

**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, 2019

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	Trading Symbol	Name of each exchange on which registered
Common Stock, without par value	BLL	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 whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer 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 \$23.2 billion based upon the closing market price and common shares outstanding as of June 30, 2019.

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

Class	Outstanding at February 17, 2020
Common Stock, without par value	325,773,210 shares

DOCUMENTS INCORPORATED BY REFERENCE

1. Proxy statement to be filed with the Commission within 120 days after December 31, 2019, to the extent indicated in Part III.

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Ball Corporation
ANNUAL REPORT ON FORM 10-K
For the year ended December 31, 2019

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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 aluminum packaging for 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 sustainable, aluminum 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 2019, our total consolidated net sales were \$11.5 billion. Our packaging businesses were responsible for 87 percent of our net sales, with the remaining 13 percent contributed by our aerospace business.

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

We sell our aluminum packaging products globally 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 and Anheuser-Busch InBev n.v./s.a., among others.

Our aerospace business is a leader in delivering solutions ranging from entire missions to contributing component level expertise through the design, development and manufacture of innovative systems for intelligence surveillance and reconnaissance, civil, commercial and national security aerospace markets. It produces spacecraft, instruments and sensors, radio frequency systems and components, data exploitation solutions and a variety of advanced technologies and products that enable weather prediction and climate change monitoring as well as 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 Drive for 10 vision defines our overall business strategy. At its highest level, Drive for 10 is a mindset around perfection, with a greater sense of urgency around our future success. Launched in 2011, Drive for 10 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 by:

- 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

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The cash generated by our businesses is used primarily: (1) to finance the company's operations, (2) to fund growth 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

At Ball Corporation, we believe in our people, our culture and our ability to deliver value to our stakeholders. Like uncompromising integrity and customer focus, sustainability is part of our Drive for 10 vision and has been a part of who we are since our founding in 1880.

Our triple bottom-line approach to sustainability – environmental, economic and social – has evolved over the years and is the lens through which we conduct business at every level of our organization today. Sustainability is a key part of our business strategy, and influences how we manage and operate our businesses, serve our customers, care for the environment and our communities, secure profits and drive long-term prosperity.

We focus our sustainability efforts on product stewardship, operational excellence, human capital management and community engagement. In our manufacturing operations around the world, we work on continuous improvement of employee safety and engagement, energy and water efficiency, reducing air emissions, and waste reduction and recycling. And our commitment extends outside of our walls.

Today's consumers are acutely aware of the plastic pollution crisis, and they are choosing brands based on their sustainability. Customers understand this growing concern for the environment and their unique position in impacting the environment, for better or worse, especially through the packaging materials they use. Infinitely recyclable and economically valuable, aluminum unlocks the full potential of packaging to help customers convey values and purpose to consumers.

Aluminum cans, bottles and now cups are an increasingly attractive option for sustainability-conscious brands and consumers who want to do the right thing for the environment. Unlike plastic, glass, cartons or compostable containers, aluminum can be recycled again and again without losing quality, and is in high demand across industries and applications, pushing its collection, sorting and recycling rates to the highest of any material. That's why 75 percent of all aluminum ever produced is still in use today.

In 2017, Resource Recycling Systems recognized aluminum beverage cans as the most recycled beverage package in the world, with a global average recycling rate of 69 percent. In comparison, only 43 percent of PET and 46 percent of glass bottles were collected, although not necessarily recycled. These findings solidify aluminum beverage packaging 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 the case of aluminum beverage packaging, which is monomaterial, a can, bottle or cup can be recycled and made back into the same product in as little as 60 days. In contrast, only nine percent of all plastic ever produced has been recycled and mostly, it's only down-cycled. Down-cycled products, including but not limited to when plastic is converted to become part of a sneaker or fibers in a carpet, is not sustainable because eventually those products end up in landfills. Real recycling happens when the value of the product being recycled is maintained from one use to another.

Because recycling aluminum saves resources and uses significantly less energy than primary aluminum production, we are innovating and collaborate with our customers, supply chain, and other public and private partners to establish and financially support initiatives to increase recycling rates. As two examples, we work together to create effective collection and recycling systems and educate consumers about the sustainability benefits of aluminum packaging.

Our aerospace business plays a role in sustainability as well. More and more, our systems are measuring key elements of the physical environment and supporting environmental monitoring and operational weather forecasting programs, as well as providing environmental intelligence on weather, the Earth's climate system, precipitation, drought, air pollution, vegetation and biodiversity measurements.

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The data captured through Ball-built instruments and satellites enable an enhanced understanding of the Earth's ecosystem and the stratospheric ozone layer and severe storm tracking, and better enabling effective management of natural resources, including helping experts to make routine drought assessments and fire prevention plans.

At Ball, our sustained long-term success depends not only on our products and our operations, but on an engaged and sustainable workforce. We continue to invest in recruiting to ensure we have the right people with the right skills in the right roles, and in developing our employees at every level and providing them with opportunities to advance their careers. We also are committed to embracing diversity and providing an inclusive environment where employees can thrive. A focus on diversity among individuals and teams helps to unleash ideas and fuel innovation, which drives growth and economic value throughout our global organization.

A healthy and sustainable business also depends on thriving communities. Ball's commitment to the communities where we live and operate is an integral part of our corporate culture, as we continue to support organizations, programs and civic initiatives that advance sustainable livelihoods. Community engagement is how our company and our employees enrich the places where we live and work beyond providing jobs, benefits and paying local taxes. Through the Ball Foundation, corporate giving, employee giving and volunteerism, we invest in the future of the communities that sustain us. In 2018, Ball and its employees donated nearly \$5.5 million and logged more than 42,000 hours of volunteer service to non-profit organizations centered on building sustainable communities through recycling, STEM education, and disaster preparedness and relief initiatives.

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).

Beginning in January 2020, Ball has changed how the beverage packaging, AMEA, and beverage packaging, Asia Pacific, operating segments are being managed and reported for the purposes of cost reduction and operational efficiency. The company's plants in Cairo, Egypt, and Manisa, Turkey, will be managed with the existing reportable beverage packaging, Europe, operating segment. The company's operations in India and Saudi Arabia will be consolidated with the remainder of the beverage packaging, Asia Pacific, operating segment resulting in a new non-reportable beverage packaging, other, operating segment. These changes will be reflected in our segment financial reporting beginning in the first quarter of 2020 including comparative historical periods.

Beverage Packaging, North and Central America, Segment

Beverage packaging, North and Central America, is Ball's largest segment, accounting for 41 percent of consolidated net sales in 2019. Aluminum beverage containers are primarily sold under multi-year supply contracts to fillers of carbonated soft drinks, beer, energy drinks and other beverages.

Aluminum 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. Since 2018, the industry has begun to see certain new products launched in aluminum cans at an increased rate than had been historically as well as further can penetration in existing beverage categories. In order to serve growing customer demand for specialty cans across North America, the company constructed a four-line beverage packaging facility in Goodyear, Arizona, which began production in the second quarter of 2018 and recently announced plans to construct additional plants in Glendale, Arizona, and an unspecified location in the northeastern U.S.

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According to publicly available information and company estimates, the North American beverage container industry represents approximately 115 billion units. Five companies manufacture substantially all of the metal beverage containers in the U.S., Canada and Mexico. Ball shipped approximately 48 billion infinitely recyclable aluminum beverage containers in North America in 2019, which represented approximately 42 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, a diverse base of no less than 10 global suppliers provide almost all 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 aluminum 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 limit our exposure to changes in the cost of aluminum ingot as a result of the inclusion of provisions in most of our aluminum 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 Birmingham, Alabama, 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 aluminum beverage cans and ends 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 2019. Our operations consist of 12 facilities, 9 in Brazil and one each in Argentina, Chile and Paraguay. For the countries where we operate, the South American beverage container market is approximately 36 billion containers, and we are the largest producer in this region with an estimated 49 percent of South American shipments in 2019. Four companies currently manufacture substantially all of the metal beverage containers in Brazil.

The company's South American beverage facilities shipped approximately 18 billion aluminum beverage containers in 2019. 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 and Bolivia, the company constructed a one-line beverage can and end manufacturing facility in Paraguay which began production in the fourth quarter of 2019, and increased capacity to its Buenos Aires, Argentina, and Santiago, Chile, facilities. 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 limit our exposure to changes in the cost of aluminum ingot as a result of the inclusion of provisions in most of our aluminum 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 2019. Our European operations consist of 20 facilities throughout Europe. The European beverage container market is approximately 72 billion containers, including Russia and excluding Turkey, and we are the largest producer with an estimated 42 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 shipped 31 billion beverage containers in 2019, the vast majority of which were produced from aluminum.

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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. These trends are evolving, however, as customers respond to consumer demand, and regulators and non-governmental organizations press for more sustainable packaging in the wake of the plastic pollution crisis. More and more brands are choosing aluminum beverage packaging because of its infinite recyclability and other sustainability credentials. The overall recycling rate for aluminum beverage cans in the European Union, Switzerland, Norway and Iceland increased to a new record level of approximately 75 percent in 2017.

European raw material supply contracts generally have longer term agreements. In Europe, five aluminum suppliers and two steel suppliers 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 in 2018 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 December 2018, we closed a one-line beverage packaging facility located in San Martino, Italy.

Aerospace Segment

Ball's aerospace segment, which accounted for 13 percent of consolidated net sales in 2019, 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 98 percent of segment sales in 2019.

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, climate monitoring, weather prediction, 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.

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Contracted backlog in the aerospace segment was \$2.5 billion and \$2.2 billion at December 31, 2019 and 2018, respectively, and consisted of the aggregate contract value of firm orders, excluding amounts previously recognized as revenue. The 2019 contracted backlog includes \$1.5 billion expected to be recognized in revenues during 2020, 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 \$1.6 billion and \$1.4 billion at December 31, 2019 and 2018, respectively. Year-over-year comparisons of backlog are not necessarily indicative of the trend of future operations, revenues and earnings 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 aluminum 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 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 industry in this region shipped 19 billion cans in 2019, and we are one of eight major producers in this region with 23 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.

Beverage Packaging, Asia Pacific

In September 2019, Ball sold its beverage packaging business in China. The remaining operations of the Asia Pacific region include one aluminum beverage container manufacturing facility in Myanmar. Our aluminum can and end sheet requirements are provided by several suppliers.

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

Aerosol Packaging

In October 2019, Ball sold its steel aerosol packaging business in Argentina. Our remaining aluminum aerosol packaging operations manufacture and sell extruded aluminum aerosol containers and aluminum slugs, which represented less than 5 percent of Ball's consolidated net sales in 2019. There are eight manufacturing facilities that manufacture these products – four in Europe and one each in the U.S., Canada, Mexico and India. The aerosol packaging market in these countries shipped approximately 5.6 billion aluminum aerosol units in 2019 and we are one of the major producers in this combined area with shipments of 1.2 billion aluminum aerosol packaging containers, representing approximately 21 percent of total shipments in these markets. Our aluminum aerosol requirements are provided by several suppliers.

Aluminum Cups

The Ball Aluminum Cups business was launched during 2019 to serve the growing demand for innovative, sustainable beverage packaging among customers and consumers. Aligned with our Drive for 10 strategy, the Cups business allows us to put our years of experience and specialized expertise to serve a currently unmet need with another environmentally friendly addition to our industry-leading portfolio of aluminum packages. Sturdy, durable and cool to the touch, the infinitely recyclable Ball Aluminum Cup will be made at a dedicated manufacturing facility that is under construction in Rome, Georgia. When the Rome plant is fully operational, Ball plans to introduce additional sizes to round out its cups portfolio and intends to expand adoption of the cups to drinking establishments, parks and recreation, colleges and universities, hospitality, restaurants, retail, business and industry. The 2019 results for the Aluminum Cups business were reported in undistributed corporate expenses. Beginning in January 2020, the Aluminum Cups business will be a non-reportable operating segment.

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 2019, the company and its subsidiaries employed approximately 18,300 employees, including approximately 8,700 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.

If we do not effectively manage change and growth, our business could be adversely affected.

Our future revenue and operating results will depend on our ability to effectively manage the anticipated growth of our business. We have experienced significant growth in recent years and are expanding our operations, increasing our headcount and expanding into new product offerings. This growth has placed significant demands on our management as well as our financial and operational resources, and continued growth presents several challenges, including:

- expanding manufacturing capacity, maintaining quality and increasing production;
- identifying, attracting and retaining qualified personnel;
- developing and retaining our global sales, marketing and administrative infrastructure and capabilities;
- increasing our regulatory compliance capabilities, particularly in new lines of business;
- building out our expertise in a number of disciplines, including marketing, licensing, and merchandising; and
- implementing appropriate operational, financial and IT systems and internal controls.

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

The company had \$7.8 billion of interest-bearing debt at December 31, 2019. 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. More generally, supply and demand fluctuations could make it difficult for us to forecast and meet certain customers' needs. 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. and Europe. 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 approximately 50 percent of our consolidated net sales from outside of the U.S. for the year ended December 31, 2019. 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 a significant 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. Unseasonable weather can reduce demand for certain beverages packaged in our containers. Climate change and the increasing frequency of severe weather events could have various effects on the demand for our products, our supply chain and the costs of inputs to our production and delivery of products in different regions around the world.

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

We purchase aluminum 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, 2019, 15 percent of our North American employees and 53 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.

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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. Additionally, there is increased focus on the regulation of greenhouse gas emissions and other environmental issues worldwide. We strive to mitigate such risks related to environmental issues, including through the purchase of renewable energy, the adoption of sustainable practices, and by positioning ourselves as a sustainability leader in our industry.

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 our consolidated balance sheet as of December 31, 2019. 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.

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 employees in the United States and a significant number of United Kingdom deferred and retired participants, 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.

If 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.

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.

Additionally, on December 9, 2019, a tax reform law was enacted in Mexico which includes, among other changes, limitations on Mexican companies' ability to deduct certain expenses. We do not currently expect that this law will materially affect us, but that expectation could change with unanticipated enforcement or interpretation of the law.

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, 2019, 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) and formally withdrew from the EU on January 31, 2020. This withdrawal 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 their ongoing relationship. Our business in the U.K., the EU and worldwide could be affected by this uncertainty. 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.

The referendum and the withdrawal of the U.K. from the EU 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 conclude on a trade agreement 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 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 2.3 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.

Ball's manufacturing locations for significant packaging operations, which are owned or leased by the company, are set forth below. Facilities in the process of being constructed, or that have ceased production, have been excluded from the list. In addition to the facilities listed, the company leases other warehousing space.

Beverage packaging, North and Central America, locations:

- Conroe, Texas
- Fairfield, California
- Findlay, Ohio
- Fort Atkinson, Wisconsin
- Fort Worth, Texas
- Golden, Colorado
- Goodyear, Arizona
- Kapolei, Hawaii
- Kent, Washington
- Monterrey, Mexico
- Monticello, Indiana
- Phoenix, Arizona
- Queretaro, Mexico
- Rome, Georgia
- Saint Paul, Minnesota
- Saratoga Springs, New York
- Tampa, Florida
- Wallkill, New York
- Whitby, Ontario, Canada
- Williamsburg, Virginia

Beverage packaging, South America, locations:

- Aguas Claras, Brazil
- Asuncion, Paraguay
- Brasilia, Brazil
- Buenos Aires, Argentina
- Extrema, Brazil
- Jacarei, Sao Paulo, Brazil
- Manaus, Brazil
- Pouso Alegre, Brazil
- Recife, Brazil
- Santa Cruz, Brazil
- Santiago, Chile
- Tres Rios, Rio de Janeiro, Brazil

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Beverage packaging, Europe, locations:

- Argayash, Russia
- Belgrade, Serbia
- Bierne, France
- Cabanillas del Campo, Spain
- Ejpovice, Czech Republic
- Fosie, Sweden
- Fredericia, Denmark
- Gelsenkirchen, Germany
- La Selva, Spain
- Lublin, Poland
- Ludesch, Austria
- Mantsala, Finland
- Milton Keynes, United Kingdom
- Mont, France
- Naro Fominsk, Russia
- Nogara, Italy
- Vsevolozhsk, Russia
- Wakefield, United Kingdom
- Waterford, Ireland
- Widnau, Switzerland

Beverage packaging, AMEA, locations:

- Cairo, Egypt
- Dammam, Saudi Arabia
- Manisa, Turkey
- Mumbai, India
- Sri City, India

Beverage packaging, Asia Pacific, location:

- Yangon, Myanmar

Aerosol packaging locations:

- Ahmedabad, India
- Beaupaire, France
- Bellegarde, France
- Devizes, United Kingdom
- San Luis Potosi, Mexico
- Sherbrooke, Quebec, Canada
- Velim, Czech Republic
- Verona, Virginia

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 6,313 common shareholders of record on February 17, 2020.

Common Stock Repurchases

The following table summarizes the company's repurchases of its common stock during the quarter ended December 31, 2019.

(\$ in millions)	Purchases of Securities			Total 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	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (a)	
October 1 to October 31, 2019	2,378,800	\$ 72.27	2,378,800	39,856,888
November 1 to November 30, 2019	1,405,348	66.49	1,405,348	38,451,540
December 1 to December 31, 2019	1,128,600	64.50	1,128,600	37,322,940
Total	<u>4,912,748</u>	68.83	<u>4,912,748</u>	

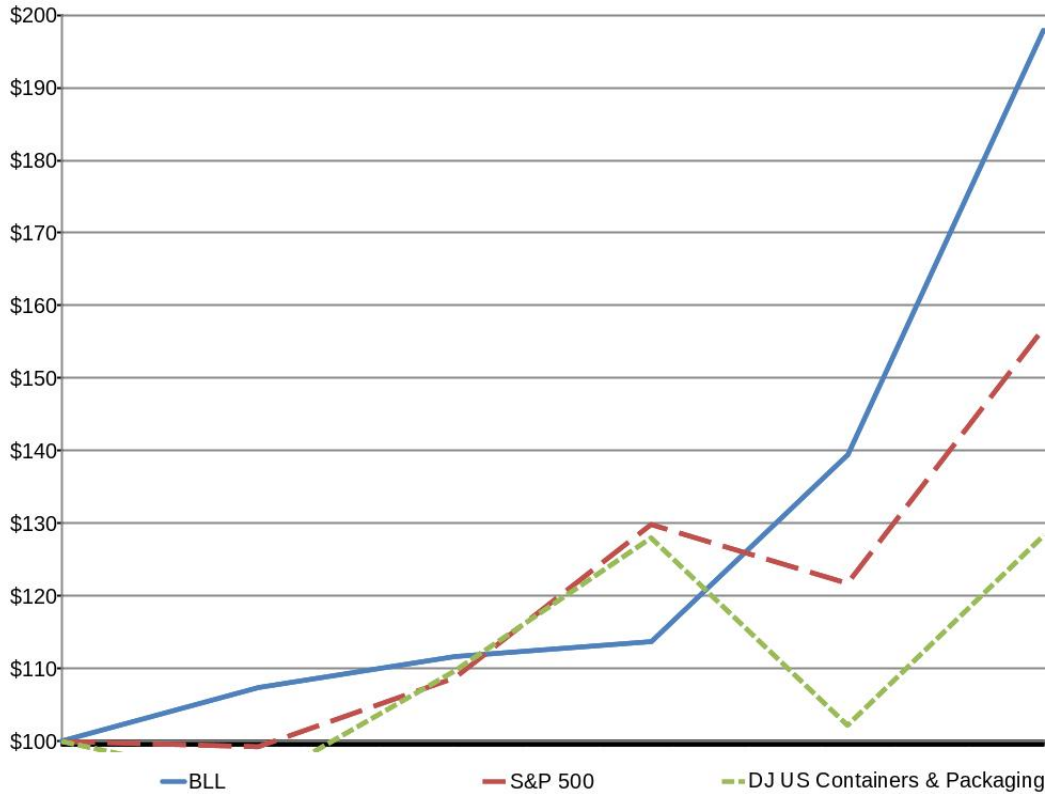
(a) Includes any open market purchases (on a trade-date basis), share repurchase agreements and/or shares retained by the company to settle employee withholding tax liabilities.

(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, 2019. The graph assumes \$100 was invested on December 31, 2014, 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 12/31/14)



Total Return Analysis

	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
BLL	\$ 100.00	\$ 107.49	\$ 111.73	\$ 113.71	\$ 139.48	\$ 197.82
S&P 500	100.00	99.27	108.74	129.86	121.76	156.92
DJ US Containers & Packaging	100.00	94.19	109.70	128.02	102.22	128.38

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)	2019	2018	2017	2016	2015
Net sales	\$ 11,474	\$ 11,635	\$ 10,983	\$ 9,061	\$ 7,997
Earnings before interest and taxes (EBIT)	\$ 932	\$ 935	\$ 802	\$ 463	\$ 606
Total interest expense	(324)	(302)	(288)	(338)	(260)
Earnings before taxes	<u>\$ 608</u>	<u>\$ 633</u>	<u>\$ 514</u>	<u>\$ 125</u>	<u>\$ 346</u>
Net earnings attributable to Ball Corporation (a)	\$ 566	\$ 454	\$ 374	\$ 263	\$ 281
Basic earnings per share (a)	\$ 1.71	\$ 1.32	\$ 1.07	\$ 0.83	\$ 1.02
Weighted average common shares outstanding (000s)	<u>331,102</u>	<u>344,796</u>	<u>350,269</u>	<u>316,542</u>	<u>274,600</u>
Diluted earnings per share (a)	\$ 1.66	\$ 1.29	\$ 1.05	\$ 0.81	\$ 1.00
Diluted weighted average common shares outstanding (000s)	<u>340,121</u>	<u>352,321</u>	<u>356,985</u>	<u>322,884</u>	<u>281,968</u>
Total assets	\$ 17,360	\$ 16,554	\$ 17,169	\$ 16,173	\$ 9,697
Total interest bearing debt and capital lease obligations	\$ 7,817	\$ 6,729	\$ 6,971	\$ 7,532	\$ 5,051
Cash dividends per share	\$ 0.55	\$ 0.40	\$ 0.365	\$ 0.26	\$ 0.26
Total cash provided by operating activities (c)	\$ 1,548	\$ 1,566	\$ 1,478	\$ 193	\$ 1,037
Non-U.S. GAAP Measures (b)					
Comparable operating earnings	\$ 1,331	\$ 1,290	\$ 1,220	\$ 976	\$ 801
Comparable net earnings	\$ 861	\$ 775	\$ 728	\$ 563	\$ 490
Diluted earnings per share (comparable basis)	\$ 2.53	\$ 2.20	\$ 2.04	\$ 1.74	\$ 1.74
Free cash flow (c)	\$ 950	\$ 750	\$ 922	\$ (413)	\$ 509

- (a) Includes business consolidation and other activities and other items affecting comparability between years. Additional details regarding the 2019, 2018 and 2017 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-U.S. 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 and 2015 have been retrospectively adjusted to reflect the adoption of new accounting guidance for the preparation of the statement of cash flows that was effective January 1, 2018. Cash provided by operating activities was increased by \$30 million in 2015 as a result of adopting the new accounting guidance.

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

(\$ in millions)	2019	2018	2017	2016	2015
Net earnings attributable to Ball Corporation	\$ 566	\$ 454	\$ 374	\$ 263	\$ 281
Add: Net earnings attributable to noncontrolling interests	(30)	(1)	6	3	22
Net earnings	536	453	380	266	303
Less: Equity in results of affiliates, net of tax	1	(5)	(31)	(15)	(4)
Add: Tax provision (benefit)	71	185	165	(126)	47
Earnings before taxes, as reported	608	633	514	125	346
Total interest expense	324	302	288	338	260
Earnings before interest and taxes (EBIT)	932	935	802	463	606
Business consolidation and other activities	244	191	221	337	195
Amortization of acquired Rexam intangibles	155	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>\$ 1,331</u>	<u>\$ 1,290</u>	<u>\$ 1,220</u>	<u>\$ 976</u>	<u>\$ 801</u>
Net earnings attributable to Ball Corporation, as reported	\$ 566	\$ 454	\$ 374	\$ 263	\$ 281
Business consolidation and other activities	244	191	221	337	195
Amortization of acquired Rexam intangibles	155	164	162	65	—
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation	—	—	35	—	—
Share of equity method affiliate non-comparable costs	16	8	—	—	—
Cost of sales associated with Rexam inventory step-up	—	—	—	84	—
Egyptian pound devaluation	—	—	—	27	—
Debt refinancing and other costs	7	1	3	109	117
Noncontrolling interest share of non-comparable costs, net of tax	(32)	—	—	—	—
Non-comparable taxes	(95)	2	(150)	(322)	(103)
Impact of U.S. tax reform	—	(45)	83	—	—
Net earnings attributable to Ball Corporation before above transactions (Comparable Net Earnings)	<u>\$ 861</u>	<u>\$ 775</u>	<u>\$ 728</u>	<u>\$ 563</u>	<u>\$ 490</u>
Total cash provided by operating activities (a)(b)	\$ 1,548	\$ 1,566	\$ 1,478	\$ 193	\$ 1,037
Capital expenditures	(598)	(816)	(556)	(606)	(528)
Free cash flow (b)	<u>\$ 950</u>	<u>\$ 750</u>	<u>\$ 922</u>	<u>\$ (413)</u>	<u>\$ 509</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.

(b) Amounts in 2017, 2016 and 2015 have been retrospectively adjusted to reflect the adoption of new accounting guidance for the preparation of the statement of cash flows that was effective January 1, 2018. Cash provided by operating activities was increased by \$30 million in 2015 as a result of adopting the new accounting guidance.

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 aluminum packaging suppliers. 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 aluminum 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 aluminum 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 aluminum beverage and aerosol 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 aluminum through the inclusion of provisions in contracts covering the majority of our volumes to pass through aluminum 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 improving efficiencies in our beverage container and end facilities in North America, South America and Europe, and expanding specialty container production across our global plant network to meet current demand; leveraging plant floor systems in our beverage facilities to reduce costs and manage contractual provisions across our diverse customer base; successfully acquiring and integrating a large global aluminum beverage business while also divesting underperforming steel food and steel aerosol packaging assets in North and South America and four beverage packaging facilities in China; and in the remaining aluminum 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 our new lightweight, infinitely recyclable aluminum cup and providing next-generation extruded aluminum aerosol packaging that utilizes proprietary technology to significantly lightweight the can; and successfully introducing new specialty beverage cans and 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 43 percent of our global beverage packaging mix; aligning with spiked seltzer and craft brewers, sparkling and still water fillers, wine producers and other new beverage producers who continue to use aluminum beverage containers to grow their business;
- Broadening our geographic reach with our acquisition of Rexam and our new investments in beverage manufacturing facilities in the United States, Paraguay, Spain, Mexico, Myanmar and Panama, as well as an extruded aluminum aerosol manufacturing facility in India and construction of a dedicated aluminum cup manufacturing facility in the U.S.; and
- Leveraging our technological expertise in packaging innovation, including the introduction of our new proprietary, brandable lightweight aluminum cup and providing 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 methane monitoring, 5G and LIDAR capabilities to further enhance our aerospace technical expertise across a broader customer portfolio.

These ongoing business developments 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. In order to successfully execute our strategy and reach our goals, we realize the importance of excelling in the following areas: customer focus, operational excellence, innovation and business development, people and culture focus and sustainability.

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.

Refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations [of the company's Annual Report on Form 10-K for the year ended December 31, 2018](#), filed February 22, 2019, for a comparison of the 2018 results of operations to the 2017 results.

Consolidated Sales and Earnings

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 11,474	\$ 11,635	\$ 10,983
Net earnings attributable to Ball Corporation	566	454	374
Net earnings attributable to Ball Corporation as a % of net sales	5 %	4 %	3 %

Sales in 2019 were \$161 million lower compared to 2018 primarily as a result of selling the U.S. and Argentine steel food and steel aerosol businesses, selling our China beverage packaging business, the pass through of lower aluminum prices, the conclusion of the South America segment's end sales associated with the Rexam acquisition and unfavorable exchange rates for our Europe segment, partially offset by higher beverage can unit volumes and higher pricing in our Europe and North and Central America segments and increased sales in the aerospace segment.

Net earnings attributable to Ball Corporation in 2019 were \$112 million higher than 2018 primarily due to higher beverage can unit volumes and prices, increased sales in the aerospace segment, lower selling, general and administrative expenses and lower income tax expense, partially offset by the conclusion of our South America segment's end sales agreement associated with the Rexam acquisition, higher interest expense, higher business consolidation and other costs, unfavorable U.S. aluminum scrap rates and manufacturing inefficiencies experienced in our North and Central America segment.

Cost of Sales (Excluding Depreciation and Amortization)

Cost of sales, excluding depreciation and amortization, was \$9,203 million in 2019 compared to \$9,329 million in 2018. These amounts represented 80 percent of consolidated net sales for the years ended 2019 and 2018.

Depreciation and Amortization

Depreciation and amortization expense was \$678 million in 2019 compared to \$702 million in 2018. These amounts represented 6 percent of consolidated net sales for 2019 and 2018. Amortization expense in 2019 and 2018 included \$155 million and \$164 million, respectively, for the amortization of acquired Rexam intangibles.

Selling, General and Administrative

Selling, general and administrative (SG&A) expenses were \$417 million in 2019 compared to \$478 million in 2018. These amounts represented 4 percent of consolidated net sales for both years.

Business Consolidation Costs and Other Activities

Business consolidation and other activities were \$244 million in 2019 compared to \$191 million in 2018. These amounts represented 2 percent of consolidated net sales for both years.

The year-over-year increase in business consolidation and other activities in 2019 compared to 2018 was primarily due to charges related to the impairment of long-lived and other assets in Saudi Arabia and the sale of the China beverage packaging and Argentine steel aerosol businesses, partially offset by a gain on indirect taxes in Brazil.

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Interest Expense

Total interest expense was \$324 million in 2019 compared to \$302 million in 2018. Interest expense was higher in 2019 as compared to 2018 as the average level of debt held was higher than the preceding period. Interest expense, excluding the effect of debt refinancing and other costs, as a percentage of average monthly borrowings was 4 percent in 2019 and 2018.

Tax Provision

The company's 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 2019 effective income tax rate was 11.7 percent compared to 29.2 percent for 2018. As compared with the statutory U.S. federal income tax rate of 21 percent, the 2019 effective rate was reduced by 7.1 percent for equity compensation benefits, by 3.1 percent for various uncertain tax positions and by 1.6 percent for the impact of the U.S. R&D credit. These reductions were partially offset by an increase of 2.0 percent due to the tax on global intangible low-taxed income (GILTI). While these items are expected to recur, the potential magnitude of each item is uncertain.

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,		
	2019	2018	2017
Net sales	\$ 4,758	\$ 4,626	\$ 4,178
Comparable operating earnings	555	551	533
Business consolidation and other activities (a)	(14)	(6)	(47)
Amortization of acquired Rexam intangibles	(29)	(31)	(32)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	—	(6)
Total segment earnings	\$ 512	\$ 514	\$ 448
Comparable operating earnings as a % of segment net sales	12 %	12 %	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.

Segment sales in 2019 were \$132 million higher compared to 2018. The increase in 2019 was primarily due to higher volumes of \$192 million and improved customer sales mix, partially offset by the pass through of lower aluminum prices. We cannot predict the impact on sales that will result from future changes in aluminum input prices.

Comparable operating earnings in 2019 were \$4 million higher compared to 2018 primarily due to higher sales volumes and improved customer sales mix, partially offset by unfavorable U.S. aluminum scrap rates, increased start-up costs and operational inefficiencies.

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Beverage Packaging, South America

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 1,670	\$ 1,701	\$ 1,692
Comparable operating earnings	288	313	333
Business consolidation and other activities (a)	15	11	(5)
Amortization of acquired Rexam intangibles	(56)	(56)	(56)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	—	(14)
Total segment earnings	\$ 247	\$ 268	\$ 258
Comparable operating earnings as a % of segment net sales	17 %	18 %	20 %

(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.

Segment sales in 2019 were \$31 million lower compared to 2018. The decrease in 2019 was primarily related to the pass through of lower aluminum prices, the conclusion of the end sales agreement associated with the Rexam acquisition and regional price/mix, partially offset by higher can and end volumes of \$132 million.

Comparable operating earnings in 2019 were \$25 million lower compared to 2018 primarily related to the conclusion of the end sales agreement associated with the Rexam acquisition, regional price/mix and unfavorable currency exchange rates, partially offset by higher can and end volumes.

Beverage Packaging, Europe

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 2,651	\$ 2,619	\$ 2,360
Comparable operating earnings	308	282	233
Business consolidation and other activities (a)	(39)	(49)	(89)
Amortization of acquired Rexam intangibles	(63)	(70)	(67)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation (b)	—	—	(19)
Total segment earnings	\$ 206	\$ 163	\$ 58
Comparable operating earnings as a % of segment net sales	12 %	11 %	10 %

(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.

Segment sales in 2019 were \$32 million higher compared to 2018. The increase in 2019 was primarily due to higher sales volumes of \$188 million, partially offset by unfavorable currency exchange rates of \$147 million and the pass through of lower aluminum prices.

Comparable operating earnings in 2019 were \$26 million higher compared to 2018 primarily due to increased sales volumes, price/mix and operational efficiencies from plant network optimization, partially offset by unfavorable currency exchange rates.

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Aerospace

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 1,479	\$ 1,196	\$ 991
Comparable operating earnings	140	113	98
Comparable operating earnings as a % of segment net sales	9 %	9 %	10 %

Segment sales in 2019 were \$283 million higher compared to 2018, and comparable operating earnings were \$27 million higher. The increase in sales and operating earnings for 2019 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 98 percent of segment sales in 2019 compared to 99 percent of segment sales in 2018. The aerospace contract mix in 2019 consisted of 64 percent cost-type contracts, which are billed at our costs plus an agreed-upon and/or earned profit component, and 34 percent fixed-price contracts. The remaining sales were for time and materials contracts.

Contracted backlog for the aerospace segment at December 31, 2019 and 2018, was \$2.5 billion and \$2.2 billion, respectively. The year-over-year increase reflects several major contract awards during 2019. The segment has numerous outstanding bids for future contract awards. The backlog at December 31, 2019, consisted of 55 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.

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); comparable diluted earnings per share (comparable net earnings divided by diluted weighted average shares outstanding); 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 presented 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.

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Based on the above definitions, our calculations of comparable operating earnings, comparable net earnings, comparable diluted earnings per share and free cash flow 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, cash on hand 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,		
	2019	2018	2017
Cash flows provided by (used in) operating activities (a)	\$ 1,548	\$ 1,566	\$ 1,478
Cash flows provided by (used in) investing activities	(422)	(206)	(545)
Cash flows provided by (used in) financing activities	(46)	(1,040)	(1,073)

(a) Amounts in 2017 have been retrospectively adjusted to reflect the adoption of new accounting guidance for the preparation of the statement of cash flows 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 lower in 2019 compared to 2018, primarily due to higher pension contributions, partially offset by higher earnings. The impact of changes in working capital on operating cash flows for 2019 was a \$236 million inflow. Excluding the impact of the sale of the U.S. steel food and steel aerosol packaging business in 2018 and the sale of the China beverage packaging and Argentina steel aerosol businesses in 2019, our working capital movements reflect a decrease of days sales outstanding from 42 days in 2018 to 39 days in 2019 and an increase in days payable outstanding from 112 days in 2018 to 121 days in 2019.

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 \$1.4 billion and \$1.2 billion at December 31, 2019, and December 31, 2018, respectively. A total of \$230 million and \$178 million were available for sale under these programs at December 31, 2019 and 2018, respectively.

As of December 31, 2019, approximately \$921 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. The company believes its U.S. operating cash flows, cash on hand, 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.

Based on its indefinite reinvestment assertion, 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. It is not practical to estimate the additional taxes that may become payable if these earnings were remitted to the U.S.

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Share Repurchases

The company's share repurchases, net of issuances, totaled \$945 million in 2019 and \$711 million in 2018. The repurchases were completed using cash on hand, cash provided by operating activities, proceeds from the sale of businesses and available borrowings.

Debt Facilities and Refinancing

Given our cash flow projections and unused credit facilities that are available until March 2024, our liquidity is strong and is expected to meet our ongoing cash and debt service requirements. Total interest-bearing debt was \$7.8 billion at December 31, 2019, compared to \$6.7 billion at December 31, 2018.

In November 2019, Ball issued €1.3 billion in aggregate principal amount of 1.50% and 0.875% euro-denominated senior notes for general corporate purposes.

In January 2020, Ball redeemed the outstanding euro-denominated 3.50% senior notes due in 2020 in the amount of €400 million and the outstanding 4.375% senior notes due in 2020 in the amount of \$1 billion.

In March, 2019, the company refinanced its existing credit facilities with a U.S. dollar term loan facility, a U.S. dollar revolving facility and a multi-currency revolving facility that mature in March 2024. The revolving facilities provide the company with up to the U.S. dollar equivalent of \$1.75 billion.

In March 2018, Ball issued \$750 million of 4.875% 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, 2019, taking into account outstanding letters of credit, approximately \$1.7 billion was available under the company's long-term, multi-currency committed revolving credit facilities, which are available until March 2024. In addition to these facilities, the company had \$1 billion of short-term uncommitted credit facilities available at December 31, 2019, of which \$26 million was outstanding and due on demand.

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, 2019, 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 4.5 times at December 31, 2019. As of December 31, 2019, approximately \$2.2 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.

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

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Total cash provided by operating activities (a)	\$ 1,548	\$ 1,566	\$ 1,478
Capital expenditures	(598)	(816)	(556)
Free cash flow (a)	\$ 950	\$ 750	\$ 922

(a) Amounts in 2017 have been retrospectively adjusted to reflect the adoption of new accounting guidance for the preparation of the statement of cash flows 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 2020 to be approximately \$1.4 billion, capital expenditures to be in the range of \$800 million and free cash flow to be in the range of \$600 million. In 2020, we intend to utilize our operating cash flow to fund our growth capital projects, dividend payments, stock buybacks, service debt and, to the extent available, acquisitions that meet our criteria. Approximately \$560 million of capital expenditures was contractually committed as of December 31, 2019.

Commitments

Cash payments required for long-term debt maturities and interest payments, rental payments under noncancellable operating leases and purchase obligations in effect at December 31, 2019, are summarized in the following table:

(\$ in millions)	Payments Due By Year (a)				
	Total	2020	2021-2022	2023-2024	2025 and Thereafter
Long-term debt (b)	\$ 7,857	\$ 1,454	\$ 752	\$ 3,282	\$ 2,369
Interest payments on long-term debt (c)	1,077	240	448	298	91
Purchase obligations (d)	14,091	4,625	6,378	2,714	374
Lease liabilities (e)	302	66	95	53	88
Total payments on contractual obligations	\$ 23,327	\$ 6,385	\$ 7,673	\$ 6,347	\$ 2,922

(a) Amounts reported in local currencies have been translated at year end 2019 exchange rates.

(b) Amounts represent future cash payments due and exclude future amortization of debt issuance costs of \$65 million at December 31, 2019.

(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.

(e) As of December 31, 2019, the company has manufacturing equipment leases that have not yet commenced for which the payments are not known at this time. These leases will commence in 2020 and 2021 with lease terms of 10 years.

The table above excludes \$63 million of uncertain tax positions, as the ultimate timing of resolution for these matters is unknown at this time.

Also excluded from the table above are contributions to the company's defined benefit pension plans, which are expected to be approximately \$90 million in 2020. 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 plans are expected to be approximately \$393 million, \$361 million, \$366 million, \$370 million and \$373 million for the years ending December 31, 2020 through 2024, respectively, and approximately \$1.9 billion for the years ending December 31, 2025 through 2029.

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Based on changes in return on asset and discount rate assumptions, as well as revisions based on plan experience studies, total pension expense in 2020, is anticipated to be approximately \$2 million higher than in 2019. A reduction of the expected return on pension assets assumption by one quarter of a percentage point would result in an increase of approximately \$14 million in total 2020 pension expense, while a quarter of a percentage point reduction in the discount rate applied to the pension liability would result in an estimated \$1 million increase of pension expense in 2020. 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. You should therefore not place undue reliance upon any forward-looking statements and any 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. Additional factors that might affect: a) our packaging segments include product capacity, supply, and demand constraints and fluctuations; availability/cost of raw materials and logistics; competitive packaging, pricing and substitution; changes in climate and weather; footprint adjustments and other manufacturing changes, including the startup of new facilities and lines; failure to achieve synergies, productivity improvements or cost reductions; mandatory deposit or other restrictive packaging laws; customer and supplier consolidation; power and supply chain interruptions; potential delays and tariffs related to the U.K.'s departure from the EU; changes in major customer or supplier contracts or a loss of a major customer or supplier; political instability and sanctions; currency controls; changes in foreign exchange or tax rates; and tariffs, trade actions, 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 or Section 301 of Trade Act of 1974; b) our aerospace segment include funding, authorization, availability and returns of government and commercial contracts; and delays, extensions and technical uncertainties affecting segment contracts; c) the company as a whole include those listed plus: the extent to which sustainability-related opportunities arise and can be capitalized upon; changes in senior management, succession, and the ability to attract and retain skilled labor; 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; information technology initiatives and management of cyber-security processes; 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; reduced cash flow; interest rates affecting our debt; and successful or unsuccessful joint ventures, acquisitions and divestitures.

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 \$3 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, 2019, 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, 2019, 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 \$3 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, 2019, 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 \$27 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 \$224 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, 2019 and 2018, 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, 2019, 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, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 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, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Changes in Accounting Principles

As discussed in Notes 2 and 1 to the consolidated financial statements, respectively, the Company changed the manner in which it accounts for leases in 2019 and the manner in which it accounts for revenues from contracts with customers in 2018.

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.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements, and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Recoverability of Goodwill – BPAMEA Reporting Unit

As described in Notes 1 and 11 to the consolidated financial statements, the Company's consolidated goodwill balance was \$4.4 billion as of December 31, 2019, and the goodwill associated with the Ball Packaging Asia, Middle East, and Africa (BPAMEA) reporting unit was \$102 million. On an annual basis and at interim periods when circumstances require, management tests the recoverability of the Company's goodwill. Management 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 amount of goodwill exceeds the fair value. Management 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, including assumptions relating to net sales growth rates, terminal growth rates, and EBITDA (a non-U.S. GAAP measure defined by the Company as earnings before interest, taxes, depreciation and amortization) margin. Management corroborates the results of its income approach using the market approach. Under the market approach, management uses available information regarding multiples used in any recent market transactions involving transfer of controlling interests as well as publicly available trading multiples based on the enterprise value of companies in either the packaging or aerospace and defense industries. The appropriate multiple is applied to forecasted EBITDA of each reporting unit to estimate fair value.

The principal considerations for our determination that performing procedures relating to the recoverability of goodwill associated with the BPAMEA reporting unit is a critical audit matter are there was significant judgment by management when developing the fair value measurement of the BPAMEA reporting unit. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures, and in evaluating the related audit evidence, over management's cash flow projections and significant assumptions, including the net sales growth rate, terminal growth rate, EBITDA margin, and WACC. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the related audit evidence.

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Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's evaluation of the recoverability of goodwill, including controls over the valuation of the Company's BPAMEA reporting unit. These procedures also included, among others, testing management's process for developing the fair value estimate; evaluating the appropriateness of the income approach and the market approach; testing the completeness, accuracy and relevance of underlying data used in these approaches; and evaluating the significant assumptions used by management in the Company's income approach, including the net sales growth rate, terminal growth rate, EBITDA margin, and WACC. Evaluating management's assumptions related to the net sales growth rate, terminal growth rate, and EBITDA margin involved evaluating whether the assumptions used by management were reasonable, considering (i) the past performance of the reporting units, (ii) the consistency of these assumptions with third-party industry and economic data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's income approach and market approach, as well as certain significant assumptions, including the WACC.

Revenue Recognition - Estimated Costs at Completion for Aerospace Fixed-Price Contracts

As described in Notes 1, 3 and 5 to the consolidated financial statements, sales for the aerospace segment were \$1.5 billion for the year ended December 31, 2019, including sales under long-term fixed-price contracts, which are primarily recognized using percentage-of-completion accounting under the cost-to-cost method. 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, management regularly evaluates and, if necessary, revises its estimates of total contract revenue, total contract cost, and extent of progress toward completion.

The principal considerations for our determination that performing procedures relating to revenue recognition - estimated costs at completion for aerospace fixed-price contracts is a critical audit matter are there was significant judgment by management when determining the estimated costs at completion for such contracts. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures, and in evaluating the related audit evidence, over management's assumptions of estimated costs at completion for fixed-price contracts, including the nature and technical complexity of the work to be performed, the availability and cost volatility of materials, subcontractor and vendor performance, and schedule and performance delays.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the accuracy of estimated costs at completion for aerospace fixed-price contracts. These procedures also included, among others, evaluating and testing management's process for determining the estimated revenue and cost at completion for aerospace fixed-price contracts, including the specific factors considered by management for each contract. Evaluating management's assumptions for reasonableness involved assessing the nature and status of fixed-price contracts, performing retrospective reviews of fixed-price contract estimates and changes in estimates over time, obtaining evidence to support estimated costs to complete, and assessing the reasonableness of factors considered and significant assumptions made by management in determining the estimated revenue and costs at completion used to recognize revenue.

/s/ PricewaterhouseCoopers LLP
Denver, Colorado
February 19, 2020

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.

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Consolidated Statements of Earnings

Ball Corporation

(\$ in millions, except per share amounts)	Years Ended December 31,		
	2019	2018	2017
Net sales	\$ 11,474	\$ 11,635	\$ 10,983
Costs and expenses			
Cost of sales (excluding depreciation and amortization)	(9,203)	(9,329)	(8,717)
Depreciation and amortization	(678)	(702)	(729)
Selling, general and administrative	(417)	(478)	(514)
Business consolidation and other activities	(244)	(191)	(221)
	(10,542)	(10,700)	(10,181)
Earnings before interest and taxes	932	935	802
Interest expense	(317)	(301)	(285)
Debt refinancing and other costs	(7)	(1)	(3)
Total interest expense	(324)	(302)	(288)
Earnings before taxes	608	633	514
Tax (provision) benefit	(71)	(185)	(165)
Equity in results of affiliates, net of tax	(1)	5	31
Net earnings	536	453	380
Net (earnings) loss attributable to noncontrolling interests	30	1	(6)
Net earnings attributable to Ball Corporation	\$ 566	\$ 454	\$ 374
Earnings per share:			
Basic	\$ 1.71	\$ 1.32	\$ 1.07
Diluted	\$ 1.66	\$ 1.29	\$ 1.05
Weighted average shares outstanding: (000s)			
Basic	331,102	344,796	350,269
Diluted	340,121	352,321	356,985

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

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Consolidated Statements of Comprehensive Earnings (Loss)

Ball Corporation

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net earnings	\$ 536	\$ 453	\$ 380
Other comprehensive earnings (loss):			
Foreign currency translation adjustment	166	(197)	38
Pension and other postretirement benefits	(270)	122	296
Derivatives designated as hedges	58	(86)	17
Total other comprehensive earnings (loss)	(46)	(161)	351
Income tax (provision) benefit	50	(18)	(65)
Total other comprehensive earnings (loss), net of tax	4	(179)	286
Total comprehensive earnings (loss)	540	274	666
Comprehensive (earnings) loss attributable to noncontrolling interests	30	1	(7)
Comprehensive earnings (loss) attributable to Ball Corporation	\$ 570	\$ 275	\$ 659

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

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Consolidated Balance Sheets

Ball Corporation

(\$ in millions)	December 31,	
	2019	2018
Assets		
Current assets		
Cash and cash equivalents	\$ 1,798	\$ 721
Receivables, net	1,631	1,802
Inventories, net	1,274	1,271
Other current assets	181	146
Total current assets	4,884	3,940
Noncurrent assets		
Property, plant and equipment, net	4,470	4,542
Goodwill	4,419	4,475
Intangible assets, net	2,002	2,188
Other assets	1,585	1,409
Total assets	\$ 17,360	\$ 16,554
Liabilities and Equity		
Current liabilities		
Short-term debt and current portion of long-term debt	\$ 1,480	\$ 219
Accounts payable	3,136	3,095
Accrued employee costs	285	289
Other current liabilities	676	492
Total current liabilities	5,577	4,095
Noncurrent liabilities		
Long-term debt	6,337	6,510
Employee benefit obligations	1,486	1,455
Deferred taxes	561	645
Other liabilities	380	287
Total liabilities	14,341	12,992
Equity		
Common stock (676,302,319 shares issued - 2019; 673,236,720 shares issued - 2018)	1,178	1,157
Retained earnings	5,803	5,341
Accumulated other comprehensive earnings (loss)	(910)	(835)
Treasury stock, at cost (351,667,322 shares - 2019; 337,978,571 shares - 2018)	(3,122)	(2,205)
Total Ball Corporation shareholders' equity	2,949	3,458
Noncontrolling interests	70	104
Total equity	3,019	3,562
Total liabilities and equity	\$ 17,360	\$ 16,554

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,		
	2019	2018	2017
Cash Flows from Operating Activities			
Net earnings	\$ 536	\$ 453	\$ 380
Adjustments to reconcile net earnings to cash provided by (used in) continuing operating activities:			
Depreciation and amortization	678	702	729
Business consolidation and other activities	244	191	221
Deferred tax provision (benefit)	(45)	35	82
Other, net	(101)	95	(268)
Working capital changes, excluding effects of acquisitions and dispositions:			
Receivables	49	(17)	(189)
Inventories	(45)	(248)	(66)
Other current assets	(18)	(47)	21
Accounts payable	72	592	639
Accrued employee costs	(1)	(77)	5
Other current liabilities	175	(140)	(28)
Other, net	4	27	(48)
Cash provided by (used in) operating activities	<u>1,548</u>	<u>1,566</u>	<u>1,478</u>
Cash Flows from Investing Activities			
Capital expenditures	(598)	(816)	(556)
Proceeds from business dispositions, net of cash sold	160	539	(2)
Other, net	16	71	13
Cash provided by (used in) investing activities (a)	<u>(422)</u>	<u>(206)</u>	<u>(545)</u>
Cash Flows from Financing Activities			
Long-term borrowings	2,819	1,475	765
Repayments of long-term borrowings	(1,524)	(1,533)	(1,810)
Net change in short-term borrowings	(183)	(120)	184
Proceeds from issuances of common stock	19	28	27
Acquisitions of treasury stock	(964)	(739)	(103)
Common dividends	(182)	(137)	(129)
Other, net	(31)	(14)	(7)
Cash provided by (used in) financing activities	<u>(46)</u>	<u>(1,040)</u>	<u>(1,073)</u>
Effect of exchange rate changes on cash	<u>(2)</u>	<u>(51)</u>	<u>(8)</u>
Change in cash, cash equivalents and restricted cash (a)	1,078	269	(148)
Cash, cash equivalents and restricted cash – beginning of year (a)	<u>728</u>	<u>459</u>	<u>607</u>
Cash, cash equivalents and restricted cash – end of year (a)	<u>\$ 1,806</u>	<u>\$ 728</u>	<u>\$ 459</u>

(a) Amounts in 2017 have been retrospectively adjusted to reflect the adoption of new accounting guidance for the preparation of the statement of cash flows that was effective January 1, 2018.

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

Consolidated Statements of Shareholders' Equity
Ball Corporation

(S in millions; share amounts in thousands)	Ball Corporation and Subsidiaries								Total Shareholders' Equity
	Common Stock		Treasury Stock		Retained Earnings	Accumulated Other Comprehensive Earnings (Loss)	Noncontrolling Interest		
	Number of Shares	Amount	Number of Shares	Amount					
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	
Net earnings	—	—	—	—	566	—	(30)	536	
Other comprehensive earnings (loss), net of tax	—	—	—	—	—	(41)	—	(41)	
Currency translation recognized in earnings from the sale of the Argentina steel aerosol business	—	—	—	—	—	45	—	45	
Reclassification of stranded tax effects	—	—	—	—	79	(79)	—	—	
Common dividends, net of tax benefits	—	—	—	—	(181)	—	—	(181)	
Treasury stock purchases	—	—	(14,383)	(950)	—	—	—	(950)	
Treasury shares reissued	—	—	695	25	—	—	—	25	
Shares issued and stock compensation for stock options and other stock plans, net of shares exchanged	3,065	21	—	—	—	—	—	21	
Other activity	—	—	—	8	(2)	—	(4)	2	
Balance at December 31, 2019	676,302	\$ 1,178	(351,667)	\$ (3,122)	\$ 5,803	\$ (910)	\$ 70	\$ 3,019	

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 that management considers to be critical to the company's 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, including assumptions relating to net sales growth rates, terminal growth rates and EBITDA (a non-U.S. GAAP measure defined by the company as earnings before interest, taxes, depreciation and amortization) margin. 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 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 the company's 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 redesignation 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 redesignation 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. The company reviews 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 Beverage and Aerosol 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. 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.

For sales recognized in 2017, the company recognized sales of products in its packaging segments when the four basic criteria of the former guidance on 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.

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.

Ball Corporation
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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.

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.

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.

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.

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To estimate variable consideration, the company 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 the company’s 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.

Revenue Recognition in the Aerospace Segment

Sales under fixed-price long-term contracts in the aerospace segment are primarily recognized using percentage-of-completion accounting under the cost-to-cost method. 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. Sales in 2017 from the majority of the company’s aerospace business contracts were recognized over time under the cost-to-cost method based on the continuous transfer of control to the customer, which is consistent with the new revenue accounting standard and related amendments.

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, the company’s sales and accounts receivable generally include amounts that have been earned but not yet billed. The company’s payment terms vary by the type and location of the company’s customer and the products or services offered. All payment terms are less than one year.

Ball Corporation
Notes to the Consolidated Financial Statements

Contracts are often modified to account for changes in contract specifications and requirements. The company considers contract modifications to exist when the modification either creates new or revised enforceable rights and obligations. Most of the company's 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 the company's 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.

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 the company incurs costs on the company's 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, the company estimates sales associated with base, incentive and other fees exclusive of any constraint. In other words, the company estimates 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.

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, the company applies 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.

Ball Corporation
Notes to the Consolidated Financial Statements

Revenue Contract Costs

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

Revenue Recognition 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 management 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.

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 disclosed in Note 5. 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. 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.

Revenue 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 Note 5, 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). 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.

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 \$44 million, \$32 million and \$27 million for the years ended December 31, 2019, 2018 and 2017, 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***New Lease Accounting Guidance**

In February 2016, lease accounting guidance was issued which, for operating leases, requires a lessee to recognize a right-of-use (ROU) asset and a lease liability. The guidance also requires 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. On January 1, 2019, Ball adopted the new guidance and all related amendments (the new lease standard), applying the modified retrospective method to all contracts that were not completed as of January 1, 2019. As such, comparative information has not been restated and continues to be reported under the accounting standards in effect for those prior periods.

As part of adopting the new lease standard, Ball has made the following elections:

- To carry forward the historical lease determination and classification conclusions as established under the old standard, and not reassess initial direct costs for existing leases;
- To carry forward its historical accounting treatment for land easements on existing agreements;
- Not to apply the balance sheet recognition requirements of the new lease standard to leases with a term of one year or less (short-term leases); and
- For all classes of underlying assets, to account for non-lease components of a contract as part of the single lease component to which they are related.

The adoption of the new lease standard resulted in the following impacts on the company's consolidated balance sheets:

<u>(\$ in millions)</u>	<u>Balance at December 31, 2018</u>	<u>Adjustments Due to Adoption</u>	<u>Balance at January 1, 2019</u>
Assets:			
Other current assets	\$ 140	\$ (1)	\$ 139
Operating lease right-of-use assets (a)	—	244	244
Other assets	1,409	(25)	1,384
Liabilities:			
Other current liabilities	\$ 492	\$ (3)	\$ 489
Current operating lease liabilities (b)	—	53	53
Other liabilities	287	(14)	273
Noncurrent operating lease liabilities (b)	—	182	182

(a) Operating lease right-of-use assets are recognized within other assets in Ball's consolidated balance sheets.

(b) Current and noncurrent operating lease liabilities are recognized within other current liabilities and other liabilities, respectively, in Ball's consolidated balance sheets.

Ball's adoption of the new lease standard had an immaterial impact on Ball's results of operations in the consolidated statements of earnings; an immaterial impact on Ball's cash flows from operating, financing, and investing activities in the consolidated statements of cash flows and no impact on Ball's opening retained earnings balance. Ball's accounting for finance leases remains substantially unchanged as a result of the adoption. See Note 14 for further details regarding Ball's leases.

Ball Corporation
Notes to the Consolidated Financial Statements

Stranded Tax Effects

In February 2018, accounting guidance was issued to permit the reclassification from accumulated other comprehensive income to retained earnings of stranded tax effects resulting from the U.S. Tax Cuts and Jobs Act signed into law in December 2017. Ball adopted this guidance on January 1, 2019, and an election was made to reclassify on the first day of the period of adoption. The total tax amount reclassified was \$79 million. Remaining stranded tax amounts in accumulated other comprehensive income, which are unrelated to the U.S. Tax Cuts and Jobs Act, are not significant and will be reclassified to the income statement when the activity leading to the deferral of gains and losses has ceased in full.

New Accounting Guidance

Income Tax Simplification

In December 2019, accounting guidance was issued to simplify the accounting for income taxes. The guidance is effective for Ball on January 1, 2021, and the company is currently assessing the impact that the adoption of this new guidance will have on its consolidated financial statements.

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 will not have a material effect on the company's consolidated financial statements.

Financial Assets

Amendments to existing guidance were issued in June 2016, followed by improvements and transition relief in 2018 and 2019, 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 is expected to primarily affect Ball's trade receivables; however, the guidance applies to other financial assets as well. The guidance is effective for Ball on January 1, 2020, and will not have a material effect on the company's 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, Chile and Paraguay 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.

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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.

Beginning in January 2020, Ball has changed how the beverage packaging, AMEA, and beverage packaging, Asia Pacific, operating segments are being managed and reported for the purposes of cost reduction and operational efficiency. The plants in Cairo, Egypt, and Manisa, Turkey, will be consolidated with the existing reportable beverage packaging, Europe, operating segment. The company's operations in India and Saudi Arabia will be managed with the remainder of the beverage packaging, Asia Pacific, operating segment resulting in a new non-reportable beverage packaging, other, operating segment. The 2019 results for the Aluminum Cups business were reported in undistributed corporate expenses. Beginning in January 2020, the Aluminum Cups business will be a non-reportable operating segment. These changes will be reflected in the segment financial reporting beginning the first quarter of 2020 including comparative historical periods.

Major Customers

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

	<u>2019</u>	<u>2018</u>	<u>2017</u>
U.S. Government	13 %	10 %	9 %
Anheuser-Busch InBev and affiliates	12 %	13 %	14 %
Coca-Cola Bottlers' Sales & Services Company LLC and affiliates	9 %	12 %	11 %

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>
2019	\$ 5,747	\$ 1,351	\$ 4,376	\$ 11,474
2018	5,783	1,380	4,472	11,635
2017	5,496	1,427	4,060	10,983

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

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

(\$ in millions)	U.S.	Brazil	U.K.	Other	Consolidated
As of December 31, 2019	\$ 2,024	\$ 750	\$ 626	\$ 2,655	\$ 6,055
As of December 31, 2018	1,708	865	701	2,677	5,951

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

Summary of Business by Segment

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Net sales			
Beverage packaging, North and Central America	\$ 4,758	\$ 4,626	\$ 4,178
Beverage packaging, South America	1,670	1,701	1,692
Beverage packaging, Europe	2,651	2,619	2,360
Aerospace	1,479	1,196	991
Reportable segment sales	10,558	10,142	9,221
Other	916	1,493	1,762
Net sales	\$ 11,474	\$ 11,635	\$ 10,983
Comparable operating earnings			
Beverage packaging, North and Central America	\$ 555	\$ 551	\$ 533
Beverage packaging, South America	288	313	333
Beverage packaging, Europe	308	282	233
Aerospace	140	113	98
Reportable segment comparable operating earnings	1,291	1,259	1,197
Reconciling items			
Other (a)	40	31	23
Business consolidation and other activities	(244)	(191)	(221)
Amortization of acquired Rexam intangibles	(155)	(164)	(162)
Catch-up depreciation and amortization for 2016 from finalization of Rexam valuation	—	—	(35)
Earnings before interest and taxes	932	935	802
Interest expense	(317)	(301)	(285)
Debt refinancing and other costs	(7)	(1)	(3)
Total interest expense	(324)	(302)	(288)
Earnings before taxes	608	633	514

(a) Includes undistributed corporate expenses, net, of \$54 million, \$85 million and \$128 million for the years ended December 2019, 2018 and 2017, respectively.

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(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Depreciation and amortization (a)			
Beverage packaging, North and Central America	\$ 190	\$ 184	\$ 179
Beverage packaging, South America	136	131	144
Beverage packaging, Europe	231	238	254
Aerospace	43	33	31
Reportable segment depreciation and amortization	600	586	608
Other	78	116	121
Depreciation and amortization	<u>\$ 678</u>	<u>\$ 702</u>	<u>\$ 729</u>
Capital expenditures			
Beverage packaging, North and Central America	\$ 139	\$ 322	\$ 283
Beverage packaging, South America	150	106	36
Beverage packaging, Europe	144	194	81
Aerospace	96	130	70
Reportable segment capital expenditures	529	752	470
Other	69	64	86
Capital expenditures	<u>\$ 598</u>	<u>\$ 816</u>	<u>\$ 556</u>

(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**Argentina Steel Aerosol Business**

In October 2019, the company sold its Argentina steel aerosol packaging business, which included facilities in Garin and San Luis, Argentina, and recorded a loss on disposal of \$52 million, which included the write-off of cumulative translation adjustments of \$45 million related to the Argentina business that had been previously recorded in accumulated other comprehensive income. The loss on disposal has been presented in business consolidation and other activities in the company's consolidated statements of earnings.

Beverage Packaging China

In September 2019, the company completed the sale of its metal beverage packaging business in China for upfront consideration of approximately \$213 million, subject to customary closing adjustments, plus potential additional consideration related to the relocation of an existing facility in China in the coming years. The upfront proceeds from this sale were received in the fourth quarter of 2019; the potential additional consideration is included in other long-term assets. The company recorded a loss on disposal of \$45 million in business consolidation and other activities in the consolidated statement of earnings.

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 the company's consolidated balance sheet.

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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. In the first quarter of 2020, the shareholders of Ball Metalpack provided additional equity contributions and loans to Ball Metalpack, of which Ball's share was \$30 million, which will result in Ball recognizing previously unrecorded equity method losses associated with prior periods. Ball is under no obligation to provide additional equity contributions or loans to Ball Metalpack. Also in the first quarter of 2020, an additional loss on the sale of the business of \$15 million will be recorded in connection with a final adjustment to the selling price, which will be recorded in business consolidation and other activities in the company's consolidated statement of earnings.

5. Revenue from Contracts with Customers

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

(\$ in millions)	Year Ended December 31, 2019		
	Point in Time	Over Time	Total
Total net sales	\$ 2,220	\$ 9,254	\$ 11,474

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

The company did not have any contract assets at either December 31, 2019, or December 31, 2018. The opening and closing balances of the company's current and noncurrent contract liabilities are as follows:

(\$ in millions)	Contract Liabilities (Current)	Contract Liabilities (Noncurrent)
Balance at December 31, 2017	\$ 45	\$ —
Increase	—	8
Balance at December 31, 2018	\$ 45	\$ 8
Increase	42	1
Balance at December 31, 2019	\$ 87	\$ 9

During the year ended December 31, 2019, contract liabilities increased by \$43 million, which is net of cash received of \$254 million and amounts recognized as sales of \$211 million, all of which related to current contract liabilities. The amount of sales recognized during the year ended December 31, 2019, 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 \$15 million and \$18 million during the years ended December 31, 2019 and 2018, respectively, 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.

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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, 2019	\$ 1,409	\$ 1,067	\$ 2,476

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 Note 1.

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,		
	2019	2018	2017
Beverage packaging, North and Central America	\$ (14)	\$ (6)	\$ (47)
Beverage packaging, South America	15	11	(5)
Beverage packaging, Europe	(39)	(49)	(89)
Other	(206)	(147)	(80)
	<u>\$ (244)</u>	<u>\$ (191)</u>	<u>\$ (221)</u>

2019

Beverage Packaging, North and Central America

During 2019, the company recorded charges of \$8 million for revised estimates of charges recorded in prior periods 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.

Other income and charges in 2019 included \$6 million of expense for individually insignificant activities.

Beverage Packaging, South America

During 2019, the company recorded a \$57 million gain related to indirect tax gain contingencies in Brazil as these amounts are now estimable and realizable. The company's 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 because the tax base included a "tax on tax" component. See Note 23 for further details. The amounts recorded in business consolidation and other activities relate to periods prior to 2019. In the event other comparable cases are resolved and the amounts claimed become estimable and realizable, the company will record gains, which may result in material reimbursements to the company in future periods.

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The company recorded charges of \$29 million in 2019 related to asset impairments, accelerated depreciation and inventory impairments related to plant closures and restructuring activities.

Other charges in 2019 included \$13 million of expense for individually insignificant activities.

Beverage Packaging, Europe

During 2019, the company recorded charges of \$26 million for asset impairments, accelerated depreciation and inventory impairments related to previously announced plant closures and restructuring activities.

Other charges in 2019 included \$13 million of expense for individually insignificant activities.

Other

During 2019, the company recorded the following amounts:

- A \$45 million loss on the sale of the metal beverage packaging business in China and charges of \$18 million for estimated employee severance costs and professional services associated with the sale.
- A loss of \$52 million related to the sale of the Argentina steel aerosol packaging business including \$45 million related to cumulative translation adjustments previously recorded in accumulated other comprehensive earnings.
- A \$64 million impairment charge related to certain property, plant and equipment, intangible assets and other assets of the company's Saudi Arabian beverage packaging business (of which Ball owns 51 percent). See Note 10 for further details.
- A settlement loss of \$8 million primarily related to the purchase of non-participating group annuity contracts to settle the projected pension benefit obligations in Ball's Canadian defined benefit pension plan which triggered settlement accounting. The settlement loss primarily represents the aggregate unamortized actuarial loss in this pension plan.
- Charges of \$19 million for individually insignificant activities.

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.

Beverage Packaging, South America

During 2018, the company recorded an \$18 million gain related to indirect tax contingencies in Brazil as these amounts were determined to have been realized. As referenced above, the company's Brazilian subsidiaries filed lawsuits in 2014

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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.

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.

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.
- Charges of \$23 million for long-term incentive and other compensation arrangements associated with the Rexam acquisition.
- Charges 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.
- Charges 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.
- Charges 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.
- Charges 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.

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Beverage Packaging, South America

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

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.
- Charges 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.
- Charges 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.
- Charges of \$12 million for professional services and other costs associated with the Rexam acquisition.
- Charges 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.
- Charges of \$28 million for individually insignificant activities.

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7. Supplemental Cash Flow Statement Disclosures

(\$ in millions)	December 31,	
	2019	2018
Beginning 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>
End of period:		
Cash and cash equivalents	\$ 1,798	\$ 721
Current restricted cash (included in other current assets)	8	7
Total cash, cash equivalents and restricted cash	<u>\$ 1,806</u>	<u>\$ 728</u>

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 \$224 million and \$127 million at December 31, 2019 and 2018, respectively.

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,	December 31,
	2019	2018
Trade accounts receivable	\$ 647	\$ 812
Unbilled receivables	556	478
Less allowance for doubtful accounts	(17)	(10)
Net trade accounts receivable	1,186	1,280
Other receivables	445	522
	<u>\$ 1,631</u>	<u>\$ 1,802</u>

Net accounts receivable under long-term contracts, due primarily from agencies of the U.S. government and their prime contractors, were \$247 million and \$240 million at December 31, 2019 and 2018, respectively, and included \$164 million at each period end, representing the recognized sales value of performance that was not yet billable to customers. The average length of the long-term contracts is approximately 2.75 years, and the average length remaining on those contracts at December 31, 2019, was one year. At December 31, 2019, \$247 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, related party receivables and other miscellaneous receivables.

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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 \$1.4 billion and \$1.2 billion at December 31, 2019 and 2018, respectively. A total of \$230 million and \$178 million were available for sale under these programs as of December 31, 2019 and 2018, respectively.

9. Inventories, Net

(\$ in millions)	December 31, 2019	December 31, 2018
Raw materials and supplies	\$ 808	\$ 727
Work-in-process and finished goods	548	614
Less: Inventory reserves	(82)	(70)
	<u>\$ 1,274</u>	<u>\$ 1,271</u>

10. Property, Plant and Equipment, Net

(\$ in millions)	December 31, 2019	December 31, 2018
Land	\$ 153	\$ 159
Buildings	1,433	1,359
Machinery and equipment	5,513	5,250
Construction-in-progress	434	509
	<u>7,533</u>	<u>7,277</u>
Accumulated depreciation	(3,063)	(2,735)
	<u>\$ 4,470</u>	<u>\$ 4,542</u>

Property, plant and equipment are stated at historical or acquired cost. Depreciation expense amounted to \$491 million, \$498 million and \$509 million for the years ended December 31, 2019, 2018 and 2017, respectively.

As discussed in Note 6, Ball recorded an impairment charge in 2019 related to its Saudi Arabian beverage packaging business (of which Ball owns 51 percent). The impairment charge was recorded in the fourth quarter of 2019 and was triggered by the loss of a major customer for this business in December 2019. The loss of volumes led management to perform impairment tests for long-lived assets and goodwill for the beverage AMEA reporting unit. The impairment reviews led to the recognition of non-cash impairment charges totaling \$64 million, which primarily related to property, plant and equipment and intangible assets. This impairment charge was recorded in business consolidation and other activities in the company's consolidated statement of earnings. The fair value of the impacted long-lived assets was estimated using an income approach.

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11. Goodwill

(\$ in millions)	Beverage Packaging, North & Central America	Beverage Packaging, South America	Beverage Packaging, Europe	Aerospace	Other	Total
Balance at December 31, 2017	\$ 1,275	\$ 1,299	\$ 1,531	\$ 40	\$ 788	\$ 4,933
Opening balance sheet adjustments	—	—	4	—	—	4
Business dispositions	—	—	—	—	(354)	(354)
Effects of currency exchange	—	—	(100)	—	(8)	(108)
Balance at December 31, 2018	\$ 1,275	\$ 1,299	\$ 1,435	\$ 40	\$ 426	\$ 4,475
Opening balance sheet adjustments	—	(1)	—	—	—	(1)
Business dispositions	—	—	—	—	(52)	(52)
Effects of currency exchange	—	—	(2)	—	(1)	(3)
Balance at December 31, 2019	\$ 1,275	\$ 1,298	\$ 1,433	\$ 40	\$ 373	\$ 4,419

During 2019, the company completed the sales of its China beverage packaging and Argentina steel aerosol businesses, which included \$51 million and \$1 million of goodwill, respectively, related to these businesses. The remaining goodwill balance associated with the beverage packaging, Asia Pacific, reporting unit (which is included in “Other” in the above table) was \$27 million as of December 31, 2019.

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.

The company’s annual goodwill impairment test completed as of October 1, 2019, indicated the fair value of the beverage packaging, AMEA (beverage AMEA), reporting unit, exceeded its carrying amounts by approximately 35 percent. Management’s cash flow projections for the beverage AMEA reporting unit included significant judgments and assumptions relating to net sales, terminal growth rates, EBITDA margin and the weighted average cost of capital. As discussed in Note 10, the company’s Saudi Arabia beverage packaging business lost a major customer in December 2019, and this loss of volumes led management to perform additional impairment tests for long-lived assets and goodwill for the beverage AMEA reporting unit. The impairment reviews led to the recognition of non-cash impairment charges totaling \$64 million, which primarily related to property, plant and equipment and intangible assets. The trigger-based impairment review did not result in an impairment of goodwill for the beverage AMEA reporting unit.

As discussed in Note 3, beginning in January 2020, Ball has changed how its beverage packaging, AMEA, and beverage packaging, Asia Pacific, operating segments are being managed and reported. These operating segments had goodwill balances of \$102 million and \$27 million, respectively, as of December 31, 2019. These changes will result in the creation of a new beverage packaging, other, operating segment and reporting unit, and goodwill of \$62 million will be allocated to this new beverage packaging, other, reporting unit. Based on the information available at this time, it is reasonably possible that the company will be required to record a non-cash impairment charge for some or all of the goodwill associated with this reporting unit in the first quarter of 2020, as the carrying amount of this reporting unit may exceed its fair value.

Ball Corporation
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(\$ in millions)	December 31, 2019	December 31, 2018
Acquired Rexam customer relationships and other Rexam intangibles (net of accumulated amortization of \$567 million at December 31, 2019, and \$399 million at December 31, 2018)	\$ 1,909	\$ 2,073
Capitalized software (net of accumulated amortization of \$170 million at December 31, 2019, and \$148 million at December 31, 2018)	69	82
Other intangibles (net of accumulated amortization of \$116 million at December 31, 2019, and \$112 million at December 31, 2018)	24	33
	<u>\$ 2,002</u>	<u>\$ 2,188</u>

Total amortization expense of intangible assets amounted to \$187 million, \$204 million and \$220 million for the years ended December 31, 2019, 2018 and 2017, respectively, including \$155 million in 2019, \$164 million in 2018 and \$162 million in 2017 of amortization expense related to the acquired intangible assets from Rexam. Based on intangible asset values and currency exchange rates as of December 31, 2019, total annual intangible asset amortization expense is expected to be \$185 million, \$173 million, \$167 million, \$160 million and \$156 million for the years ending December 31, 2020 through 2024, respectively, and approximately \$1.2 billion combined for all years thereafter.

Ball recorded an impairment charge in 2019 related to certain intangible assets of its Saudi Arabian beverage packaging business. See Notes 6 and 10 for further details.

13. Other Assets

(\$ in millions)	December 31, 2019	December 31, 2018
Long-term deferred tax assets	\$ 241	\$ 237
Long-term pension assets	437	559
Investments in affiliates	291	302
Right-of-use operating lease assets	239	—
Other	377	311
	<u>\$ 1,585</u>	<u>\$ 1,409</u>

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

Under the new lease standard, a contract is a lease or contains one when (1) the contract contains an explicitly or implicitly identified asset and (2) the customer obtains substantially all of the economic benefits from the use of that underlying asset and directs how and for what purpose the asset is used during the term of the contract in exchange for consideration. The company assesses whether an arrangement is a lease, or contains a lease, upon inception of the contract.

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The company enters into operating leases for buildings, warehouses, office equipment, production equipment, aircraft, land and other types of equipment. When readily determinable, the discount rate used to calculate the lease liability is the rate implicit in the lease. Otherwise, the company uses its incremental borrowing rate based on the information available at lease commencement. The company's finance and short-term leases are immaterial.

Many of the company's leases include one or more renewal and/or termination options at the company's discretion, which are included in the determination of the lease term if the company is reasonably certain to exercise the option. The company also enters into lease agreements that have variable payments, such as those related to usage or adjustments to certain indexes. Variable lease payments are recognized in the period in which those payments are incurred. Certain leases also include residual value guarantees; however, these amounts are not probable to be owed and are not included in the calculation of the lease liability.

The company subleases all or portions of certain building and warehouse leases to third parties, all of which are classified as operating leases. Some of these arrangements offer the lessee renewal options.

The components of lease expense were as follows:

(\$ in millions)	Year Ended December 31, 2019
Operating lease expense	\$ (67)
Variable lease expense	(10)
Sublease income	3
Net lease expense	<u>\$ (74)</u>

Supplemental cash flow information related to leases was as follows:

(\$ in millions)	Year Ended December 31, 2019
Cash paid for amounts included in the measurements of lease liabilities - Operating cash outflows for operating leases	\$ (62)
ROU assets obtained in exchange for operating lease obligations	35

Supplemental balance sheet information related to operating leases was as follows:

(\$ in millions)	Balance Sheet Location	December 31, 2019
Operating lease ROU asset	Other assets	\$ 239
Current operating lease liabilities	Other current liabilities	58
Noncurrent operating lease liabilities	Other liabilities	181

Weighted average remaining lease term and weighted average discount rate for the company's operating leases were as follows:

	December 31, 2019
Weighted average remaining lease term in years	10
Weighted average discount rate (%)	4.3

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Maturities of lease liabilities are as follows:

<u>(\$ in millions)</u>	<u>Operating Leases</u>
2020	\$ 66
2021	52
2022	43
2023	32
2024	21
Thereafter	88
Future value of lease liabilities	302
Less: Imputed interest	(63)
Present value of lease liabilities	<u>\$ 239</u>

As of December 31, 2019, the company has manufacturing equipment leases that have not yet commenced for which the payments are not known at this time. These leases will commence in 2020 and 2021 with lease terms of 10 years.

Total noncancellable operating leases in effect at December 31, 2018, as reported under previous lease accounting guidance, required rental payments of the following amounts in each of the following periods:

<u>(\$ in millions)</u>	
2019	\$ 66
2020	52
2021	41
2022	34
2023	25
Thereafter	87
Total future lease payments	<u>\$ 305</u>

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15. Debt and Interest Costs

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

(\$ in millions)	December 31, 2019	December 31, 2018
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	785	803
5.00% due March 2022	750	750
4.875% due March 2026	750	750
3.50%, euro denominated, due December 2020	449	459
1.50%, euro denominated, due March 2027	617	—
0.875%, euro denominated, due March 2024	841	—
Senior Credit Facility (at variable rates)		
Term A loan, due June 2024 (2019 - 3.94%)	653	—
Term A loan, due June 2021 (2018 - 4.02%)	—	797
Other (including debt issuance costs)	(54)	(41)
	<u>7,791</u>	<u>6,518</u>
Less: Current portion of long-term debt	(1,454)	(8)
	<u>\$ 6,337</u>	<u>\$ 6,510</u>

In November 2019, Ball issued €750 million of 0.875% senior notes due in March 2024 and €550 million of 1.5% senior notes due in March 2027. On March 25, 2019, the company refinanced its existing credit facilities with a U.S. dollar term loan facility, a U.S. dollar revolving facility and a multicurrency revolving facility that mature in March 2024. The revolving facilities provide the company with up to the U.S. dollar equivalent of \$1.75 billion. At December 31, 2019, taking into account outstanding letters of credit, substantially the entire balance was available under these revolving credit facilities. In addition, the company had \$1 billion of short-term uncommitted credit facilities available at December 31, 2019, of which \$26 million was outstanding and due on demand. At December 31, 2018, the company had \$211 million outstanding under short-term uncommitted credit facilities. The weighted average interest rate of the outstanding short-term facilities was 5.99 percent at December 31, 2019, and 3.55 percent at December 31, 2018.

In January 2020, Ball redeemed the outstanding euro-denominated 3.50% senior notes due in 2020 in the amount of €400 million and the outstanding 4.375% senior notes due in 2020 in the amount of \$1 billion.

The fair value of Ball's long-term debt was estimated to be \$8.3 billion at December 31, 2019, compared to its carrying value of \$7.8 billion. The fair value was estimated to be \$6.6 billion at December 31, 2018, which approximated its carrying value of \$6.5 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, 2019, have maturities (excluding unamortized debt issuance costs of \$65 million) of \$1.4 billion, \$1 million, \$751 million, \$1.8 billion and \$1.4 billion in the years ending 2020 through 2024, respectively, and \$2.4 billion thereafter.

Letters of credit outstanding at December 31, 2019 and 2018, were \$37 million and \$28 million, respectively.

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Interest payments were \$331 million, \$304 million and \$287 million in 2019, 2018 and 2017, 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 4.5 times at December 31, 2019. The company was in compliance with all loan agreements and debt covenants at December 31, 2019 and 2018, and has met all debt payment obligations.

16. Taxes on Income

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

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
U.S.	\$ 224	\$ 193	\$ 147
Foreign	384	440	367
	<u>\$ 608</u>	<u>\$ 633</u>	<u>\$ 514</u>

The provision (benefit) for income tax expense is:

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Current			
U.S.	\$ (1)	\$ 30	\$ 6
State and local	7	5	—
Foreign	110	115	77
Total current	<u>116</u>	<u>150</u>	<u>83</u>
Deferred			
U.S.	(26)	21	92
State and local	(1)	9	7
Foreign	(18)	5	(17)
Total deferred	<u>(45)</u>	<u>35</u>	<u>82</u>
Tax provision (benefit)	<u>\$ 71</u>	<u>\$ 185</u>	<u>\$ 165</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,		
	2019	2018	2017
Statutory U.S. federal income tax	\$ 128	\$ 133	\$ 180
Increase (decrease) due to:			
Foreign tax rate differences including tax holidays	(11)	(11)	(52)
Foreign tax law and rate changes	—	—	(28)
U.S. tax reform (a)	—	(45)	83
Foreign exchange loss on revaluation of Brazilian deferred tax balances	4	26	—
Global intangible low-taxed income (GILTI)	12	15	—
Permanent differences on business dispositions	(3)	56	18
U.S. state and local taxes, net	4	13	3
U.S. taxes on foreign earnings, net of tax deductions and credits	(6)	(9)	(6)
U.S. manufacturing deduction	—	—	(8)
U.S. research and development tax credits	(10)	(7)	(9)
Uncertain tax positions, including interest	(19)	(1)	(3)
Change in valuation allowances	24	31	15
Equity compensation related impacts	(43)	(14)	(16)
Other, net	(9)	(2)	(12)
Provision (benefit) for taxes	\$ 71	\$ 185	\$ 165
Effective tax rate expressed as a percentage of pretax earnings	11.7 %	29.2 %	32.1 %

(a) Includes 2018 adjustments required to record the final impact of the implications of the U.S. Tax Cuts and Jobs Act signed into law in 2017.

On December 22, 2017, the U.S. Tax Cuts and Jobs Act (the 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. During 2017, tax expense was increased by provisional amounts of \$52 million and \$31 million related to the revaluing of the net deferred tax asset position in the U.S. and the transition tax, respectively. During 2018, tax expense was decreased by \$45 million for the required final adjustments related to the Act. Tax expense for 2019 was increased by \$12 million related to the tax on GILTI which was enacted as part of the Act in 2017. Any additional changes as part of the Act had an immaterial impact on tax expense during 2019.

The company generally intends to limit distributions from non-U.S. subsidiaries to earnings previously taxed in the U.S., primarily as a result of the transition tax or tax on GILTI incurred pursuant to the Act. As of December 31, 2019, the company has \$2.1 billion of retained earnings in non-U.S. subsidiaries. Of these undistributed earnings, \$655 million were previously subjected to U.S. federal income tax. The company has accrued approximately \$44 million for estimated foreign withholding taxes on portions of the foreign earnings that are not indefinitely reinvested. The company has not provided deferred taxes on any other outside basis differences in our investments in other non-U.S. subsidiaries as these other outside basis differences are indefinitely reinvested. A determination of the unrecognized deferred taxes related to any of these other outside basis differences is not practicable.

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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 \$6 million remaining as of December 31, 2019. 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 \$28 million remained as of December 31, 2019. 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 \$62 million or \$0.19 per share, \$63 million or \$0.18 per share and \$47 million or \$0.13 per share for 2019, 2018 and 2017, respectively.

Net income tax payments were \$128 million, \$143 million and \$107 million in 2019, 2018 and 2017, respectively.

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

(\$ in millions)	December 31,	
	2019	2018
Deferred tax assets:		
Deferred compensation	\$ 90	\$ 73
Accrued employee benefits	93	100
Accrued pensions	190	179
Inventory and other reserves	42	41
Net operating losses, foreign tax credits and other tax attributes	408	390
Unrealized losses on currency exchange and derivative transactions	6	26
Goodwill and other intangible assets	54	64
Other	168	110
Total deferred tax assets	1,051	983
Valuation allowance	(244)	(224)
Net deferred tax assets	807	759
Deferred tax liabilities:		
Property, plant and equipment	(330)	(336)
Goodwill and other intangible assets	(586)	(621)
Pension assets	(74)	(90)
Other	(137)	(120)
Total deferred tax liabilities	(1,127)	(1,167)
Net deferred tax asset (liability)	\$ (320)	\$ (408)

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

(\$ in millions)	December 31,	
	2019	2018
Other assets	\$ 241	\$ 237
Deferred taxes	(561)	(645)
Net deferred tax asset (liability)	\$ (320)	\$ (408)

At December 31, 2019, Ball has recorded deferred tax assets related to federal and foreign net operating and capital loss carryforwards of \$246 million, U.S. foreign tax and research and development tax credit carryforwards of \$107 million and state net operating loss carryforwards of \$55 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 2020 to indefinite, with the largest portion carried forward indefinitely. Each has been assessed for realization as of December 31, 2019.

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In 2019, the company's overall valuation allowances increased by a net \$20 million. The increase to the valuation allowance was primarily due to nondeductible U.K. interest expense and operating losses incurred primarily in various U.S. state and foreign jurisdictions, none of which are expected to be utilized in future periods. This increase was partially offset by a reduction due to the disposition of certain Asian subsidiaries. Ball's 2019 effective tax rate was impacted by \$24 million of the net change in the valuation allowance.

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.

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)	2019	2018	2017
Balance at January 1	\$ 80	\$ 84	\$ 77
Additions based on tax positions related to the current year	—	14	18
Additions for tax positions of prior years	—	—	1
Reductions for tax positions from prior years	—	(4)	—
Reductions for settlements	—	—	(7)
Reductions due to lapse of statute of limitations	(16)	(10)	(12)
Effect of foreign currency exchange rates	(1)	(4)	7
Balance at December 31	<u>\$ 63</u>	<u>\$ 80</u>	<u>\$ 84</u>

The annual provisions for income taxes included a tax benefit related to uncertain tax positions, including interest and penalties, of \$19 million in 2019, \$1 million in 2018 and \$3 million in 2017.

At December 31, 2019, the amounts of unrecognized tax benefits that, if recognized, would reduce tax expense were \$74 million, inclusive of interest, penalties and the federal impact of U.S. state items. 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 2014. 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, Canada, Brazil, the Czech Republic, Mexico, Chile and Argentina. The company's foreign statutes of limitations are generally open for years after 2013. At December 31, 2019, 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., the Netherlands, France, Ireland, Hong Kong, Saudi Arabia, India, Egypt, Brazil and various U.S. states.

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Due primarily to potential expiration of certain statutes of limitations, it is reasonably possible that a decrease in the range of \$13 million to \$19 million in the total amount of unrecognized tax benefits may occur within the coming year, all of which would reduce income tax expense.

The company recognizes the accrual of interest and penalties related to unrecognized tax benefits in income tax expense. Ball recognized \$3 million of tax benefit, \$1 million of tax benefit and \$4 million of tax benefit in 2019, 2018 and 2017, respectively, for potential interest on these items. At December 31, 2019, 2018 and 2017, the accrual for uncertain tax positions included potential interest expense of \$6 million, \$6 million and \$7 million, respectively. The company has accrued penalties of \$6 million in 2019, \$9 million in 2018 and \$10 million in 2017.

17. Employee Benefit Obligations

(\$ in millions)	December 31, 2019	December 31, 2018
Underfunded defined benefit pension liabilities	\$ 918	\$ 954
Less: Current portion	(24)	(25)
Long-term defined benefit pension liabilities	894	929
Long-term retiree medical liabilities	156	157
Deferred compensation plans	362	291
Other	74	78
	<u>\$ 1,486</u>	<u>\$ 1,455</u>

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, the company's 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 adjustment was accounted for as a prior service cost and initially recorded in accumulated other comprehensive earnings (loss) and it will be amortized to the consolidated statement of earnings over the average life expectancy of plan participants

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Defined Benefit Pension Plans

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

(\$ in millions)	December 31,					
	2019			2018		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Long-term pension asset	\$ —	\$ 437	\$ 437	\$ —	\$ 559	\$ 559
Defined benefit pension liabilities (a)	(647)	(271)	(918)	(678)	(276)	(954)
Funded status	<u>\$ (647)</u>	<u>\$ 166</u>	<u>\$ (481)</u>	<u>\$ (678)</u>	<u>\$ 283</u>	<u>\$ (395)</u>

(a) Included is an unfunded, non-qualified U.S. plan obligation of \$32 million at December 31, 2019, that has been annuitized with a corresponding asset of \$27 million (\$3 million in other current assets and \$24 million in other assets). At December 31, 2018, the unfunded non-qualified U.S. plan obligation of \$30 million was annuitized with a corresponding asset of \$30 million (\$3 million in other current assets and \$27 million in other assets).

An analysis of the change in benefit accounts for 2019 and 2018 follows:

(\$ in millions)	December 31,					
	2019			2018		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Change in projected benefit obligation:						
Benefit obligation at prior year end	\$ 2,579	\$ 2,991	\$ 5,570	\$ 3,061	\$ 3,432	\$ 6,493
Service cost	50	11	61	51	14	65
Interest cost	101	72	173	99	72	171
Benefits paid	(205)	(191)	(396)	(191)	(194)	(385)
Net actuarial (gains) losses	324	391	715	(189)	(210)	(399)
Curtailments and settlements including special termination benefits	—	(34)(a)	(34)	(252)(a)	—	(252)
Plan amendments	—	—	—	—	52	52
Other	—	1	1	—	2	2
Effect of exchange rates	—	107	107	—	(177)	(177)
Benefit obligation at year end	<u>2,849</u>	<u>3,348</u>	<u>6,197</u>	<u>2,579</u>	<u>2,991</u>	<u>5,570</u>
Change in plan assets:						
Fair value of assets at prior year end	1,901	3,274	5,175	2,420	3,632	6,052
Actual return on plan assets	313	311	624	(119)	3	(116)
Employer contributions	188	4	192	32	6	38
Contributions to unfunded plans	6	18	24	7	20	27
Benefits paid	(205)	(191)	(396)	(191)	(194)	(385)
Curtailments and settlements including special termination benefits	—	(34)(a)	(34)	(256)(a)	—	(256)
Other	(1)	1	—	8	2	10
Effect of exchange rates	—	131	131	—	(195)	(195)
Fair value of assets at end of year	<u>2,202</u>	<u>3,514</u>	<u>5,716</u>	<u>1,901</u>	<u>3,274</u>	<u>5,175</u>
Funded status	<u>\$ (647)</u>	<u>\$ 166</u>	<u>\$ (481)</u>	<u>\$ (678)</u>	<u>\$ 283</u>	<u>\$ (395)</u>

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

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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,					
	2019			2018		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Net actuarial (loss) gain	\$ (683)	\$ (31)	\$ (714)	\$ (563)	\$ 140	\$ (423)
Net prior service (cost) credit	15	(49)	(34)	16	(50)	(34)
Tax effect and currency exchange rates	174	16	190	216	(36)	180
	<u>\$ (494)</u>	<u>\$ (64)</u>	<u>\$ (558)</u>	<u>\$ (331)</u>	<u>\$ 54</u>	<u>\$ (277)</u>

The accumulated benefit obligation for all U.S. defined benefit pension plans was \$2,769 million and \$2,519 million at December 31, 2019 and 2018, respectively. The accumulated benefit obligation for all foreign defined benefit pension plans was \$3,345 million and \$2,988 million at December 31, 2019 and 2018, respectively. Following is the information for defined benefit plans with an accumulated benefit obligation in excess of plan assets:

(\$ in millions)	December 31,					
	2019			2018		
	U.S.	Foreign	Total	U.S.	Foreign	Total
Projected benefit obligation	\$ 2,849	\$ 328	\$ 3,177	\$ 2,579	\$ 354	\$ 2,933
Accumulated benefit obligation	2,769	324	3,093	2,519	351	2,870
Fair value of plan assets (a)	2,202	57	2,259	1,901	79	1,980

(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,								
	2019			2018			2017		
	U.S.	Foreign	Total	U.S.	Foreign	Total	U.S.	Foreign	Total
Ball-sponsored plans:									
Service cost	\$ 50	\$ 11	\$ 61	\$ 51	\$ 14	\$ 65	\$ 49	\$ 17	\$ 66
Interest cost	101	72	173	99	72	171	124	92	216
Expected return on plan assets	(116)	(109)	(225)	(108)	(108)	(216)	(126)	(110)	(236)
Amortization of prior service cost	1	3	4	2	—	2	2	—	2
Recognized net actuarial loss	22	4	26	33	5	38	34	5	39
Settlement losses	—	8	8	36	—	36	47	(1)	46
Net periodic benefit cost for Ball sponsored plans	58	(11)	47	113	(17)	96	130	3	133
Net periodic benefit cost for multi-employer plans	1	—	1	2	—	2	2	—	2
Total net periodic benefit cost	<u>\$ 59</u>	<u>\$ (11)</u>	<u>\$ 48</u>	<u>\$ 115</u>	<u>\$ (17)</u>	<u>\$ 98</u>	<u>\$ 132</u>	<u>\$ 3</u>	<u>\$ 135</u>

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Ball completed the purchase of non-participating group annuity contracts that were transferred to an insurance company for the company's Canadian pension benefit obligations in 2019 and the company's U.S. pension benefit obligations in 2018 and 2017, totaling approximately \$32 million in 2019, \$176 million in 2018 and \$224 million in 2017. The 2019 annuity contract purchase settled Ball's Canadian defined benefit pension obligation in full. 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 \$8 million in 2019, \$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 \$22 million in 2019, income of \$5 million in 2018 and expense of \$21 million in 2017, respectively, is included in selling, general, and administrative (SG&A) expenses. Due to immateriality, the amount in 2017 was not retrospectively adjusted as required by a newly adopted accounting standard for pension and postretirement benefit costs.

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 2020 are a loss of \$41 million and a cost of \$1 million, respectively.

Contributions to the company's defined benefit pension plans are expected to be approximately \$90 million in 2020. 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 plans are expected to be approximately \$393 million, \$361 million, \$366 million, \$370 million and \$373 million for the years ending December 31, 2020 through 2024, respectively, and approximately \$1.9 billion for the years ending December 31, 2025 through 2029.

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

	U.S.		
	2019	2018	2017
Discount rate	3.35 %	4.41 %	3.72 %
Rate of compensation increase	4.03 %	4.02 %	4.15 %

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

	U.K.			Germany		
	2019	2018	2017	2019	2018	2017
Discount rate	2.07 %	2.90 %	2.55 %	1.11 %	1.74 %	1.68 %
Rate of compensation increase	3.50 %	3.50 %	4.41 %	2.50 %	2.50 %	2.50 %
Pension increase	3.22 %	3.45 %	3.41 %	1.50 %	1.50 %	1.50 %

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

	U.S.		
	2019	2018	2017
Discount rate	4.41 %	3.72 %	4.27 %
Rate of compensation increase	4.02 %	4.15 %	4.14 %
Expected long-term rate of return on assets	5.58 %	5.14 %	5.50 %

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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		
	2019	2018	2017	2019	2018	2017
Discount rate	2.90 %	2.55 %	2.70 %	1.74 %	1.68 %	1.52 %
Rate of compensation increase	3.50 %	4.41 %	4.30 %	2.50 %	2.50 %	2.50 %
Pension increase	3.45 %	3.41 %	3.41 %	1.50 %	1.50 %	1.50 %
Expected long-term rate of return on assets	3.40 %	3.05 %	3.20 %	N/A	N/A	N/A

The discount and compensation increase rates used above to determine the December 31, 2019, benefit obligations will be used to determine net periodic benefit cost for 2020. A reduction of the expected return on pension assets assumption by one quarter of a percentage point would result in an approximate \$14 million increase in 2020 pension expense, while a quarter of a percentage point reduction in the discount rate applied to the pension liability would result in an estimated increase of pension expense of approximately \$1 million in 2020.

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 2019, the company recorded pension expense of \$47 million for Ball-sponsored plans, including \$8 million of settlement charges and currently expects its 2020 pension expense to be \$49 million, using foreign currency exchange rates in effect at December 31, 2019. The expected increase in pension expense, excluding settlement charges, is primarily the result of increased service cost from growth in employee numbers and higher amortization of actuarial losses.

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 and 2019, 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 the company's 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 \$5,375 million for 2019, \$6,052 million for 2018 and \$6,121 million for 2017.

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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, 2019:

	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:

	2019	2018
Cash and cash equivalents	2 %	2 %
Equity securities	17 %	28 %
Fixed income securities	79 %	69 %
Alternative investments	2 %	1 %
	<u>100 %</u>	<u>100 %</u>

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.

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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:

(\$ in millions)	December 31, 2019		
	Level 1	Level 2	Total
U.S. pension assets, at fair value:			
Cash and cash equivalents	\$ —	\$ 99	\$ 99
Corporate equity securities:			
Consumer discretionary	83	—	83
Financials	64	—	64
Healthcare	63	—	63
Industrials	76	—	76
Information technology	111	—	111
Utilities	48	—	48
Other	18	—	18
U.S. government, agency and asset-backed securities:			
FHLMC mortgage backed securities	—	42	42
FNMA mortgage backed securities	—	73	73
Municipal bonds	—	27	27
Treasury bonds	69	—	69
Other	—	45	45
Corporate bonds and notes:			
Communications	—	79	79
Consumer discretionary	—	99	99
Consumer staples	—	100	100
Financials	—	261	261
Healthcare	—	91	91
Industrials	—	101	101
Information technology	—	78	78
Oil and gas	—	91	91
Private placement	—	62	62
Utilities	—	101	101
Other	—	50	50
Commingled funds	22	81	103
Total level 1 and level 2	\$ 554	\$ 1,480	2,034
Other investments measured at net asset value (a)			168
Total assets			\$ 2,202

(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, 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	<u>\$ 410</u>	<u>\$ 1,331</u>	1,741
Other investments measured at net asset value (a)			160
Total assets			<u>\$ 1,901</u>

(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,	
	2019	2018
U.K. pension assets, at fair value:		
Cash and cash equivalents	\$ 40	\$ 20
Equity commingled funds	162	—
U.K. government bonds	2,576	2,229
Other	28	33
Total level 1	2,806	2,282
Level 2: Investment funds - corporate bonds	478	—
Other investments measured at net asset value (a)	173	913
Total assets	\$ 3,457	\$ 3,195

(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 Postretirement 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. The benefit obligation associated with these plans was \$171 million and \$174 million as of December 31, 2019 and 2018, respectively, including current portions of \$15 million and \$17 million. Net periodic cost associated with these plans was income of \$3 million, income of \$2 million and expense of \$6 million for the years ended December 31, 2019, 2018 and 2017, respectively.

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

	U.S.			Canada		
	2019	2018	2017	2019	2018	2017
Discount rate	3.24 %	4.35 %	3.64 %	3.00 %	3.50 %	3.25 %
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.

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

	U.S.			Canada		
	2019	2018	2017	2019	2018	2017
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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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, 2019, 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 \$945 million, \$711 million and \$76 million of its shares, net of issuances, during the years ended December 31, 2019, 2018, and 2017, respectively. The 2019 amount included shares repurchased under accelerated share repurchase agreements with third-party financial institutions. 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 2019, the company's Board of Directors increased the quarterly cash dividend by 50 percent to 15 cents per share. 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.

Accumulated Other Comprehensive Earnings (Loss)

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

(\$ in millions)	Foreign Currency Translation (Net of Tax)	Pension and Other Postretirement Benefits (Net of Tax)	Derivatives Designated as Hedges (Net of Tax)	Accumulated Other Comprehensive Earnings (Loss)
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) into earnings	—	52	(92)	(40)
Balance at December 31, 2018	\$ (504)	\$ (277)	\$ (54)	\$ (835)
Other comprehensive earnings (loss) before reclassifications	119	(223)	67	(37)
Amounts reclassified from accumulated other comprehensive earnings (loss) into earnings	—	18	(22)	(4)
Currency translation recognized in earnings from the sale of the Argentina steel aerosol business	45	—	—	45
Stranded tax effects reclassified into retained earnings	—	(76)	(3)	(79)
Balance at December 31, 2019	<u>\$ (340)</u>	<u>\$ (558)</u>	<u>\$ (12)</u>	<u>\$ (910)</u>

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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,		
	2019	2018	2017
Gains (losses) on cash flow hedges:			
Commodity contracts recorded in net sales	\$ 18	\$ 1	\$ (7)
Commodity contracts recorded in cost of sales	(45)	54	50
Currency exchange contracts recorded in selling, general and administrative	7	1	(1)
Cross-currency swaps recorded in selling, general and administrative	35	49	(136)
Cross-currency swaps recorded in interest expense	12	14	16
Interest rate contracts recorded in interest expense	1	—	—
Total before tax effect	28	119	(78)
Tax benefit (expense) on amounts reclassified into earnings	(6)	(27)	13
Recognized gain (loss), net of tax	<u>\$ 22</u>	<u>\$ 92</u>	<u>\$ (65)</u>
Amortization of pension and other postretirement benefits: (a)			
Prior service income (expense)	\$ (2)	\$ (1)	\$ (1)
Actuarial gains (losses)	(14)	(32)	(34)
Effect of pension settlements	(8)	(36)	(44)
Total before tax effect	(24)	(69)	(79)
Tax benefit (expense) on amounts reclassified into earnings	6	17	30
Recognized gain (loss), net of tax	<u>\$ (18)</u>	<u>\$ (52)</u>	<u>\$ (49)</u>

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

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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, 2019, follows:

	Number of Shares	Weighted Average Exercise Price
Beginning of year	15,175,811	\$ 27.45
Granted	1,624,395	51.42
Exercised	(4,173,273)	21.19
Canceled/forfeited	(241,473)	42.13
End of period	<u>12,385,460</u>	32.41
Vested and exercisable, end of year	<u>7,957,900</u>	\$ 26.82
Reserved for future grants	<u>19,641,712</u>	

The weighted average remaining contractual term for all options and SSARs outstanding at December 31, 2019, was 5.5 years and the aggregate intrinsic value (difference in exercise price and closing price at that date) was \$400 million. The weighted average remaining contractual term for options and SSARs vested and exercisable at December 31, 2019, was 4.1 years and the aggregate intrinsic value was \$301 million. The company received \$41 million, \$29 million and \$21 million from options exercised during 2019, 2018 and 2017, respectively, and the intrinsic value associated with these exercises was \$61 million, \$30 million and \$26 million for the same periods, respectively. The excess tax benefit associated with the company's stock compensation programs was \$35 million for 2019, and was reported as a discrete item in the consolidated tax provision. The total fair value of options and SSARs vested during 2019, 2018 and 2017 was \$16 million, \$16 million and \$14 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 2019, 2018 and 2017 have estimated weighted average fair values at the date of grant of \$12.26 per share, \$9.07 per share and \$7.82 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>2019 Grants</u>	<u>2018 Grants</u>	<u>2017 Grants</u>
Expected dividend yield	0.79 %	1.03 %	0.89 %
Expected stock price volatility	20.36 %	21.98 %	19.62 %
Risk-free interest rate	2.59 %	2.47 %	2.00 %
Expected life of options (in years)	6.40 years	6.10 years	5.94 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, 2019:

	Number of Shares/Units	Weighted Average Grant Price
Beginning of year	2,875,294	\$ 34.17
Granted	543,384	45.88
Vested	(871,225)	30.83
Canceled/forfeited	(108,717)	39.68
End of year	<u>2,438,736</u>	<u>\$ 37.73</u>

The company's Board of Directors has granted performance contingent restricted stock units (PC-RSUs) to key employees. These PC-RSUs 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 \$5 million in 2019, \$21 million in 2018, and \$9 million in 2017.

During 2017, the company's Board of Directors granted 1.1 million PC-RSUs (on a post-stock split basis) to employees related to the Special Acquisition-Related Incentive Plan (SAIP). These awards vested in January 2020 based on the company's achievement of cumulative EVA® and cash flow performance goals. The expense associated with these performance-contingent grants, as recognized in business consolidation and other activities, totaled \$6 million in 2019, \$23 million in 2018 and \$11 million in 2017.

For the years ended December 31, 2019, 2018 and 2017, the company recognized pretax expense of \$37 million (\$33 million after tax), \$75 million (\$61 million after tax) and \$46 million (\$35 million after tax), respectively, for share-based compensation arrangements. At December 31, 2019, there was \$50 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 2.2 years.

20. Earnings Per Share

(\$ in millions, except per share amounts; shares in thousands)	Years Ended December 31,		
	2019	2018	2017
Net earnings attributable to Ball Corporation	\$ 566	\$ 454	\$ 374
Basic weighted average common shares	331,102	344,796	350,269
Effect of dilutive securities	9,019	7,525	6,716
Weighted average shares applicable to diluted earnings per share	<u>340,121</u>	<u>352,321</u>	<u>356,985</u>
Per basic share	\$ 1.71	\$ 1.32	\$ 1.07
Per diluted share	\$ 1.66	\$ 1.29	\$ 1.05

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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 excluded options and SSARs totaled approximately 4 million in 2018 and 2 million in 2017.

The company declared and paid dividends of \$0.55 per share in 2019, \$0.40 per share in 2018 and \$0.365 in 2017.

21. Financial Instruments and Risk Management

Policies and Procedures

The company employs established risk management policies and procedures, which seek to reduce its 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.

At December 31, 2019, the company had aluminum contracts limiting its aluminum exposure with notional amounts of approximately \$1.7 billion, of which approximately \$1.6 billion received hedge accounting treatment. Cash flow hedges relate to forecasted sales and purchase transactions and expire within the next two years. Included in shareholders' equity at December 31, 2019, within accumulated other comprehensive earnings (loss), is a net after-tax loss of \$15 million associated with these contracts. A net loss of \$13 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 the company's overall borrowing costs. To achieve these objectives, the company may use a variety of interest rate swaps, collars and options to manage the company's mix of floating and fixed-rate debt. At December 31, 2019, the company had outstanding interest rate swap and option contracts with notional amounts of approximately \$827 million paying fixed rates expiring within the next two years. The amount recorded in accumulated other comprehensive earnings (loss) at December 31, 2019, is insignificant.

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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, 2019, the company had outstanding exchange forward contracts and option contracts with notional amounts totaling approximately \$4.3 billion. Approximately \$7 million of net after-tax gain related to these contracts is included in accumulated other comprehensive earnings at December 31, 2019, of which a \$1 million net loss is expected to be recognized in the consolidated statement of earnings during the next 12 months. The contracts outstanding at December 31, 2019, expire within five 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. The company fully settled this contract during 2019. Approximately \$4 million of net after-tax loss related to these contracts is included in accumulated other comprehensive earnings at December 31, 2019, and is expected to be recognized in the consolidated statement of earnings during the next 12 months.

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 May 2020 and have a combined notional value of 2.9 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.

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, 2019 and 2018, the aggregate fair value of all derivative instruments with credit-risk-related contingent features that were in a net liability position was \$35 million and \$46 million, respectively, and no collateral was required to be posted.

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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, 2019 and 2018, 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, 2019		
		Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments	Total
Assets:				
Commodity contracts		\$ 7	\$ 1	\$ 8
Foreign currency contracts		4	43	47
Other contracts		2	—	2
Total current derivative contracts	Other current assets	<u>\$ 13</u>	<u>\$ 44</u>	<u>\$ 57</u>
Foreign currency contracts		\$ 15	\$ —	\$ 15
Other contracts		1	—	1
Total noncurrent derivative contracts	Other noncurrent assets	<u>\$ 16</u>	<u>\$ —</u>	<u>\$ 16</u>
Liabilities:				
Commodity contracts		\$ 26	\$ 1	\$ 27
Foreign currency contracts		—	18	18
Other contracts		—	19	19
Total current derivative contracts	Other current liabilities	<u>\$ 26</u>	<u>\$ 38</u>	<u>\$ 64</u>
Commodity contracts		\$ 1	\$ —	\$ 1
Total noncurrent derivative contracts	Other noncurrent liabilities	<u>\$ 1</u>	<u>\$ —</u>	<u>\$ 1</u>

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		December 31, 2018		
		Derivatives Designated as Hedging Instruments	Derivatives not Designated as Hedging Instruments	Total
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>

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. The company values each of its financial instruments either internally using a single valuation technique, from a reliable observable market source or from third-party software. 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. The present value discounting factor is based on the comparable time period LIBOR rate or 12-month LIBOR. Ball performs validations of the company's internally derived fair values reported for the company's financial instruments on a quarterly basis utilizing counterparty valuation statements. The company additionally evaluates counterparty creditworthiness and, as of December 31, 2019, has not identified any circumstances requiring the reported values of the company's 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, 2019	
		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	\$ 18	\$ —
Commodity contracts - <i>manage exposure to supplier pricing</i>	Cost of sales	(45)	2
Interest rate contracts - <i>manage exposure for outstanding debt</i>	Interest expense	1	—
Foreign currency contracts - <i>manage currency exposure</i>	Selling, general and administrative	7	111
Cross-currency swaps - <i>manage intercompany currency exposure</i>	Selling, general and administrative	35	—
Cross-currency swaps - <i>manage intercompany currency exposure</i>	Interest expense	12	—
Equity contracts	Selling, general and administrative	—	46
Total		\$ 28	\$ 159

(\$ 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 currency exposure</i>	Selling, general and administrative	1	70
Cross-currency swaps - <i>manage intercompany currency exposure</i>	Selling, general and administrative	49	—
Cross-currency swaps - <i>manage intercompany currency exposure</i>	Interest expense	14	—
Equity contracts	Selling, general and administrative	—	19
Total		\$ 119	\$ 98

Ball Corporation
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(\$ 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	—
Equity contracts	Selling, general and administrative	—	(1)
Total		<u>\$ (78)</u>	<u>\$ (67)</u>

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

(\$ in millions)	Years Ended December 31,		
	2019	2018	2017
Amounts reclassified into earnings:			
Commodity contracts	\$ 27	\$ (55)	\$ (43)
Cross-currency swap contracts	(47)	(63)	120
Interest rate contracts	(1)	—	—
Currency exchange contracts	(7)	(1)	1
Change in fair value of cash flow hedges:			
Commodity contracts	(10)	(31)	67
Interest rate contracts	1	—	—
Cross-currency swap contracts	78	69	(137)
Currency exchange contracts	17	(5)	7
Foreign currency and tax impacts	(13)	19	20
Stranded tax effects reclassified into retained earnings:			
Commodity contracts	2	—	—
Cross-currency swap contracts	(5)	—	—
	<u>\$ 42</u>	<u>\$ (67)</u>	<u>\$ 35</u>

Ball Corporation
Notes to the Consolidated Financial Statements

22. Quarterly Results of Operations (Unaudited)

Set forth below are the company's 2019 and 2018 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
2019					
Net sales	\$ 2,785	\$ 3,017	\$ 2,953	\$ 2,719	\$ 11,474
Gross profit (a)	407	463	468	437	1,775
Earnings before taxes	\$ 140	\$ 226	\$ 119	\$ 123	\$ 608
Net earnings (loss) attributable to Ball Corporation	\$ 117	\$ 197	\$ 92	\$ 160	\$ 566
Basic earnings (loss) per share (b)	\$ 0.35	\$ 0.59	\$ 0.28	\$ 0.49	\$ 1.71
Diluted earnings (loss) per share (b)	\$ 0.34	\$ 0.58	\$ 0.27	\$ 0.48	\$ 1.66
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 attributable to Ball Corporation	\$ 125	\$ 119	\$ 59	\$ 151	\$ 454
Basic earnings per share (b)	\$ 0.36	\$ 0.34	\$ 0.17	\$ 0.45	\$ 1.32
Diluted earnings per share (b)	\$ 0.35	\$ 0.34	\$ 0.17	\$ 0.44	\$ 1.29

(a) Gross profit is shown after depreciation and amortization related to cost of sales of \$488 million and \$509 million for the years ended December 31, 2019 and 2018, 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.

Ball Corporation
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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, the company has 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 \$29 million in the aggregate, and such amounts have been included in other current liabilities and other noncurrent liabilities at December 31, 2019.

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 at this time, the company does not believe that this matter will have a material adverse effect upon its liquidity, results of operations or financial condition.

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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. On June 21, 2019, the District Court issued an order sustaining the BMBCC/RBCC motion as to invalidity, declining to rule on the other grounds as moot, and indicating that an expanded opinion and an appealable order would be forthcoming. The expanded opinion was docketed on July 22, 2019. The final, appealable order was issued by the Court on September 25, 2019, and the expanded opinion was unsealed. On October 22, 2019, Crown filed a Notice of Appeal of the decision of the Court to the Court of Appeals for the Federal Circuit. Based on the information available at the present time, the company does not believe that this matter will have a material adverse effect upon its liquidity, results of operations or financial condition.

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 is the subject of ongoing discussions ahead of a final plan for the site being addressed. Based on the information available at this time, the company does not believe that this matter will have a material adverse effect upon its liquidity, results of operations or financial condition.

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.

Ball Corporation

Notes to the Consolidated Financial Statements

The company's 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 to challenge the legality of these tax on tax amounts. Pursuant to these lawsuits, the company 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, which had timely filed equivalent lawsuits, were recording income based on the applicable ICMS amounts retained. During the second quarter of 2019, the company received additional favorable court rulings and completed its analysis of certain prior year overpayments related to ICMS. As these gain contingency amounts are now estimable and realizable, the company recorded \$57 million of prior year collections in business consolidation and other activities within the company's condensed consolidated statement of earnings. The company is currently seeking reimbursement for additional ICMS-related amounts previously paid to the Brazilian government; however, such amounts cannot be estimated at this time. In the event other comparable cases are resolved and the amounts claimed become estimable and realizable, the company will record gains, which may result in material reimbursements to the company in future periods.

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, renewable energy purchase 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.

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 Rexam acquisition, 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 certain claims arising from these indemnifications, commitments and guarantees.

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Notes to the Consolidated Financial Statements

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. 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 and/or the credit agreement. 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, 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, 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 subsidiaries and the 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.

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, 2019 and 2018, and for the three years ended December 31, 2019, 2018 and 2017. 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.

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Earnings				
	For the Year Ended December 31, 2019				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Net sales	\$ —	\$ 6,540	\$ 5,733	\$ (799)	\$ 11,474
Cost and expenses					
Cost of sales (excluding depreciation and amortization)	—	(5,591)	(4,411)	799	(9,203)
Depreciation and amortization	(5)	(199)	(474)	—	(678)
Selling, general and administrative	(74)	(179)	(164)	—	(417)
Business consolidation and other activities	(26)	(40)	(178)	—	(244)
Equity in results of subsidiaries	711	141	—	(852)	—
Intercompany	221	(121)	(100)	—	—
	827	(5,989)	(5,327)	(53)	(10,542)
Earnings (loss) before interest and taxes	827	551	406	(852)	932
Interest expense	(318)	5	(4)	—	(317)
Debt refinancing and other costs	(7)	—	—	—	(7)
Total interest expense	(325)	5	(4)	—	(324)
Earnings (loss) before taxes	502	556	402	(852)	608
Tax (provision) benefit	64	(49)	(86)	—	(71)
Equity in results of affiliates, net of tax	—	(10)	9	—	(1)
Net earnings	566	497	325	(852)	536
Less net earnings attributable to noncontrolling interests	—	—	30	—	30
Net earnings attributable to Ball Corporation	\$ 566	\$ 497	\$ 355	\$ (852)	\$ 566
Comprehensive earnings (loss) attributable to Ball Corporation	\$ 570	\$ 551	\$ 402	\$ (953)	\$ 570

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ 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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Notes to the Consolidated Financial Statements

(\$ 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 Balance Sheet				
	December 31, 2019				
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Eliminating Adjustments	Consolidated Total
Assets					
Current assets					
Cash and cash equivalents	\$ 877	\$ —	\$ 921	\$ —	\$ 1,798
Receivables, net	31	494	1,106	—	1,631
Intercompany receivables	121	360	1,546	(2,027)	—
Inventories, net	—	550	724	—	1,274
Other current assets	24	35	122	—	181
Total current assets	1,053	1,439	4,419	(2,027)	4,884
Noncurrent assets					
Property, plant and equipment, net	37	1,474	2,959	—	4,470
Investment in subsidiaries	7,289	2,489	(99)	(9,679)	—
Goodwill	—	1,190	3,229	—	4,419
Intangible assets, net	18	376	1,608	—	2,002
Other assets	331	304	950	—	1,585
Total assets	\$ 8,728	\$ 7,272	\$ 13,066	\$ (11,706)	\$ 17,360
Liabilities and Equity					
Current liabilities					
Short-term debt and current portion of long-term debt	\$ 1,449	\$ —	\$ 31	\$ —	\$ 1,480
Accounts payable	16	1,111	2,009	—	3,136
Intercompany payables	2,473	94	338	(2,905)	—
Accrued employee costs	46	149	90	—	285
Other current liabilities	177	184	315	—	676
Total current liabilities	4,161	1,538	2,783	(2,905)	5,577
Noncurrent liabilities					
Long-term debt	6,330	—	7	—	6,337
Employee benefit obligations	824	368	294	—	1,486
Intercompany long-term notes	(5,385)	(2,175)	6,681	879	—
Deferred taxes	(231)	235	557	—	561
Long-term deferred tax and other liabilities	80	120	180	—	380
Total liabilities	5,779	86	10,502	(2,026)	14,341
Equity					
Common stock	1,178	2,661	46	(2,707)	1,178
Preferred stock	—	—	5	(5)	—
Retained earnings	5,803	5,135	2,857	(7,992)	5,803
Accumulated other comprehensive earnings (loss)	(910)	(610)	(414)	1,024	(910)
Treasury stock, at cost	(3,122)	—	—	—	(3,122)
Total Ball Corporation equity	2,949	7,186	2,494	(9,680)	2,949
Noncontrolling interests	—	—	70	—	70
Total equity	2,949	7,186	2,564	(9,680)	3,019
Total liabilities and equity	\$ 8,728	\$ 7,272	\$ 13,066	\$ (11,706)	\$ 17,360

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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	<u>\$ 11,523</u>	<u>\$ 8,642</u>	<u>\$ 13,432</u>	<u>\$ (17,043)</u>	<u>\$ 16,554</u>
Liabilities and 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	<u>8,065</u>	<u>1,993</u>	<u>5,153</u>	<u>(2,219)</u>	<u>12,992</u>
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 equity	3,458	6,649	8,175	(14,824)	3,458
Noncontrolling interests	—	—	104	—	104
Total equity	3,458	6,649	8,279	(14,824)	3,562
Total liabilities and equity	<u>\$ 11,523</u>	<u>\$ 8,642</u>	<u>\$ 13,432</u>	<u>\$ (17,043)</u>	<u>\$ 16,554</u>

Ball Corporation
Notes to the Consolidated Financial Statements

(\$ in millions)	Condensed Consolidating Statement of Cash Flows			
	For the Year Ended December 31, 2019			
	Ball Corporation	Guarantor Subsidiaries	Non-Guarantor Subsidiaries	Consolidated Total
Cash provided by (used in) operating activities	\$ (353)	\$ 752	\$ 1,149	\$ 1,548
Cash flows from investing activities				
Capital expenditures	(17)	(245)	(336)	(598)
Proceeds from dispositions, net of cash sold	—	—	160	160
Other, net	(5)	6	15	16
Cash provided by (used in) investing activities	(22)	(239)	(161)	(422)
Cash flows from financing activities				
Long-term borrowings	2,813	—	6	2,819
Repayments of long-term borrowings	(1,516)	—	(8)	(1,524)
Net change in short-term borrowings	(174)	—	(9)	(183)
Proceeds from issuances of common stock, net of shares used for taxes	19	—	—	19
Acquisitions of treasury stock	(964)	—	—	(964)
Common stock dividends	(182)	—	—	(182)
Intercompany	1,283	(513)	(770)	—
Other, net	(31)	—	—	(31)
Cash provided by (used in) financing activities	1,248	(513)	(781)	(46)
Effect of exchange rate changes on cash	—	—	(2)	(2)
Change in cash, cash equivalents and restricted cash	873	—	205	1,078
Cash, cash equivalents and restricted cash – beginning of period	4	—	724	728
Cash, cash equivalents and restricted cash – end of period	\$ 877	\$ —	\$ 929	\$ 1,806

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)
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

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, 2019, 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, the company 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, 2019.

The effectiveness of our internal control over financial reporting as of December 31, 2019, 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, 2019, 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 19, 2020, were as follows:

Charles E. Baker, 62, 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, 41, Vice President and Controller since November 2017; Assistant Controller from 2014 to November 2017; Senior Manager, PricewaterhouseCoopers LLP, 2001 to 2014.

Daniel W. Fisher, 47, 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, 54, 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, 48, 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, 57, Senior Vice President and Chief Financial Officer since 2010; Vice President and Treasurer from 2002 to 2010; and Treasurer, 2000 to 2002.

Lisa A. Pauley, 58, 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, 63, 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, 2019, 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, 2019, is incorporated herein by reference.

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, 2019, 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	12,385,460	\$ 32.41	19,641,712
Equity compensation plans not approved by security holders	—	—	—
Total	12,385,460	\$ 32.41	19,641,712

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, 2019, 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, 2019, 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, 2019, 2018 and 2017

Consolidated statements of comprehensive earnings (loss) — Years ended December 31, 2019, 2018 and 2017

Consolidated balance sheets — December 31, 2019 and 2018

Consolidated statements of cash flows — Years ended December 31, 2019, 2018 and 2017

Consolidated statements of shareholders' equity — Years ended December 31, 2019, 2018 and 2017

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 October 21, 2019. (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.

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Exhibit Number	Description of Exhibit
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.
4.2(d)	Description of Ball Corporation's securities registered pursuant to Section 12 of the Securities Exchange Act of 1934 (Filed herewith.)
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 by incorporation by reference to Exhibit 10.7 of the Annual Report on Form 10-K for the year ended December 31, 2018), filed February 22, 2019.*
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.*

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<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 by incorporation by reference to Exhibit 10.12 to the Annual Report on Form 10-K for the year ended December 31, 2018), filed February 22, 2019.*
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 by incorporation by reference to Exhibit 10.15 to the Annual Report on Form 10-K for the year ended December 31, 2018), filed February 22, 2019.*
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 by incorporation by reference to Exhibit 10.16 to the Annual Report on Form 10-K for the year ended December 31, 2018), filed February 22, 2019.*
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 by incorporation by reference to Exhibit 10.17 to the Annual Report on Form 10-K for the year ended December 31, 2018), filed February 22, 2019.*
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).*

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Exhibit Number	Description of Exhibit
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.*
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 herewith in 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.)
101.INS	Extensible Business Reporting Language (XBRL) Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

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Exhibit Number	Description of Exhibit
101.SCH	Inline XBRL Taxonomy Extension Schema Document.
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	Inline XBRL Taxonomy Extension Definitions Linkbase Document.
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104	The following financial information from Ball Corporation's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Inline XBRL (contained in Exhibit 101): (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 19, 2020

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: | | |
| <u>/s/ John A. Hayes</u> | Chairman, President and Chief Executive Officer | |
| John A. Hayes | February 19, 2020 | |
| (2) Principal Financial Officer: | | |
| <u>/s/ Scott C. Morrison</u> | Senior Vice President and Chief Financial Officer | |
| Scott C. Morrison | February 19, 2020 | |
| (3) Principal Accounting Officer: | | |
| <u>/s/ Nate C. Carey</u> | Vice President and Controller | |
| Nate C. Carey | February 19, 2020 | |
| (4) A Majority of the Board of Directors: | | |
| <u>/s/ John Bryant</u> * | Director | |
| John Bryant | February 19, 2020 | |
| <u>/s/ Michael J. Cave</u> * | Director | |
| Michael J. Cave | February 19, 2020 | |
| <u>/s/ John A. Hayes</u> * | Chairman of the Board and Director | |
| John A. Hayes | February 19, 2020 | |
| <u>/s/ Daniel J. Heinrich</u> * | Director | |
| Daniel J. Heinrich | February 19, 2020 | |
| <u>/s/ Pedro H. Mariani</u> * | Director | |
| Pedro H. Mariani | February 19, 2020 | |
| <u>/s/ Georgia R. Nelson</u> * | Director | |
| Georgia R. Nelson | February 19, 2020 | |
| <u>/s/ Cynthia A. Niekamp</u> * | Director | |
| Cynthia A. Niekamp | February 19, 2020 | |
| <u>/s/ Todd Penegor</u> * | Director | |
| Todd Penegor | February 19, 2020 | |

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/s/ Cathy D. Ross * Director
Cathy D. Ross February 19, 2020

/s/ Betty Sapp * Director
Betty Sapp February 19, 2020

/s/ Stuart A. Taylor II * Director
Stuart A. Taylor II February 19, 2020

* 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 19, 2020

**Bylaws
of
Ball Corporation
(As of October 21, 2019)**

**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.

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

The following summary of certain terms of our common stock describes material provisions of, but does not purport to be complete and is subject to, and qualified in its entirety by, our Restated Certificate of Incorporation (as amended, the "Certificate of Incorporation"), our Amended and Restated Bylaws (the "Bylaws"), the forms of which are included as exhibits to the Annual Report on Form 10-K of which this Exhibit 4(d) is also included, as well as the relevant portions of the Indiana Corporations Law.

DESCRIPTION OF CAPITAL STOCK

The following is a description of certain material terms of our amended articles of incorporation, bylaws and of certain provisions of Indiana law. The following summary does not purport to be complete and is qualified in its entirety by reference to our amended articles of incorporation and bylaws, and the relevant provisions of Indiana law.

General

Our authorized capital structure consists of:

- 1,100,000,000 shares of common stock, without par value: and
- 15,000,000 shares of preferred stock, without par value

As of February 20, 2018, there were 350,442,053 shares of common stock and no shares of preferred stock issued and outstanding.

Common Stock

Voting

The holders of our common stock are entitled to one vote for each share held of record on each matter submitted to a vote of shareholders, including the election of directors, and do not have any right to cumulate votes in the election of directors.

Dividends

Subject to the rights and preferences of the holders of any series of preferred stock which may at the time be outstanding, holders of our common stock are entitled to such dividends as our board of directors may declare out of funds legally available.

Liquidation Rights

In the event of any liquidation, dissolution or winding-up of our affairs, after payment of all of our debts and liabilities and subject to the rights and preferences of the holders of any series of our preferred stock, the holders of our common stock will be entitled to receive the distribution of any of our remaining assets.

Other matters

Holders of our common stock have no conversion, preemptive or other subscription rights and there are no redemption rights or sinking fund provisions with respect to the common stock.

Preferred Stock

We are authorized to issue up to 15,000,000 shares of preferred stock in one or more series. Our

amended articles of incorporation authorize our board of directors to determine and state the designations and the relative rights (including, if any, conversion rights, participation rights, voting rights, dividend rights and stated, redemption and liquidation values), preferences, limitations and restrictions of each unissued series. All shares of preferred stock of the same series must be identical with each other in all respects. Our board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock.

When we issue preferred stock, we will provide specific information about the particular class or series being offered in a prospectus supplement. This information will include some or all of the following:

- the title or designation of the series;
- the number of shares to be included in the series;
- whether dividends, if any, will be cumulative or noncumulative and the dividend rate of the series;
- the conditions upon which and the dates at which dividends, if any, will be payable, and the relation that such dividends, if any, will bear to the dividends payable on any other class or classes of stock;
- the redemption rights and price or prices, if any, for shares of the series and at whose option such redemption may occur, and any limitations, restrictions or conditions on such redemption;
- the terms and amounts of any sinking fund provided for the purchase or redemption of shares of the series;
- the amounts payable on and the preferences, if any, of shares of the series, in the event of any voluntary or involuntary liquidation, dissolution or winding up of the affairs of Ball Corporation;
- whether the preferred stock being offered will be listed on any securities exchange;
- if necessary, a discussion of certain federal income tax considerations applicable to the preferred stock being offered;
- the voting rights, in addition to the voting rights provided by law, if any, of the holders of shares of such series; and
- any other relative rights, preferences, limitations and powers not inconsistent with applicable law or our articles of incorporation or bylaws then in effect.

Upon issuance, the shares of preferred stock will be fully paid and nonassessable, which means that its holders will have paid their purchase price in full and we may not require them to pay additional funds.

Certain Anti-Takeover Matters

Certain provisions of our amended articles of incorporation and bylaws, as well as certain provisions of the Indiana Business Corporation Law, may have the effect of encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include:

Classified Board of Directors

The Indiana Business Corporation Law was amended effective July 1, 2009, to require every corporation that has a class of voting shares registered with the SEC under Section 12 of the Exchange Act to maintain a classified board structure whereby its directors are elected for staggered terms in office. Corporations that were publicly-held at the time the classified board mandate became effective had until July 31, 2009, to amend their bylaws to elect not to be subject to this requirement. We did not amend our bylaws within the prescribed time and, accordingly, we are required to maintain our current classified board structure. Our amended articles of incorporation and bylaws provide for a board of directors, currently consisting of thirteen members which is divided into three classes, as nearly equal in number as possible, with directors serving staggered three-year terms. Subject

to the right of holders of any series of preferred stock to elect directors, shareholders elect one class constituting approximately one-third of the board of directors for a three-year term at each annual meeting of shareholders. As a result, at least two annual meetings of shareholders may be required for the shareholders to change a majority of the board of directors.

The classification of directors makes it more difficult to change the composition of the board of directors and instead promotes a continuity of existing management.

Removal of Directors Only for Cause; Filling Vacancies

Our amended articles of incorporation provide that, subject to the right of holders of any series of preferred stock to elect directors, any director may be removed from office, but only for cause and only by the affirmative vote of the holders of at least 75% of the combined voting power of the outstanding shares of our capital stock entitled to vote generally in the election of directors. Our amended articles of incorporation also provide that, subject to the right of holders of any series of preferred stock to elect directors, any newly created directorships resulting from an increase in the number of directors and any vacancy on the board shall be filled by the affirmative vote of a majority of the remaining directors then in office, even though less than a quorum. Any director elected in accordance with the preceding sentence will hold office for the remainder of the full term of the class of directors in which the new directorship was created or the vacancy occurred and until such director's successor shall have been elected and qualified. No decrease in the number of directors constituting the board of directors shall shorten the term of any incumbent director.

The director removal and vacancy provisions restrict the ability of a third party to remove incumbent directors and simultaneously gain control of the board of directors by filling the vacancies created by removal with its own nominees.

Advance Notice Requirements

Our bylaws set forth advance notice procedures with regard to shareholder nomination of candidates for election as directors and shareholder proposals of business to be presented at annual meetings of shareholders. These procedures provide that notice of such shareholder nominations or proposals must be given timely in proper written form to the Secretary of Ball Corporation prior to the meeting at which the shareholder nominee or such business is to be considered. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the meeting. To be in proper written form, the notice must contain the information required by our bylaws, including information regarding the proposal and the proponent. The advance notice requirements may have the effect of discouraging a potential acquiror from conducting a proxy contest to elect directors or otherwise attempting to influence or gain control of our company.

Special Meetings of Shareholders

Our bylaws do not grant shareholders the right to call a special meeting of shareholders. Under our bylaws, special meetings of shareholders may be called only by our chairman of the board or by the board of directors or as otherwise may be required by law.

Restrictions on Certain Related Party Business Combination Transactions

In order to approve certain business combination transactions involving related parties, our amended articles of incorporation require the affirmative vote of the holders of at least 75% of the then outstanding shares of our capital stock entitled to vote generally in the election of directors. These related party business combination transactions include:

- any merger or consolidation of us or any of our subsidiaries with (1) any related party or (2) any other person or entity who or which is, or after such merger or consolidation would be, an affiliate or associate of the related party;
 - any sale, lease, exchange, mortgage, pledge, transfer or other disposition to any related party or an affiliate or associate of a related party of any assets of Ball Corporation or any of our subsidiaries having an aggregate fair
-

market value of \$10,000,000 or more;

•any issuance or transfer by us or any of our subsidiaries of any securities having an aggregate fair market value of \$10,000,000 or more of Ball Corporation or any of our subsidiaries to any related party or an affiliate or associate of a related party in exchange for cash, securities or property (or combination thereof);

• the adoption of any plan or proposal for the liquidation or dissolution of us proposed by or on behalf of a related party or an affiliate or associate of a related party;

•any reclassification of securities or recapitalization of us, or any merger or consolidation of us with any of our subsidiaries or any other transaction that has the effect, either directly or indirectly, of increasing the proportionate share of the outstanding shares of any class of equity or convertible securities of us or any of our subsidiaries that is directly or indirectly owned by any related party or an affiliate or associate of a related party; or

•any agreement, contract or other arrangement providing for any one or more of the transactions mentioned above.

A related party is a person or entity who or which (1) is the beneficial owner of more than 10% of the voting power of our outstanding capital stock entitled to vote generally in the election of directors; or (2) is one of our affiliates or associates and at any time within the two-year period immediately prior to the date in question was the beneficial owner of 10% or more of the voting power of our outstanding capital stock entitled to vote generally in the election of directors; or (3) is an assignee of or has otherwise succeeded to any shares of our voting stock that were at any time within the two-year period immediately prior to the date in question beneficially owned by any related party, if such assignment or succession shall have occurred in the course of a transaction not involving a public offering within the meaning of the Securities Act.

The supermajority voting requirement does not apply, however, if:

•the related party business combination transaction is approved by a majority of directors who are unaffiliated with the related party and who were directors before such person or entity became a related party; or

•specified price, form of consideration and procedural requirements have been met.

Amendment of Articles and Bylaws

Our amended articles of incorporation require the affirmative vote of the holders of at least 75% of the voting power of the outstanding shares of our capital stock entitled to vote generally in the election of directors to alter, amend, repeal or adopt any provision inconsistent with certain provisions of our amended articles of incorporation, including those described above. Our bylaws may be altered, added to, amended or repealed only by our board of directors. Shareholders do not have this authority.

Indiana Business Combinations Statute

We are subject to Chapter 43, the Business Combinations Chapter, of the Indiana Business Corporation Law. Our bylaws provide that Chapter 42, the Control Share Acquisition Chapter, of the Indiana Business Corporation Law shall not apply to control share acquisitions of shares of our capital stock.

Subject to exceptions set forth in the Business Combinations Chapter, that Chapter prohibits an Indiana corporation from engaging in certain business combination transactions, including transactions similar to the related party business combination transactions described above, with any interested shareholder for a period of five years following the date that the shareholder first became an interested shareholder, unless the business combination or the purchase of shares made by the interested shareholder on such date is approved by the board of directors of the corporation prior to such date. If prior approval of the board of directors is not obtained, several price and procedural requirements must be met before the business combination may be completed.

In general, the Business Combinations Chapter defines an interested shareholder as any person who or which (1) is the beneficial owner of 10% or more of the voting power of the outstanding voting shares of the corporation or (2) is an affiliate or associate of the corporation and at any time within the five year period

immediately before the date in question was the beneficial owner of 10% or more of the voting power of the then outstanding shares of the corporation.

Transfer Agent

The transfer agent and registrar for our common stock is Computershare Trust Company.

SUBSIDIARIES OF BALL CORPORATION (Public Reporting) ⁽¹⁾

December 31, 2019

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 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 Aerosol Packaging CZ s.r.o. (f/k/a Ball Aerocan CZ s.r.o.)	Czech Republic	100%
Ball Aerosol Europe Packaging S.A.S. (f/k/a Ball Aerocan Europe S.A.S.)	France	100%
Ball Aerosol Packaging France S.A.S. (f/k/a Ball Aerocan France S.A.S.)	France	100%
Ball Aerosol Packaging India Private Limited (f/k/a Ball Aerocan India Private Limited)	India	100%
Ball Aerosol Packaging Mexico S.A. de C.V. (f/k/a Ball Aerocan Mexico 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 Aerosol Packaging UK Limited (f/k/a Ball Aerocan UK Limited)	United Kingdom	100%
Ball Aerospace & Technologies Corp.	Delaware	100%
Ball America LLC (f/k/a Rexam America LLC)	Delaware	100%
Ball Americas Holdings B.V.	The Netherlands	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 Packaging Egypt SAE	Egypt	100%
Ball Beverage Packaging Holding GmbH	Austria	100%
Ball Beverage Packaging 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%
Ball Beverage Packaging AMEA Limited (f/k/a Rexam Beverage Can AMEA Limited)	England	100%
Ball Beverage Packaging Czech Republic sro (f/k/a Rexam Beverage Can Czech Republic sro)	Czech Republic	100%
Ball Beverage Packaging Europe Limited (f/k/a Rexam Beverage Can Europe Limited)	England	100%
Ball Beverage Packaging Fosie AB (f/k/a Rexam Beverage Can Fosie AB)	Sweden	100%
Ball Beverage Packaging France SAS (f/k/a Rexam Beverage Can France SAS)	France	100%
Ball Beverage Packaging Fredericia A/S (f/k/a Rexam Beverage Can Fredericia A/S)	Denmark	100%
Ball Beverage Packaging Gelsenkirchen GmbH (f/k/a Rexam Beverage Can Gelsenkirchen GmbH)	Germany	100%
Ball Beverage Packaging Holdings UK Limited (f/k/a Rexam Beverage Can Holdings UK Limited)	England	100%
Ball Beverage Packaging Iberica SL (f/k/a Rexam Beverage Can Iberica SL)	Spain	100%
Ball Beverage Packaging Ireland Limited (f/k/a Rexam Beverage Can Ireland Limited)	Ireland	100%
Ball Beverage Packaging Italia SRL (f/k/a Rexam Beverage Can Italia SRL)	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 AŞ)</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 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 Business Services Europe and AMEA d.o.o Beograd-Novi Beograd	Serbia	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%
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 Metal Beverage Container Corp.	Colorado	100%
Ball Metal Beverage Mexico Holdings B.V. <i>(f/k/a Ball Saudi Arabia Holdings B.V.)</i>	The Netherlands	100%
Ball Metal Beverage Mexico S. de R.L. de C.V. <i>(f/k/a Ball Mexico Holdings Corp S del RL de C.V.)</i>	Mexico	100%
Ball Metal Container Corporation	Indiana	100%
Ball Metallising Inc. <i>(f/k/a Rexam Metallising Inc.)</i>	Delaware	100%
Ball MI Holding Company <i>(f/k/a Rexam MI Holding Company)</i>	Delaware	100%
Ball Nacanco Netherlands BV	Netherlands	100%
Ball North America Investment Holdings LLC	Delaware	100%
Ball North America Investments LLC	Delaware	100%
Ball North America Operations LLC	Delaware	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 Biene 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 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 Germany GmbH & Co. KG	Germany	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%
Causton Printing Limited	England	100%
Citiforms (Sales) Limited	England	100%
Copal S.A.S. (majority owned by unrelated third party)	France	51%
Cope Allman Holdings 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%
Deister Handels & Beteiligungs GmbH	Germany	100%
Dimgate 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%
Filmset Limited	England	100%
Foshan Packaging Holdings Limited (f/k/a Cassanda Limited)	Hong Kong	100%
FTB Corporate Services Limited (f/k/a Fjully Wide Industrial Ltd.)	Hong Kong	100%
FTB Packaging Limited (f/k/a Grandearn Investments Limited)	Hong Kong	100%
Gainer Developments Ltd.	BVI	100%
Heekin Can, Inc.	Colorado	100%
Impact Packaging Limited	England	100%
Jauntbrook Limited	England	100%
Jesse Broad Limited	England	100%
John Dunhill & Co Limited	England	100%
KB Järnåldern 3	Sweden	100%
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%

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 Intellectual Property Holdings Limited	BVI	100%
Mertonlight Limited	England	100%
N O Limited	England	100%
N O Packaging Limited	England	100%
N&W Properties Limited	England	100%
Nacanco Deutschland GmbH	Germany	100%
National Trading Corporation	Delaware	100%
PLM Septanus AB	Sweden	100%
Poland Glassworks Holding BV	Netherlands	100%
RBT (London) Limited	England	100%
recan (Fund)	Serbia	100%
Restlat Investments Limited	England	100%
Rexam (Jersey) Limited	Jersey	100%
Rexam AB	Sweden	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 Packaging Holdings Limited	England	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 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 Limited (f/k/a Rexam PLC)	England	100%
Rexam Nederland Holdings BV	Netherlands	100%
Rexam Overseas Holdings 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 Uruguay SA	Uruguay	100%
Rexam Webster Limited	England	100%
Rexam WM Limited	England	100%
SCI le Marais	France	100%
Sir Joseph Causton & Sons Limited	England	100%
Specialty Coatings Group UK Trustees Limited	England	100%
The Renaissance Insurance Company	Vermont	100%
USC May Verpackungen Holding Inc.	Delaware	100%
Wessex Typesetters Limited	England	100%
Wise Champion Investments Limited	Hong Kong	100%

(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:

Ball Metalpack LLC – JV	Delaware	49%
Controladora Envases Universales Rexam SA – JV	Guatemala	50%
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%
Hanil Can Co Limited (Associate) – JV	Korea	40%
Lam Soon-Ball Yamamura - JV	Taiwan	8%
Rocky Mountain Metal Container, LLC	Colorado	50%
TBC-Ball Beverage Can Holdings Limited	Hong Kong	50%
Prestadora de Servicios de Dentroamerica SA (employing company) - JV	Guatemala	50%
Rexam United Arab Can Manufacturing Limited - JV	Saudi Arabia	51%
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:

Kemsley Fields Limited – JV	England	43%
Magnaparva Packaging Limited – JV	England	50%
Sekopac d.o.o. (majority owned by unrelated third party)	Serbia	11%
Slopak (majority owned by unrelated third party)	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, 333-208235 and 333-223456) 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, 333-217518, and 333-229804) of Ball Corporation of our report dated February 19, 2020 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 19, 2020

**FORM 10-K
LIMITED POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS that the undersigned directors and officers of Ball Corporation, an Indiana corporation, hereby constitute and appoint John A. Hayes, Scott C. Morrison and Nate C. Carey, and any one or all of them, the true and lawful agents and attorneys-in-fact of the undersigned with full power and authority in said agents and attorneys-in-fact, and in any one or more of them, to sign for the undersigned and in their respective names as directors and officers of the Corporation the Form 10-K of the Corporation to be filed with the Securities and Exchange Commission, Washington, D.C., under the Securities Exchange Act of 1934, as amended, and to sign any amendment to such Form 10-K, hereby ratifying and confirming all acts taken by such agents and attorneys-in-fact or any one of them, as herein authorized.

Date: February 19, 2020

<u>/s/ John A. Hayes</u> John A. Hayes	Officer	<u>/s/ John A. Bryant</u> John A. Bryant	Director
<u>/s/ Scott C. Morrison</u> Scott C. Morrison	Officer	<u>/s/ Michael J. Cave</u> Michael J. Cave	Director
<u>/s/ Nate C. Carey</u> Nate C. Carey	Officer	<u>/s/ John A. Hayes</u> John A. Hayes	Chairman of the Board and Director
		<u>/s/ Daniel J. Heinrich</u> Daniel J. Heinrich	Director
		<u>/s/ Pedro H. Mariani</u> Pedro H. Mariani	Director
		<u>/s/ Georgia R. Nelson</u> Georgia R. Nelson	Director
		<u>/s/ Cynthia A. Niekamp</u> Cynthia A. Niekamp	Director
		<u>/s/ Todd Penegor</u> Todd Penegor	Director
		<u>/s/ Cathy D. Ross</u> Cathy D. Ross	Director
		<u>/s/ Betty Sapp</u> Betty Sapp	Director
		<u>/s/ Stuart A. Taylor II</u> Stuart A. Taylor II	Director

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 19, 2020

/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 19, 2020

/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, 2019, filed with the U.S. Securities and Exchange Commission on February 19, 2020 ("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 19, 2020

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, 2019, filed with the U.S. Securities and Exchange Commission on February 19, 2020 (“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 19, 2020

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 the environment and in climate, including the increasing frequency of severe weather events; 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 adapt to fluctuating supply and demand and 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, pollution, greenhouse gas emissions, or chemicals or substances used in raw materials or in the manufacturing process, particularly concerning Bisphenol-A (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; the ability to attract and retain skilled labor, particularly in our aerospace business; 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, trade actions, 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 exit of the United Kingdom from the E.U., and other matters.

- Undertaking successful or unsuccessful acquisitions, divestitures, joint ventures or strategic realignments ; 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.