacity of Ball or in the metal container industry generally, and its potential impact on costs, pricing and financial results.
- Regulatory action or issues, or changes in federal, state, local or foreign laws, including those related to tax, environmental, health and workplace safety, including in respect of climate change, or chemicals or substances used in raw materials or in the manufacturing process, particularly concerning Bisphenol-A, or BPA, a chemical used in the manufacture of epoxy coatings applied to many types of containers (including certain of those products produced by the company), as well as laws relating to recycling, mandatory deposit or restrictive packaging legislation, or to the effects on health of ingredients or substances in, or attributes of, certain of our customers' products
- The effect of any antitrust, intellectual property, consumer, employee or other litigation, investigations or governmental proceedings.
- The availability and cost of raw materials, commodities, supplies, energy, logistics and natural resources needed for the production of metal containers as well as aerospace products, and our ability or inability to pass on to customers changes in raw material costs, particularly steel and aluminum.
- Changes in senior management; strikes and other labor issues; increases and trends in various employee benefits and labor costs, including pension, medical and health care costs incurred in the countries in which Ball has operations; rates of return projected and earned on assets and discount rates used to measure future obligations and expenses of the company's defined benefit retirement plans; and changes in the company's pension plans.
- International business and market risks and economic conditions; political and economic instability in various markets, including periodic sell-offs on global or regional debt or equity markets; restrictive trade practices of national governments; the imposition of duties, taxes or other government charges by national governments; exchange controls; trade sanctions; and ongoing uncertainties and other effects surrounding geopolitical events and governmental policies and actions, both in the U.S. and in other countries, including with respect to the U.S. government budget and debt limit, the potential exit of the United Kingdom from the E.U., and other matters.

- Undertaking successful or unsuccessful acquisitions, divestitures, joint ventures or strategic realignments (including the recently completed acquisition of Rexam PLC and disposition transaction with Ardagh Group S.A.), including with respect to our ability to successfully integrate acquired businesses and achieve anticipated synergies and our ability to successfully expand international and emerging markets; and the effect of acquisitions, divestitures, joint ventures or strategic realignments on our business relationships, operating results and business generally.
- The company's ability to protect its information technology systems from attacks or catastrophic failure, and the strength of the company's cyber-security.
- Delays, extensions and technical uncertainties, as well as schedules of performance associated with contracts for aerospace products and services, and the success or lack of success of satellite launches and the businesses and governments associated with aerospace products, services and launches.
- The authorization, funding and availability and returns of government contracts and the nature and continuation of those contracts and related services provided thereunder, as well as the delay, cancellation or termination of contracts for the United States government, other customers or other government contractors.
- The timing and extent of regulation or deregulation, or changes to regulations and standards, including changes in generally accepted accounting principles or their interpretation.
- Changes to unaudited results due to statutory audits of our financial statements or management's evaluation of the company's internal controls over financial reporting.
- Loss contingencies related to income and other tax matters, including those arising from audits performed by national and local tax authorities.
- Changes to unaudited results due to statutory audits of our financial statements or management's evaluation of the company's internal controls over financial reporting.