

PACKAGING CORP OF AMERICA
Form 10-K
February 26, 2016

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, 2015
Commission file number 1-15399

(Exact Name of Registrant as Specified in its Charter)
Delaware 36-4277050
(State or Other Jurisdiction of Incorporation or Organization) (I.R.S. Employer Identification No.)

1955 West Field Court, Lake Forest, Illinois 60045
(Address of Principal Executive Offices) (Zip Code)
Registrant's telephone number, including area code: (847) 482-3000

Securities registered pursuant to Section 12(b) of the Act:
Title of Each Class Name of Each Exchange On Which Registered
Common Stock, \$0.01 par value New York Stock Exchange
Securities registered pursuant to Section 12(g) of the Act:
None

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer Accelerated filer
 Non-accelerated filer Smaller reporting company

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Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes
No

At June 30, 2015, the last day of the Registrant's most recently completed second fiscal quarter, the aggregate market value of Registrant's common equity held by non-affiliates was approximately \$6,119,141,093 based upon the closing sale price as reported on the New York Stock Exchange. This calculation of market value has been made for the purposes of this report only and should not be considered as an admission or conclusion by the Registrant that any person is in fact an affiliate of the Registrant.

On February 19, 2016, there were 94,251,749 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Specified portions of the Proxy Statement for the Registrant's 2016 Annual Meeting of Stockholders are incorporated by reference to the extent indicated in Part III of this Form 10-K.

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PART I

Item 1. BUSINESS

Packaging Corporation of America ("we," "us," "our," "PCA," or the "Company") is the fourth largest producer of containerboard and corrugated packaging products in the United States and the third largest producer of uncoated freesheet in North America, based on production capacity. We operate eight mills and 93 corrugated products manufacturing plants. We are headquartered in Lake Forest, Illinois, and have approximately 13,000 employees. Our operations are primarily in the United States and we have some converting and distribution operations in Canada.

On October 25, 2013, PCA acquired Boise Inc. for \$2.1 billion, including the fair value of assumed debt. After the acquisition, we began reporting three reportable segments: Packaging, Paper, and Corporate and Other. We present information pertaining to each of our segments and the geographic areas in which they operate in Note 18, Segment Information, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K. For more information about our acquisition of Boise, see Note 3, Acquisitions and Dispositions, of the Notes to Consolidated Financial Statements.

Production and Shipments

The following table summarizes the Packaging segment's containerboard production and corrugated products shipments and the Paper segment's production. Boise's historical data for the period prior to the acquisition on October 25, 2013, are included for comparative purposes only, and are not included in PCA's historical results.

| | | | First Quarter | Second Quarter | Third Quarter | Fourth Quarter (a) | Full Year |
|--|---|------|------------------|-------------------|------------------|-----------------------|-----------|
| Containerboard Production (b) (thousand tons) | PCA | 2015 | 882 | 938 | 933 | 903 | 3,656 |
| | | 2014 | 821 | 846 | 858 | 927 | 3,452 |
| | | 2013 | 646 | 629 | 671 | 803 | 2,749 |
| | Boise | 2013 | 171 | 188 | 196 | 50 | 605 |
| | Corrugated Shipments (BSF) | PCA | 2015 | 11.9 | 12.4 | 12.5 | 12.1 |
| 2014 | | | 11.6 | 12.1 | 12.4 | 12.1 | 48.2 |
| 2013 | | | 8.8 | 9.4 | 9.3 | 10.9 | 38.4 |
| Boise | | 2013 | 2.4 | 2.5 | 2.4 | 0.7 | 8.0 |
| Newsprint Production (b) (thousand tons) | | PCA | 2015 | — | — | — | — |
| | 2014 | | 56 | 56 | 50 | — | 162 |
| | 2013 | | — | — | — | 44 | 44 |
| | Boise | 2013 | 53 | 58 | 60 | 15 | 186 |
| | White Paper (UFS) Production (thousand tons) | PCA | 2015 | 288 | 273 | 294 | 262 |
| 2014 | | | 286 | 275 | 296 | 287 | 1,144 |
| 2013 | | | — | — | — | 208 | 208 |
| Boise | | 2013 | 303 | 301 | 323 | 76 | 1,003 |
| Market Pulp Production (thousand tons) | | PCA | 2015 | 27 | 23 | 25 | 23 |
| | 2014 | | 26 | 23 | 26 | 25 | 100 |
| | 2013 | | — | — | — | 20 | 20 |
| | Boise | 2013 | 24 | 24 | 29 | 5 | 82 |

- Production and shipments activity prior to the acquisition of Boise on October 25, 2013, is included in the "Boise"
- (a) fourth quarter 2013 production and shipments. Activity subsequent to the acquisition of Boise is included in the "PCA" fourth quarter 2013 production and shipments.
 - (b) PCA ceased production of newsprint and converted the No.3 newsprint machine at our DeRidder, Louisiana mill to containerboard in the third quarter of 2014. Sales of newsprint were recorded in the Packaging segment.

Below is a map of our locations:

Packaging

Packaging Products

Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products, including conventional shipping containers used to protect and transport manufactured goods, multi-color boxes, and displays with strong visual appeal that help to merchandise the packaged product in retail locations. In addition, we are a large producer of packaging for meat, fresh fruit and vegetables, processed food, beverages, and other industrial and consumer products.

During the year ended December 31, 2015, our Packaging segment produced 3.7 million tons of containerboard at our mills. Our corrugated products manufacturing plants sold 48.9 billion square feet (BSF) of corrugated products. Our net sales to third parties totaled \$4.5 billion in 2015.

Facilities

We manufacture our Packaging products at five containerboard mills, one containerboard machine (at our Wallula, Washington white paper mill), corrugated manufacturing operations, and protective packaging operations. The following provides more details of our operations:

Counce. Our Counce, Tennessee mill produces kraft linerboard. The year-end 2015 annual estimated production capacity, as reported to the American Forest and Paper Association (AF&PA), was 1,105,000 tons. In 2015, the mill produced 1,087,000 tons of kraft linerboard on two paper machines. The mill can produce basis weights from 26 lb. to 90 lb. The mill also produces a variety of performance and specialty grades of linerboard.

DeRidder. Our DeRidder, Louisiana mill produces kraft linerboard on its No. 1 machine and linerboard and medium on its No. 3 machine. The year-end 2015 annual estimated capacity reported to the AF&PA, on the two machines, was 995,000 tons. The No. 1 machine produced 578,000 tons of kraft linerboard during 2015. The No. 3 machine produced 129,000 tons of medium and 167,000 tons of linerboard. The No. 3 machine was converted from a newsprint machine to a containerboard machine in 2014. The mill can produce linerboard in basis weights of 26 lb. to 69 lb. and medium in basis weights of 23 lb. to 33 lb.

Valdosta. Our Valdosta, Georgia mill produces kraft linerboard. Its year-end 2015 annual estimated production capacity, as reported to the AF&PA, was 605,000 tons. In 2015, our single paper machine at Valdosta produced 603,000 tons of kraft linerboard. The mill can produce basis weights from 35 lb. to 96 lb.

Tomahawk. Our Tomahawk, Wisconsin mill produces semi-chemical corrugating medium. Its year-end 2015 annual estimated production capacity, as reported to the AF&PA, was 555,000 tons. In 2015, the mill produced 534,000 tons of semi-chemical corrugating medium on two paper machines. The Tomahawk mill can produce basis weights from 23 lb. to 47 lb. and a variety of performance and specialty grades of corrugating medium.

Filer City. Our Filer City, Michigan mill produces semi-chemical corrugating medium. Its year-end 2015 annual estimated production capacity, as reported to the AF&PA, was 445,000 tons. In 2015, the mill produced 428,000 tons on three paper machines. Filer City can produce corrugating medium in basis weights from 20 lb. to 47 lb.

Wallula. Our Wallula, Washington mill primarily produces white paper, but also produces corrugating medium on one of its paper machines. Its year-end 2015 annual estimated production capacity of medium, as reported to the AF&PA, was 145,000 tons. In 2015, the mill produced 130,000 tons of corrugating medium. Wallula can produce corrugating medium in basis weights from 23 lb. to 45 lb.

We operate 93 corrugated manufacturing operations, a technical and development center, eight regional design centers, a rotogravure printing operation, and a complement of packaging supplies and distribution centers. Of the 93 manufacturing facilities, 59 operate as combining operations, commonly called corrugated plants, which manufacture corrugated sheets and finished corrugated packaging products, 33 are sheet plants which procure combined sheets and manufacture finished corrugated packaging products, and one is a corrugated sheet-only manufacturer.

Corrugated products plants tend to be located in close proximity to customers to minimize freight costs. Each of our plants serve a market radius of around 150 miles. Our sheet plants are generally located in close proximity to our larger corrugated plants, which enables us to offer additional services and converting capabilities such as small volume and quick turnaround items.

Major Raw Materials Used

Fiber supply. Fiber is the largest raw material cost to manufacture containerboard. We consume both wood fiber and recycled fiber in our containerboard mills. We have no 100% recycled mills, or mills whose fiber consumption consists solely of recycled fiber. To reduce our fiber costs, we have invested in processes and equipment to ensure a high degree of fiber flexibility. Our mill system has the capability to shift a portion of its fiber consumption between softwood, hardwood, and recycled sources. All of our mills, other than the Valdosta mill, can utilize some recycled fiber in their containerboard production. Our ability to use various types of virgin and recycled fiber helps mitigate the impact of changes in the prices of various fibers. Our corrugated manufacturing operations generate recycled fiber as a by-product from the manufacturing process, which is consumed by our mills. In 2015, we were a net recycled fiber buyer of less than 17% of our packaging mills' fiber requirements.

We procure wood fiber through leases of cutting rights, long-term supply agreements, and market purchases. We currently lease the cutting rights to approximately 83,000 acres of timberland located near our Counce, Tennessee and Valdosta, Georgia mills. Virtually all of the acres under cutting rights agreements are located within 100 miles of these two mills which results in lower wood transportation costs and provides a secure source of wood fiber. These leased cutting rights agreements have terms with about 13 years remaining, on average.

We participate in the Sustainable Forestry Initiative® (SFI) and we are certified under the SFI sourcing standards. These standards are aimed at ensuring the long-term health and conservation of forestry resources. We are committed to sourcing wood fiber through environmentally, socially, and economically sustainable practices and promoting resource and conservation stewardship ethics.

Energy supply. Energy at our packaging mills is obtained through purchased or self-generated fuels and electricity. Fuel sources include natural gas, by-products of the containerboard manufacturing and pulping process (including black liquor and wood waste), purchased wood waste, coal, and oil. Each of our mills self-generates process steam requirements from by-products (black liquor and wood waste), as well as from the various purchased fuels. The process steam is used throughout the production process and also to generate electricity.

In 2015, our packaging mills consumed about 59 million MMBTU's of fuel to produce both steam and electricity. Of the 59 million MMBTU's consumed, about 59% was from mill generated by-products, and 41% was from purchased fuels. Of the 41% in purchased fuels, 54% was from natural gas, 32% was from purchased wood waste, and 14% was from coal and other purchased fuels.

Sales, Marketing, and Distribution

Our corrugated products are sold through a direct sales and marketing organization, independent brokers, and distribution partners. We have sales representatives and a sales manager at most of our corrugated manufacturing operations and also have corporate account managers who serve customer accounts with a national presence. Additionally, our design centers maintain an on-site dedicated graphics sales force. In addition to direct sales and marketing personnel, we utilize new product development engineers and product graphics and design specialists. These individuals are located at both the corrugated plants and the design centers. General marketing support is located at our corporate headquarters.

Our containerboard sales group is responsible for the coordination of linerboard and corrugating medium sales to our corrugated plants, to outside domestic customers, and to export customers. This group handles order processing for all shipments of containerboard from our mills to our corrugated plants. These personnel also coordinate and execute all containerboard trade agreements with other containerboard manufacturers.

Containerboard produced in our mills is shipped by rail or truck. Rail shipments typically represent approximately 65% of the tons shipped and the remaining 35% is shipped by truck. Our corrugated products are delivered by truck due to our large number of customers and their demand for timely service. Our corrugated manufacturing operations typically serve customers within a 150 mile radius. We sometimes use third-party warehouses for short-term storage of corrugated products.

Customers

We sell corrugated products to approximately 17,000 customers in over 33,000 locations. About three-quarters of our corrugated products sales are to regional and local accounts, which are broadly diversified across industries and geographic

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locations. The remaining one-quarter of our customer base consists primarily of national accounts that have multiple locations and are served by a number of PCA plants. No single customer exceeds 10% of segment sales.

The primary end-use markets in the United States for corrugated products are shown below as reported in the 2014 Fibre Box Association annual report:

| | | |
|--|----|---|
| Food, beverages, and agricultural products | 40 | % |
| Paper and other products | 23 | % |
| Retail and wholesale trade | 19 | % |
| Miscellaneous manufacturing | 10 | % |
| Chemical, plastic, and rubber products | 8 | % |

Competition

As of December 31, 2015, we were the fourth largest producer of containerboard and corrugated packaging products in the United States, according to industry sources and our own estimates. According to industry sources, corrugated products are produced by about 525 U.S. companies operating approximately 1,200 plants. The primary basis for competition for most of our packaging products includes quality, service, price, product design, and innovation. Most corrugated products are manufactured to the customer's specifications. Corrugated producers generally sell within a 150-mile radius of their plants and compete with other corrugated producers in their local region. Competition in our corrugated products operations tends to be regional, although we also face competition from large competitors with significant national account presence.

On a national level our primary competitors are International Paper Company, WestRock Company, Georgia-Pacific LLC, and KapStone Paper and Packaging Corporation. However, with our strategic focus on regional and local accounts, we also compete with the smaller, independent producers.

Paper

Our Paper segment operating under the trade name Boise Paper, was acquired with the acquisition of Boise Inc. on October 25, 2013. We are the third largest manufacturer of uncoated freesheet in North America, according to industry sources and our own estimates. We manufacture and sell white papers, including both commodity and specialty papers, which may have custom or specialized features such as colors, coatings, high brightness, and recycled content. White papers consist of communication papers (cut-size office papers and printing and converting papers) and pressure sensitive papers, including release liners, which our customers use to produce labels for use in consumer and commercially-packaged products. The Paper segment also produces market pulp on one paper machine at our Wallula, Washington mill, which is sold to outside customers to produce paper products.

Facilities

We have three white paper mills located in the United States. The following paragraphs describe our white paper mills:

Jackson. Our Jackson, Alabama mill produces both commodity and specialty papers. Its year-end 2015 annual estimated production capacity of white papers on two paper machines, as reported to the AF&PA, was 470,000 tons. In 2015, the mill produced 471,000 tons of white papers. On a converted basis, from rollstock to cut-size white papers, the mill produced 412,000 tons in 2015.

International Falls. Our International Falls, Minnesota mill produces both commodity and specialty papers. Its year-end 2015 annual estimated production capacity of white papers on two paper machines, as reported to the

AF&PA, was 460,000 tons. In 2015, the mill produced 458,000 tons of white papers. On a converted basis, from rollstock to cut-size white papers, the mill produced 348,000 tons in 2015.

Wallula. Our Wallula, Washington mill has the ability, on one machine, to switch production between pressure sensitive papers and a variety of white paper grades. The mill also produces corrugating medium and market pulp. Its year-end 2015 annual estimated production capacity of white paper grades and market pulp, as reported to the AF&PA, was 190,000 tons and 100,000 tons, respectively. The corrugating medium produced at Wallula is included in our Packaging segment as discussed above. In 2015, the mill produced 188,000 tons of white papers and 99,000 tons of market pulp.

Major Raw Materials Used

Fiber supply. Fiber is our principal raw material in this segment, including wood fiber, recycled fiber, and purchased pulp. We purchase both whole logs and wood chips, which are a byproduct of lumber and plywood production. At our mill in Jackson, Alabama, we also purchase recycled fiber to produce our line of recycled office papers. Our Jackson and International Falls paper mills also purchase pulp from third parties pursuant to contractual arrangements. We purchase wood fiber through contracts and open-market purchases.

We participate in the Sustainable Forestry Initiative® (SFI) and the Forest Stewardship Council® (FSC) and are certified under the SFI sourcing standards. We procure all wood fiber for our white paper mills through our certified systems that are managed in accordance with the SFI and FSC standards. These standards are aimed at ensuring the long-term health and conservation of forestry resources.

Energy supply. We obtain energy through purchased or self-generated fuels and electricity. Fuel sources include natural gas, electricity, by-products of the manufacturing and pulping process (including black liquor and wood waste), and purchased wood waste. Each of the paper mills self-generates process steam requirements from by-products (black liquor and wood waste), as well as from the various purchased fuels. The process steam is used throughout the production process and also to generate electricity.

In 2015, our white paper mills consumed about 30 million MMBTU's of fuel to produce both steam and electricity. Of the 30 million MMBTU's consumed, about 66% was from mill generated by-products, and 34% was from purchased fuels. Of the 34% in purchased fuels, 78% was from natural gas and 22% from purchased wood waste. During the third quarter of 2015, we installed and started up a 53 megawatt turbine generator to replace four older units at our International Falls, Minnesota mill. With the new turbine generator, the mill is now capable of producing 70% of its electrical power requirements compared to 38% previously.

Chemical supply. We consume various chemicals in the production of white papers and pulp, including starch, precipitated calcium carbonate, caustic soda, sodium chlorate, dyestuffs, and optical brighteners. Most of our chemicals are purchased under contracts, which are bid or negotiated periodically.

Sales, Marketing, and Distribution

Our white papers are sold primarily by our own sales personnel. We ship to customers both directly from our mills and through distribution centers and a network of outside warehouses by rail or truck. This allows us to respond quickly to customer requirements. Rail shipments typically represent approximately 65% of the tons shipped and the remaining 35% is shipped by truck.

Customers

We have over 200 customers in approximately 500 locations. These customers include paper merchants, commercial and financial printers, envelope converters, and customers who use our pressure sensitive paper for specialty applications such as consumer and commercial product labels. We have established long-term relationships with many of our customers. Office Depot, Inc. is our largest customer in the Paper segment. We have an agreement with Office Depot in which we will supply at least 50% of Office Depot's requirements for commodity office papers through December 2017; however, there are circumstances that could cause the agreement to terminate before 2017. If this were to occur, Office Depot's purchase obligations under the agreement would phase out over two years. Office Depot became our largest customer when it acquired OfficeMax Incorporated late in 2013. We previously had a long standing contractual relationship with OfficeMax Incorporated. In 2015, our sales revenue to Office Depot represented 45% of our Paper segment sales revenue.

Competition

The markets in which our Paper segment competes are large and highly competitive. Commodity grades of white paper are globally traded, with numerous worldwide manufacturers, and as a result, these products compete primarily on the basis of price. All of our paper manufacturing facilities are located in the United States, and although we compete primarily in the domestic market, we do face competition from foreign producers and have experienced increased foreign competition in recent years. The level of this competition varies depending on domestic and foreign demand and foreign currency exchange rates. In general, paper production does not rely on proprietary processes or formulas, except in highly specialized or custom grades.

In January 2015, we, along with the United Steel Workers (USW) and other domestic office paper producers, filed a petition before the United States International Trade Commission and the United States Department of Commerce, alleging that paper producers in China, Indonesia, Australia, Brazil, and Portugal are selling products in the United States in violation of international trade rules. The domestic producers also alleged that Chinese and Indonesian producers are receiving illegal government subsidies. The agencies conducted their investigations in 2015 and early 2016. In January 2016, the U.S. Department of Commerce made determinations of antidumping and countervailing duties at rates varying by country and producer and, in February 2016, the International Trade Commission determined that the domestic industry has been materially injured by these imports. Accordingly, the antidumping and countervailing duties will be imposed on imports from these countries.

Our largest competitors include Domtar Corporation, International Paper Company, and Georgia-Pacific LLC. Although price is the primary basis for competition in most of our paper grades, quality and service are also important competitive determinants. Our white papers compete with electronic data transmission, e-readers, electronic document storage alternatives, and paper grades we do not produce. Increasing shifts to these alternatives have had, and are likely to continue to have, an adverse effect on traditional print media and paper usage.

Corporate and Other

Our Corporate and Other segment includes corporate support staff services and related assets and liabilities, and foreign exchange gains and losses. This segment also includes transportation assets, such as rail cars and trucks, which we use to transport some of our products from our manufacturing sites and assets related to a 50% owned variable interest entity, Louisiana Timber Procurement Company, L.L.C. (LTP). For segment financial information see Note 18, Segment Information, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

Employees

As of December 31, 2015, we had approximately 13,000 employees, including 3,900 salaried employees and 9,100 hourly employees. Approximately 70% of our hourly employees are represented by unions. The majority of our unionized employees are represented by the United Steel Workers (USW), the International Brotherhood of Teamsters (IBT), the International Association of Machinists (IAM), and the Association of Western Pulp and Paper Workers (AWPPW). We are currently in negotiations to renew or extend any union contracts that have recently expired or are expiring in the near future, including the agreement at our International Falls, Minnesota paper mill with the IAM union, which expires on April 30, 2016. During 2015, we experienced no work stoppages, and we believe we have satisfactory labor relations with our employees.

Environmental Matters

A discussion of the financial impact of our compliance with environmental laws is presented under the caption "Environmental Matters" in "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Form 10-K.

Executive Officers of the Registrant

Brief statements setting forth the age at February 26, 2016, the principal occupation, employment during the past five years, the year in which such person first became an officer of PCA, and other information concerning each of our executive officers appears below.

Mark W. Kowlzan, 60, Chairman and Chief Executive Officer - Mr. Kowlzan has served as PCA's Chairman since January 2016 and as Chief Executive Officer and a director since July 2010. From 1998 through June 2010, Mr. Kowlzan led the company's containerboard mill system, first as Vice President and General Manager and then as Senior Vice President - Containerboard. From 1996 through 1998, Mr. Kowlzan served in various senior mill-related operating positions with PCA and Tenneco Packaging, including as manager of the Counce linerboard mill. Prior to joining Tenneco Packaging, Mr. Kowlzan spent 15 years at International Paper Company, where he held a series of operational and managerial positions within its mill organization. Mr. Kowlzan is a member of the board of American Forest and Paper Association.

Thomas A. Hassfurther, 60, Executive Vice President - Corrugated Products - Mr. Hassfurther has served as Executive Vice President - Corrugated Products of PCA since September 2009. From February 2005 to September 2009, Mr. Hassfurther served as Senior Vice President - Sales and Marketing, Corrugated Products. Prior to this he held various senior-level management and sales positions at PCA and Tenneco Packaging. Mr. Hassfurther joined the company in 1977.

Robert P. Mundy, 54, Senior Vice President and Chief Financial Officer - Mr. Mundy has served as PCA's Senior Vice President since July 2015 and Chief Financial Officer since September 2015. He previously served as Senior Vice President and Chief Financial Officer of Verso Corporation, a leading North American supplier of coated papers to catalog and magazine publishers, from 2006 to June 2015. Verso Corporation filed for Chapter 11 bankruptcy in January 2016. Prior to that, he worked at International Paper Company, a global paper and packaging company, from 1983 to 2006, where he was Director of Finance of the Coated and Supercalendered Papers division from 2002 to 2006, Director of Finance Projects from 2001 to 2002, Controller of Masonite Corporation from 1999 to 2001, and Controller of the Petroleum and Minerals business from 1996 to 1999. He served in various business positions at International Paper from 1983 to 1996.

Thomas W.H. Walton, 56, Senior Vice President - Sales and Marketing, Corrugated Products - Mr. Walton has served as Senior Vice President - Sales and Marketing, Corrugated Products since October 2009. Prior to this, he served as a Vice President and Area General Manager within the Corrugated Products Group since 1998. Mr. Walton joined the company in 1981 and has also held positions in production, sales, and general management.

Kent A. Pfloderer, 45, Senior Vice President, General Counsel and Secretary - Mr. Pfloderer has served as General Counsel and Corporate Secretary since June 2007 and Senior Vice President since January 2013. Prior to joining PCA, Mr. Pfloderer served as Senior Counsel, Corporate and Securities, at Hospira, Inc. from 2004 to 2007 and served in the corporate and securities practice at Mayer Brown, LLP from 1996 to 2004.

Charles J. Carter, 56, Senior Vice President - Containerboard Mill Operations - Mr. Carter has served as Senior Vice President - Containerboard Mill Operations since July 2013. Prior to this, he served as Vice President - Containerboard Mill Operations since January 2011. From March 2010 to January 2011, Mr. Carter served as PCA's Director of Papermaking Technology. Prior to joining PCA in 2010, Mr. Carter spent 28 years with various pulp and paper companies in managerial and technical positions of increasing responsibility, most recently as Vice President and General Manager of the Calhoun, Tennessee mill of Abitibi Bowater from 2007 to 2010 and as manager of SP Newsprint's Dublin, Georgia mill from 1999 to 2007.

Available Information

PCA's internet website address is www.packagingcorp.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. In addition, our Code of Ethics may be accessed in the Investor Relations section of PCA's website. PCA's website and the information contained or incorporated therein are not intended to be incorporated into this report.

Item 1A. RISK FACTORS

Some of the statements in this report and, in particular, statements found in Management's Discussion and Analysis of Financial Condition and Results of Operations, that are not historical in nature are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements about our expectations regarding our future liquidity, earnings, expenditures, and financial condition. These statements are often identified by the words "will," "should," "anticipate," "believe," "expect," "intend," "estimate," "hope," or similar expressions. These statements reflect management's current views with respect to future events and are subject to risks and uncertainties. There are important factors that could cause actual results to differ materially from those in forward-looking statements, many of which are beyond our control. These factors, risks and uncertainties include, but are not limited to, the factors described below.

Our actual results, performance, or achievement could differ materially from those expressed in, or implied by, these forward-looking statements, and accordingly, we can give no assurances that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what impact they will have on our results of operations or financial condition. In view of these uncertainties, investors are cautioned not to place undue reliance on these forward-looking statements. We expressly disclaim any obligation to publicly revise or otherwise update any forward-looking statements that have been made to reflect the occurrence of events after the date hereof.

In addition to the risks and uncertainties we discuss elsewhere in this Form 10-K (particularly in "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations") or in our other filings with the

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Securities and Exchange Commission (SEC), the following are important factors that could cause our actual results to differ materially from those we project in any forward-looking statement.

Industry Cyclicalities - Changes in the prices of our products could materially affect our financial condition, results of operations, and liquidity. Macroeconomic conditions and fluctuations in industry capacity can create changes in prices, sales volumes, and margins for most of our products, particularly commodity grades of packaging and paper products. Prices for all of our products are driven by many factors, including general economic conditions, demand for our products, and competitive conditions in our industry, and we have little influence over the timing and extent of price changes, which may be unpredictable and volatile. If supply exceeds demand, prices for our products could decline, and our earnings and operating cash flows would be lower. Lower prices for our products could have a material adverse effect on our operating cash flows, profitability, and liquidity.

Competition - The intensity of competition in the industries in which we operate could result in downward pressure on pricing and volume, which could lower earnings and operating cash flows. Our industries are highly competitive, with no single containerboard, corrugated packaging, or white paper producer having a dominant position. Containerboard and commodity white paper products cannot generally be differentiated by producer, which tends to intensify price competition. The corrugated packaging industry is also sensitive to changes in economic conditions, as well as other factors including innovation, design, quality, and service. To the extent that one or more competitors are more successful than we are with respect to any key competitive factor, our business could be adversely affected. Our packaging products also compete, to some extent, with various other packaging materials, including products made of paper, plastics, wood, and various types of metal. The intensity of competition could lead to a reduction in our market share as well as lower sales prices for our products, both of which could reduce our earnings and operating cash flows.

Our white paper products compete with electronic data transmission and document storage alternatives. Increasing shifts to electronic alternatives have had and will continue to have an adverse effect on usage of these products. As a result of such competition, we are experiencing decreasing demand for most of our existing white paper products. As the use of these alternatives grows, demand for paper products is likely to further decline. Declines in demand for our paper products may adversely affect our earnings and operating cash flows.

Some of our competitors are larger than we are and may have greater financial and other resources, greater manufacturing economies of scale, greater energy self sufficiency, or lower operating costs, compared with our company. We may be unable to compete effectively with these companies particularly during economic downturns. Some of the factors that may adversely affect our ability to compete in the markets in which we participate include the entry of new competitors (including overseas producers, who have increased imports of white paper to the United States in recent years and have been found to have violated international trade rules) into the markets we serve, our competitors' pricing strategies, our inability to anticipate and respond to changing customer preferences, and our inability to maintain the cost-efficiency of our facilities. In February 2016, antidumping and countervailing duties were imposed on imports of certain white paper products from Australia, Brazil, China, Indonesia, and Portugal. While these duties will increase the costs of producers in these countries to sell products in the United States, we are unable to determine if domestic market conditions will improve.

Inflation and Other General Cost Increases - We may not be able to offset higher costs. We are subject to both contractual, inflationary, and other general cost increases, including with regard to our labor costs and purchases of raw materials. If we are unable to offset these cost increases by price increases, growth, and/or cost reductions in our operations, these inflationary and other general cost increases could have a material adverse effect on our operating cash flows, profitability, and liquidity.

In 2015, our total company costs including cost of sales (COS) and selling, general, and administrative expenses (SG&A) was \$5.0 billion, and excluding non-cash costs (depreciation, pension and postretirement expense, and

share-based compensation expense) was \$4.6 billion. A 1% increase in COS and SG&A costs would increase costs by \$50 million and cash costs by \$46 million.

Cost of Fiber - An increase in the cost of fiber could increase our manufacturing costs and lower our earnings. The market price of wood fiber varies based upon availability, source, and the costs of fuels used in the harvesting and transportation of wood fiber. The cost and availability of wood fiber can also be impacted by weather, general logging conditions, geography, and regulatory activity.

The availability and cost of recycled fiber depends heavily on recycling rates and the domestic and global demand for recycled products. We purchase recycled fiber for use at seven of our eight mills. In 2015, we purchased approximately 605,000

tons of recycled fiber, net of the recycled fiber generated by our corrugated box plants. The amount of recycled fiber purchased each year varies based upon production and the prices of both recycled fiber and wood fiber.

Periods of supply and demand imbalance have created significant price volatility. Periods of higher recycled fiber costs and unusual price volatility have occurred in the past and may occur again in the future, which could result in higher costs and lower earnings.

Cost of Purchased Fuels and Chemicals - An increase in the cost of purchased fuels and chemicals could lead to higher manufacturing costs, resulting in reduced earnings. We have the ability to use various types of purchased fuels in our manufacturing operations, including natural gas, bark, oil, and coal. Fuel prices, in particular prices for oil and natural gas, have fluctuated dramatically in the past. New and more stringent environmental regulations may discourage, reduce the availability of, or make more expensive, the use of certain fuels, particularly coal and fossil fuels. In addition, costs for key chemicals used in our manufacturing operations also fluctuate. These fluctuations impact our manufacturing costs and result in earnings volatility. If fuel and chemical prices rise, our production costs and transportation costs will increase and cause higher manufacturing costs and reduced earnings.

Material Disruption of Manufacturing - A material disruption at one of our manufacturing facilities could prevent us from meeting customer demand, reduce our sales, and/or negatively affect our results of operations and financial condition. Our business depends on continuous operation of our facilities, particularly at our mills. Any of our manufacturing facilities, or any of our machines within such facilities, could cease operations unexpectedly for a significant period of time due to a number of events, including:

• Unscheduled maintenance outages.

• Prolonged power failures.

• Equipment failure.

• Explosion of a boiler.

• Disruption in the supply of raw materials, such as wood fiber, energy, or chemicals.

- A chemical spill or release.

• Closure or curtailment related to environmental concerns.

• Labor difficulties.

- Disruptions in the transportation infrastructure, including roads, bridges, railroad tracks, and tunnels.

• Fires, floods, earthquakes, hurricanes, or other catastrophes.

• Terrorism or threats of terrorism.

• Other operational problems.

These events could harm our ability to serve our customers and lead to higher costs and reduced earnings.

Environmental Matters - PCA may incur significant environmental liabilities with respect to both past and future operations. We are subject to, and must comply with, a variety of federal, state and local environmental laws, particularly those relating to air and water quality, waste disposal and the cleanup of contaminated soil and groundwater. Because environmental regulations are constantly evolving, we have incurred, and will continue to incur, costs to maintain compliance with those laws. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations - Environmental Matters" for estimates of expenditures we expect to make for environmental compliance in the next few years. New and more stringent environmental regulations may be adopted and may require us to incur significant additional capital expenditures to modify or replace certain of our boilers. In addition, environmental regulations may increase the cost of our raw materials and purchased energy. Although we have established reserves to provide for known environmental liabilities, these reserves may change over time due to

the enactment of new environmental laws or regulations or changes in existing laws or regulations, which might require additional significant environmental expenditures.

Customer Concentration - Office Depot represents a significant portion of PCA's paper business. We have a supply agreement with Office Depot, our largest customer in the paper segment. The agreement requires Office Depot to buy, and us to supply, at least 50% of Office Depot's requirements for office papers through December 2017; however, there are circumstances that could cause the agreement to terminate before 2017. If this were to occur, Office Depot's purchase obligations under the agreement would phase out. Office Depot has agreed to be acquired by Staples, Inc. The pending acquisition by Staples is subject to the satisfaction of certain conditions, including regulatory approval, which is uncertain. If the acquisition of Office Depot by Staples is consummated, the risks described below may be intensified.

Our agreement with Office Depot will continue to remain in effect after a merger or acquisition as to the office paper requirements of the legacy Office Depot business. However, we cannot predict how any merger or acquisition will affect the

financial condition of the ultimate entity, the paper requirements of the legacy Office Depot business, the purchasing decisions of the ultimate entity or the effects on pricing or competition for office papers. In 2015, sales to Office Depot represented 45% of our Paper segment sales. If these sales are reduced, whether as a result of the future acquisition of Office Depot by Staples or otherwise, we would need to find new customers. We may not be able to fully replace any lost sales, and any new sales may be at lower prices or higher costs. Any significant deterioration in the financial condition of Office Depot (or its ultimate acquirer) affecting its ability to pay or any other change that results in its willingness to purchase our products will harm our business and results of operations.

Cyber Security - Risks related to security breaches of company, customer, employee, and vendor information, as well as the technology that manages our operations and other business processes, could adversely affect our business. We rely on various information technology systems to capture, process, store, and report data and interact with customers, vendors, and employees. Despite careful security and controls design, implementation, updating, and internal and independent third-party assessments, our information technology systems, and those of our third party providers, could become subject to cyber attacks or security breaches. Network, system, and data breaches could result in misappropriation of sensitive data or operational disruptions including interruption to systems availability and denial of access to and misuse of applications required by our customers to conduct business with us. Misuse of internal applications; theft of intellectual property, trade secrets, or other corporate assets; and inappropriate disclosure of confidential information could stem from such incidents. Delayed sales, slowed production, or other issues resulting from these disruptions could result in lost sales, business delays, and negative publicity and could have a material adverse effect on our operations, financial condition, or operating cash flows.

Debt obligations - Our debt service obligations may reduce our operating flexibility. At December 31, 2015, we had \$2.3 billion of long-term debt outstanding and a \$326.5 million undrawn revolving credit facility, after deducting letters of credit. We and our subsidiaries may incur additional indebtedness in the future. Our current borrowings, plus any future borrowings, may affect our ability to operate our business, including, without limitation:

- Result in significant cash requirements to make interest and maturity payments on our outstanding indebtedness;
- Increase our vulnerability to adverse changes in our business or industry conditions;
- Increase our vulnerability to increases in interest rates;
- Limit our ability to obtain additional financing for working capital, capital expenditures, general corporate, and other purposes;
- Limit our flexibility in planning for, or reacting to, changes in our business and our industry; and
- Limit our flexibility to make acquisitions.

Further, if we cannot service our indebtedness, we may have to take actions to secure additional cash by selling assets, seeking additional equity or reducing investments, which may not be achievable on acceptable terms or at all.

Market Price of our Common Stock - The market price of our common stock may be volatile, which could cause the value of the stock to decline. Securities markets worldwide periodically experience significant price declines and volume fluctuations. This market volatility, as well as general economic, market, or political conditions, could reduce the market price of our common stock in spite of our operating performance. In addition, our operating results could be below the expectations of public market analysts and investors, and in response, the market price of our common stock could decrease significantly.

General Economic Conditions - Adverse business and global economic conditions may have a material adverse effect on our business, results of operations, liquidity, and financial position. General global economic conditions adversely affect the demand and production of consumer goods, employment levels, the availability and cost of credit, and ultimately, the profitability of our business. High unemployment rates, lower family income, unfavorable currency exchange rates, lower corporate earnings, lower business investment, and lower consumer spending typically result in

decreased demand for our products and products of our customers which utilize our products. These conditions are beyond our control and may have a significant impact on our business, results of operations, liquidity, and financial position.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

We own and lease properties in our business. All of our leases are noncancelable and are primarily accounted for as operating leases. These leases are not subject to early termination except for standard nonperformance clauses.

Information concerning capacity and utilization of our principal operating facilities, the segments that use those facilities, and a map of geographical locations is presented in "Part I, Item 1. Business" of this Form 10-K. We assess the condition and capacity of our manufacturing, distribution, and other facilities needed to meet our operating requirements. Our properties have been generally well maintained and are in good operating condition. In general, our facilities have sufficient capacity and are adequate for our production and distribution requirements.

We currently own buildings and land for five containerboard mills and three white paper mills. Additionally, we have 93 corrugated manufacturing operations, of which the buildings and land for 50 are owned, including 42 combining operations, or corrugated plants, one corrugated sheet-only manufacturer, and seven sheet plants. For 17 corrugated plants and 26 sheet plants the buildings and land are leased. We own one warehouse and miscellaneous other properties, including sales offices and woodlands management offices. We lease space for regional design centers and numerous other distribution centers, warehouses, and facilities. The equipment in these leased facilities is, in virtually all cases, owned by us, except for forklifts and other rolling stock which are generally leased.

We lease the cutting rights to approximately 83,000 acres of timberland located near our Valdosta mill (76,000 acres) and our Counce mill (7,000 acres). On average, these cutting rights agreements have terms with approximately 13 years remaining. Additionally, we lease approximately 9,000 acres of land for a fiber farm, located near our Wallula mill, where we plant, grow, and harvest fiber.

Our corporate headquarters is located in Lake Forest, Illinois. The headquarter facilities are leased for the next six years with provisions for two additional five year lease extensions. We also lease an administrative office in Boise, Idaho, which is leased through March 2018.

Item 3. LEGAL PROCEEDINGS

Information concerning legal proceedings can be found in Note 19, Commitments, Guarantees, Indemnifications, and Legal Proceedings, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

Item 4. MINE SAFETY DISCLOSURE

Not applicable.

PART II

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

Market Information

PCA's common stock is listed on the New York Stock Exchange (NYSE) under the symbol "PKG". The following table sets forth the high and low sales prices as reported by the NYSE and the cash dividends declared per common share during the last two years.

| Quarter Ended | 2015 | | Dividends Declared | 2014 | | Dividends Declared |
|---------------|------------------|---------|--------------------|------------------|---------|--------------------|
| | Sales Price High | Low | | Sales Price High | Low | |
| March 31 | \$84.88 | \$73.03 | \$0.55 | \$75.10 | \$61.35 | \$0.40 |
| June 30 | 78.98 | 62.48 | 0.55 | 72.74 | 65.00 | 0.40 |
| September 30 | 73.60 | 58.29 | 0.55 | 72.82 | 63.11 | 0.40 |
| December 31 | 70.04 | 59.54 | 0.55 | 80.14 | 57.06 | 0.40 |

Stockholders

On February 19, 2016, there were 70 holders of record of our common stock.

Dividend Policy

PCA expects to continue to pay regular cash dividends, although there is no assurance as to the timing or level of future dividend payments because these depend on future earnings, capital requirements, and financial condition. The timing and amount of future dividends are subject to the determination of PCA's Board of Directors.

On February 26, 2015, PCA announced an increase of its quarterly cash dividend on its common stock from an annual payout of \$1.60 per share to an annual payout of \$2.20 per share. The first quarterly dividend of \$0.55 per share was paid on April 15, 2015 to shareholders of record as of March 13, 2015.

Purchases of Equity Securities

Stock Repurchase Program

On July 21, 2015, PCA announced that its Board of Directors authorized the repurchase of an additional \$150 million of the company's outstanding common stock. Together with remaining authority under previously announced programs, at the time of the announcement, the company was authorized to repurchase approximately \$205 million of additional shares. Repurchases may be made from time to time in open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the company in its discretion based on factors such as PCA's stock price and market and business conditions.

In 2015, we paid \$154.7 million to repurchase 2,326,493 shares of common stock. In 2014, the Company did not repurchase any shares of common stock. In 2013, the Company repurchased 171,263 shares of common stock for \$7.8 million. All shares repurchased have been retired. As of December 31, 2015, \$93.4 million of the authorized amount remained available for repurchase of the Company's common stock.

Pursuant to its equity incentive plan, the Company withholds shares from vesting employee equity awards to cover employee tax liabilities. Total shares withheld in 2015 were 129,983 for \$8.7 million. Total shares withheld in 2014 were 183,170 for \$13.2 million. Total shares withheld in 2013 were 223,995 for \$11.0 million. Shares withheld are included in the number of shares repurchased in the table below.

The following table presents information related to our repurchases of common stock made under repurchase plans authorized by PCA's Board of Directors, and shares withheld to cover taxes on vesting of equity awards, during the three months ended December 31, 2015:

Issuer Purchases of Equity Securities

| Period | Total Number of Shares Purchased (a) | Average Price Paid Per Share | Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs | Approximate Dollar Value of Shares That May Yet Be Purchased Under the Plans or Programs (in millions) |
|---------------------|--------------------------------------|------------------------------|--|--|
| October 1-31, 2015 | 56,684 | \$59.50 | 56,000 | \$146.7 |
| November 1-30, 2015 | 4,854 | 69.15 | — | 146.7 |
| December 1-31, 2015 | 872,621 | 62.14 | 858,099 | 93.4 |
| Total | 934,159 | (a) \$62.01 | 914,099 | \$93.4 |

(a) 20,060 shares were withheld from employees to cover income and payroll taxes on equity awards that vested during the period.

Subsequent to year-end, we repurchased 1,868,487 shares of common stock for \$93.4 million, fully depleting the July 2015 authorization of \$150 million. On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of an additional \$200 million of the Company's outstanding common stock. Repurchases may be made from time to time in the open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the Company in its discretion based on factors such as PCA's stock price and market and business conditions.

Performance Graph

The graph below compares PCA's cumulative 5-year total shareholder return on common stock with the cumulative total returns of the S&P 500 index; the S&P Midcap 400 index; and a Peer Group that includes two publicly-traded companies, which are International Paper Company and Kapstone Paper and Packaging Corporation. The graph tracks the performance of a \$100 investment (including the reinvestment of all dividends) in our common stock, in each index, and in the peer groups' common stock from December 31, 2010, through December 31, 2015. The stock price performance included in this graph is not necessarily indicative of future stock price performance.

| | Cumulative Total Return | | | | | |
|----------------------------------|-------------------------|----------|----------|----------|----------|----------|
| | December 31 | | | | | |
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Packaging Corporation of America | \$100.00 | \$100.67 | \$158.40 | \$268.32 | \$338.33 | \$282.21 |
| S&P 500 | 100.00 | 102.11 | 118.45 | 156.82 | 178.29 | 180.75 |
| S&P Midcap 400 | 100.00 | 98.27 | 115.84 | 154.64 | 169.75 | 166.05 |
| Peer Group | 100.00 | 111.91 | 156.67 | 209.20 | 236.78 | 173.84 |

The information in the graph and table above is not deemed "filed" with the Securities and Exchange Commission and is not to be incorporated by reference in any of PCA's filings under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date of this Annual Report on Form 10-K, except to the extent that PCA specifically incorporates such information by reference.

Item 6. SELECTED FINANCIAL DATA

The following table sets forth selected historical financial data of PCA (dollars and shares in millions, except per share data). The information contained in the table should be read in conjunction with the disclosures in "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

| | Year Ended December 31 | | | | |
|---|------------------------|-----------|-----------|-----------|-----------|
| | 2015 (a) | 2014 (a) | 2013 (a) | 2012 | 2011 |
| Statement of Income Data (b): | | | | | |
| Net Sales | \$5,741.7 | \$5,852.6 | \$3,665.3 | \$2,843.9 | \$2,620.1 |
| Net Income | 436.8 | 392.6 | 441.3 | 160.2 | 158.8 |
| Net income per common share: | | | | | |
| — basic | 4.47 | 3.99 | 4.57 | 1.66 | 1.60 |
| — diluted | 4.47 | 3.99 | 4.52 | 1.64 | 1.58 |
| Weighted average common shares outstanding: | | | | | |
| — basic | 96.6 | 97.0 | 96.6 | 96.4 | 99.3 |
| — diluted | 96.7 | 97.1 | 97.5 | 97.5 | 100.4 |
| Earnings, before interest, taxes, depreciation, and amortization (EBITDA) | \$1,106.5 | \$1,083.7 | \$683.7 | \$608.3 | \$437.6 |
| (c) | | | | | |
| Cash dividends declared per common share | 2.20 | 1.60 | 1.51 | 1.00 | 0.80 |
| Balance Sheet Data (b): | | | | | |
| Total assets | \$5,284.6 | \$5,272.8 | \$5,196.2 | \$2,494.9 | \$2,442.9 |
| Total debt obligations | 2,332.0 | 2,379.3 | 2,572.7 | 819.5 | 830.3 |
| Stockholders' equity | 1,633.3 | 1,521.4 | 1,356.8 | 1,008.2 | 971.2 |

(a) On October 25, 2013, we acquired Boise Inc. (Boise). Our financial results include Boise subsequent to acquisition. Effective December 31, 2015, the Company adopted Accounting Standards Update 2015-17, Balance Sheet Classification of Deferred Taxes. The guidance eliminates the requirement to classify deferred taxes between

(b) current and noncurrent and requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. Our total assets for all periods presented have been updated to reflect this adoption.

Effective January 1, 2014, the Company changed its method of accounting for inventories from lower of cost, as determined by the LIFO method, or market, to lower of cost, as determined by the average cost method, or market. The Company applied the change retrospectively to all prior periods presented herein in accordance with US generally accepted accounting principles (GAAP) relating to accounting changes.

(c) EBITDA represents income before interest (interest expense and interest income), income tax provision (benefit), and depreciation, amortization, and depletion. We present EBITDA because it provides a means to evaluate our performance on an ongoing basis using the same measure that is used by our management and because it is frequently used by investors and other interested parties in the evaluation of companies. EBITDA, however, is not a measure of our liquidity or financial performance under generally accepted accounting principles (GAAP) and should not be considered as an alternative to net income, income from operations, or any other performance measure derived in accordance with GAAP or as an alternative to cash flow from operating activities as a measure of our liquidity. Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such. See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" included in "Part II, Item 7. Management's Discussion and Analysis of Financial Condition

and Results of Operations" of this Form 10-K for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

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

The following discussion and analysis of historical results of operations and financial condition should be read in conjunction with the audited financial statements and the notes thereto which appear elsewhere in this Form 10-K. This discussion includes forward-looking statements regarding our expectations with respect to our future performance, liquidity, and capital resources. Such statements, along with any other nonhistorical statements in the discussion, are forward-looking. See our discussion regarding forward-looking statements included under "Part I, Item 1A. Risk Factors" of this Form 10-K.

Overview

PCA is the fourth largest producer of containerboard and corrugated packaging products in the United States and the third largest producer of uncoated freesheet paper in North America, based on production capacity. We operate five containerboard mills, three paper mills, and 93 corrugated products manufacturing plants. Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products, including conventional shipping containers used to protect and transport manufactured goods, multi-color boxes and displays with strong visual appeal that help to merchandise the packaged product in retail locations, and honeycomb protective packaging. In addition, we are a large producer of packaging for meat, fresh fruit and vegetables, processed food, beverages, and other industrial and consumer products. We also manufacture and sell white papers, including both commodity and specialty papers, which may have custom or specialized features such as colors, coatings, high brightness, and recycled content. We operate primarily in the United States and have some converting and distribution operations in Canada.

Executive Summary

In 2015, we reported \$436.8 million of net income, or \$4.47 per diluted share, compared with \$392.6 million, or \$3.99 per share in 2014. Excluding the special items discussed below, we recorded \$442.6 million of net income, or \$4.53 per diluted share in 2015, compared with \$458.6 million and \$4.66 per diluted share in 2014. Compared with 2014, we performed well, despite lower white papers prices and mix and lower export containerboard prices. In 2015, we completed the integration of Boise Inc., achieved a record \$762.6 million of operating cash flow, and returned \$355.5 million to our shareholders through share repurchases and dividends.

In our packaging segment, we reported \$714.9 million of income in 2015, compared with \$663.2 million in 2014, and earnings before interest, taxes, depreciation, amortization, and depletion (EBITDA) excluding special items was \$1,009.3 million, compared with \$1,015.0 million in 2014. In 2015, we achieved record volumes in both our packaging mills and corrugated products plants. We achieved full design capacity of 1,000 tons of production per day on the DeRidder No. 3 machine, which was converted to containerboard in 2014.

Paper segment income was \$112.5 million, compared with \$135.4 million in 2014, and EBITDA excluding special items was \$160.7 million, compared with \$186.0 million in 2014. Compared with 2014, total sales prices were lower and volumes were slightly up in 2015. We maintained strong margins through improved operations and lower costs in our paper mills which offset some of the impact of lower paper prices. During the third quarter of 2015, we installed and started up a 53 megawatt turbine generator to replace four older units at our International Falls, Minnesota mill. With the new turbine generator, the mill is now capable of producing 70% of its electrical power requirements compared to 38% previously.

Earnings per diluted share, excluding special items, in 2015 and 2014 were as follows:

| | Year Ended December 31 | |
|---|------------------------|--------|
| | 2015 | 2014 |
| Earnings per diluted share | \$4.47 | \$3.99 |
| Special items: | | |
| DeRidder restructuring (a) | 0.01 | 0.43 |
| Integration-related and other costs (b) | 0.10 | 0.13 |
| Sale of St. Helens paper mill site (c) | (0.05 |) — |
| Class action lawsuit settlement (d) | — | 0.11 |
| Total special items | 0.06 | 0.67 |
| Earnings per diluted share, excluding special items | \$4.53 | \$4.66 |

(a) Includes amounts from restructuring activities at our mill in DeRidder, Louisiana, including costs related to the conversion of the No. 3 newsprint machine to containerboard, our exit from the newsprint business, and other improvements. The restructuring charges primarily related to accelerated depreciation.

(b) Includes Boise acquisition integration-related and other costs. These costs primarily relate to professional fees, severance, retention, relocation, travel, and other integration-related costs. 2014 also includes \$1.5 million of expense related to write-off of deferred financing costs in connection with the debt refinancing.

(c) In September 2015, we sold the remaining land, buildings, and equipment at our paper mill site in St. Helens, Oregon, where we ceased paper production in December 2012. We recorded a \$6.7 million gain on the sale.

(d) Includes \$17.6 million of costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit.

Management excludes special items and uses non-GAAP measures to focus on PCA's on-going operations and assess its operating performance and believes that it is useful to investors because it enables them to perform meaningful comparisons of past and present operating results. Reconciliation of diluted EPS to diluted EPS excluding special items is included above and the reconciliations of other non-GAAP measures used in this Management's Discussion and Analysis of Financial Condition and Results of Operations, to the most comparable measure reported in accordance with GAAP, are included later in Item 7 under "Reconciliations of Non-GAAP Financial Measures to Reported Amounts." Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such.

Industry and Business Conditions

Trade publications reported that industry corrugated products shipments increased 1.2% during 2015, compared with 2014 and 1.6% per workday with one less workday in 2015. Reported industry containerboard production was 1.3% higher than 2014, with export shipments up 1.9%. In the first two months of 2016, a trade publication lowered its published prices for domestic linerboard and medium by \$15 and \$30 per ton, respectively.

The market for communication papers competes heavily with electronic data transmission and document storage alternatives. Increasing shifts to these alternatives have reduced usage of traditional print media and communication papers. Trade publications reported that uncoated freesheet paper shipments were down 1.0% in 2015, compared with 2014. Trade publication average prices for uncoated freesheet decreased \$26 per ton, or 2.5%, in 2015, compared with 2014.

In January 2015, we, along with the United Steel Workers (USW) and other domestic paper producers, filed a petition before the United States International Trade Commission and the United States Department of Commerce, alleging that paper producers in China, Indonesia, Australia, Brazil, and Portugal are selling products in the United States in

violation of international trade rules. The domestic producers also alleged that Chinese and Indonesian producers are receiving illegal government subsidies. The agencies conducted their investigations in 2015 and early 2016. In January 2016, the U.S. Department of Commerce made determinations of antidumping and countervailing duties at rates varying by country and producer and, in February 2016, the International Trade Commission determined that the domestic industry has been materially injured by these imports. Accordingly, the antidumping and countervailing duties will be imposed on imports from these countries.

Outlook

Compared with fourth quarter 2015, we expect first quarter 2016 labor and benefits costs to be higher with annual wage increases and other timing-related expenses, and seasonally colder weather will increase wood and energy costs. Our tax rate will also be higher in the first quarter. These items will be partially offset by slightly higher corrugated products shipments and containerboard production, and lower scheduled mill outage costs. Finally, lower published prices for domestic linerboard and medium are expected to adversely affect earnings. As a result, we expect first quarter 2016 earnings to be lower than fourth quarter 2015.

Results of Operations

Year Ended December 31, 2015, Compared with Year Ended December 31, 2014

The historical results of operations of PCA for the years ended December 31, 2015 and 2014 are set forth below (dollars in millions):

| | Year Ended December 31 | | |
|--|------------------------|-----------|------------|
| | 2015 | 2014 | Change |
| Packaging | \$4,477.3 | \$4,540.3 | \$(63.0) |
| Paper | 1,143.1 | 1,201.4 | (58.3) |
| Corporate and other and eliminations | 121.3 | 110.9 | 10.4 |
| Net sales | \$5,741.7 | \$5,852.6 | \$(110.9) |
| Packaging | \$714.9 | \$663.2 | \$51.7 |
| Paper | 112.5 | 135.4 | (22.9) |
| Corporate and other and eliminations | (77.4) | (95.9) | 18.5 |
| Income from operations | \$750.0 | \$702.7 | \$47.3 |
| Interest expense, net | (85.5) | (88.4) | 2.9 |
| Income before taxes | 664.5 | 614.3 | 50.2 |
| Income tax expense | (227.7) | (221.7) | (6.0) |
| Net income | \$436.8 | \$392.6 | \$44.2 |
| Net income excluding special items (a) | \$442.6 | \$458.6 | \$(16.0) |
| EBITDA (a) | \$1,106.5 | \$1,083.7 | \$22.8 |
| EBITDA excluding special items (a) | \$1,106.2 | \$1,143.6 | \$(37.4) |

(a) See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" included in this Item 7 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

Net Sales

Net sales decreased \$110.9 million, or 1.9%, to \$5,741.7 million in 2015, compared with \$5,852.6 million in 2014.

Packaging. Sales decreased \$63.0 million, or 1.4%, to \$4,477.3 million, compared with \$4,540.3 million in 2014. Sales decreased \$115.0 million due to the exit from our newsprint business in third quarter 2014 and the April 1, 2015, sale of our Hexacomb operations in Mexico and Europe. This decrease was partially offset by increased sales volumes in our corrugated products business (\$17.0 million) and external containerboard sales (\$31.0 million). Total corrugated products volume sold in 2015 increased approximately 1% over 2014. Our prices for corrugated products were approximately the same as 2014. With a full year of containerboard production on our D3 machine at our DeRidder, Louisiana mill, we increased our outside sales of containerboard, both domestic and export, by 52,000 tons compared with last year and we purchased 174,000 less tons of containerboard from the outside market in 2015. Our

export prices were down 7% compared with 2014, while pricing for domestic containerboard sales was flat with last year. Containerboard mill production in 2015 was 3,656,000 total tons, compared with 3,452,000 total tons in 2014.

Paper. Sales decreased \$58.3 million, or 4.9%, to \$1,143.1 million, compared with \$1,201.4 million in 2014. The decrease was primarily due to 4.8% lower sales prices and changes in mix (\$57.6 million).

Gross Profit

Gross profit decreased \$21.5 million, or 1.7%, in 2015, compared with 2014. In 2015 and 2014, gross profit included expenses of \$9.0 million and \$58.1 million of special items, respectively, most of which related to incremental depreciation expense related to changing the estimated useful lives of assets in connection with our DeRidder mill restructuring. Excluding special items, gross profit decreased \$70.6 million in 2015, compared with 2014. The decrease was primarily due to lower paper prices and changes in mix, lower export containerboard prices, and higher labor and benefit costs, partially offset by higher packaging sales volume and lower energy, chemical, and freight costs. Gross profit was 21.0% of net sales in both 2015 and 2014.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses decreased \$18.2 million, or 3.9%, in 2015, compared with 2014. The decrease in 2015 was due primarily to lower administrative employee costs from the headcount reductions related to the Boise integration.

Other Expense, Net

Other expense, net, in 2015 was \$6.7 million, compared with \$57.3 million during 2014. Other expense in 2015 included \$14.0 million of asset disposals and write-off charges and \$12.9 million of Boise integration-related and other costs, partially offset by \$7.1 million of income, net of expenses, related to the DeRidder restructuring, a \$6.7 million gain on the sale of our St. Helens paper mill site, and \$3.6 million of income from a refundable state tax credit received related to our investments and the jobs retained at our DeRidder mill, among other miscellaneous income and expense items. Other expense, net, in 2014 included \$20.0 million of Boise integration-related and other costs, \$17.6 million of costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit, \$10.1 million of asset disposals and write-off charges, and \$7.3 million of DeRidder restructuring charges.

Income from Operations

Income from operations increased \$47.3 million, or 6.7%, for the year ended December 31, 2015, compared with 2014. Our 2015 income from operations included \$8.7 million of expense from special items, compared with \$101.8 million of expense from special items in 2014. See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" in this Item 7 for more information on special items. Excluding special items, income from operations decreased \$45.8 million in 2015, compared with 2014. The decrease in income from operations, excluding special items, was driven primarily by lower gross profit as described above, partially offset by a decrease in employee administrative costs and a \$3.6 million state tax credit related to investments and jobs retained at our DeRidder mill.

Packaging. Segment income from operations increased \$51.7 million, or 7.8%, to \$714.9 million, compared with \$663.2 million in 2014. Excluding expenses of \$6.1 million of special items in 2015 and \$70.7 million in 2014, segment income decreased \$12.9 million to \$721.0 million, compared with \$733.9 million. The decrease is primarily related to higher labor and benefit costs (\$19.7 million), lower export containerboard prices (\$13.2 million), higher annual outage costs due mostly to the first quarter extended annual outage at our DeRidder mill (\$8.6 million), increased depreciation (\$8.7 million), freight (\$7.6 million), and fiber (\$4.6 million) costs, partially offset by higher volumes (\$26.3 million) and lower energy costs (\$23.6 million).

Paper. Segment income from operations decreased \$22.9 million, or 16.9%, to \$112.5 million, compared with \$135.4 million for 2014. Excluding income of \$6.7 million of special items in 2015, segment income decreased \$29.6 million to \$105.8 million. The decrease is due primarily to lower white paper prices and mix (\$57.6 million), partially offset by lower freight (\$10.8 million), chemical (\$10.2 million), and energy costs (\$8.9 million).

Interest Expense, Net, and Income Taxes

Interest expense, net, was \$85.5 million in 2015, compared with \$88.4 million in 2014. Interest expense in 2014 included \$1.5 million of expense related to the write-off of deferred financing costs in connection with the refinancing of debt.

During 2015, we recorded \$227.7 million of income tax expense, compared with \$221.7 million of expense during 2014. The effective tax rate for 2015 and 2014 was 34.3% and 36.1%, respectively. The decrease in our effective tax rate in 2015 was primarily due to an increased domestic manufacturing deduction resulting from less tax net operating losses remaining from the acquisition of Boise Inc.

Year Ended December 31, 2014, Compared with Year Ended December 31, 2013

The historical results of operations of PCA for the years ended December 31, 2014 and 2013 are set forth below (dollars in millions):

| | Year Ended December 31 | | |
|--|------------------------|-----------|-----------|
| | 2014 (a) | 2013 (a) | Change |
| Packaging | \$4,540.3 | \$3,431.7 | \$1,108.6 |
| Paper | 1,201.4 | 216.9 | 984.5 |
| Corporate and other and eliminations | 110.9 | 16.7 | 94.2 |
| Net sales | \$5,852.6 | \$3,665.3 | \$2,187.3 |
| Packaging | \$663.2 | \$554.2 | \$109.0 |
| Paper | 135.4 | 13.5 | 121.9 |
| Corporate and other and eliminations | (95.9) | (85.8) | (10.1) |
| Income from operations | \$702.7 | \$481.9 | \$220.8 |
| Interest expense, net | (88.4) | (58.3) | (30.1) |
| Income before taxes | 614.3 | 423.6 | 190.7 |
| Income tax (expense) benefit | (221.7) | 17.7 | (239.4) |
| Net income | \$392.6 | \$441.3 | \$(48.7) |
| Net income excluding special items (b) | \$458.6 | \$325.2 | \$133.4 |
| EBITDA (b) | \$1,083.7 | \$683.7 | \$400.0 |
| EBITDA excluding special items (b) | \$1,143.6 | \$750.7 | \$392.9 |

(a) On October 25, 2013, we acquired Boise Inc. (Boise). Our financial results include Boise subsequent to acquisition.

(b) See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" included in this Item 7 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

Net Sales

Net sales increased \$2,187.3 million, or 59.7%, to a record \$5,852.6 million in 2014, compared with \$3,665.3 million in 2013. The increase in 2014 related to a full year of Boise operations, compared with only two months and five days in 2013 (\$1,962.8 million) and increased sales in PCA's historical operations (\$224.5), which resulted from higher sales volumes and higher sales prices and mix.

Packaging. Sales increased \$1,108.6 million, or 32.3%, to \$4,540.3 million, compared with \$3,431.7 million in 2013. A full year of Boise operations contributed \$878.7 million of the increase and the remaining increase related to higher sales volumes (\$160.5 million) and higher sales prices and mix (\$69.4 million) in PCA's historical operations. Total corrugated products volume sold in 2014, including Boise, increased 25.5% over 2013 and shipments per workday

increased 25.0%. The year ended December 31, 2014, included 251 workdays, those days not falling on a weekend or holiday, compared with 250 workdays in 2013. Excluding Boise shipments, corrugated products shipments increased 4.7% in total, or 4.3% per workday in 2014, compared with 2013. The acquisition of Crockett Packaging in April 2014, contributed about 1.0% to the increase in shipments, with the rest of the increase coming from organic growth. We reduced our outside sales of containerboard, both

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domestic and export, by 46,000 tons compared with last year and we purchased 182,000 tons of containerboard from the outside market in 2014. Containerboard mill production in 2014 was 3,452,000 total tons, including 801,000 tons from Boise, compared with 2,749,000 total tons in 2013, which included 141,000 tons from Boise.

Paper. Our paper segment sales include the sales for the white paper mills we acquired from Boise. Sales for 2014 were \$1,201.4 million. In 2013, sales during the two months and five days we owned Boise were \$216.9 million. In 2014, sales volumes of white paper were 1,114,000 tons, compared with 210,000 tons in 2013, for the period we owned Boise.

Gross Profit

Gross profit increased \$362.0 million, or 41.7%, in 2014, compared with 2013. In 2014, gross profit included \$58.1 million of expense from special items, most of which related to restructuring charges at our DeRidder, Louisiana mill, including incremental depreciation related to changing the estimated useful lives of newsprint-related assets in connection with our exit from the newsprint business in September 2014. In 2013, gross profit included \$21.5 million of expense from special items related to the step-up in value of inventory acquired in the Boise acquisition. Excluding special items, gross profit increased \$398.6 million. Approximately 90% of the increase was due to a full year of Boise operations, including realized synergies, and the remaining increase was from higher gross profit in PCA's historical packaging operations due to higher sales prices, volume, and mix, partially offset by increases in costs for labor, depreciation, freight, wood fiber, and chemical expenses. Gross profit as a percentage of net sales decreased to 21.0% of net sales in 2014 compared with 23.7% in 2013 due primarily to a full year impact of the white papers business whose products generally have lower margins than the products sold in the packaging business and the DeRidder restructuring charges described above.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses increased \$142.9 million, or 43.8%, in 2014 compared with 2013. Approximately 90% of the increase relates to the acquired Boise businesses. The remaining increase in our historical PCA business is due primarily to a \$12.0 million increase in salary and fringe benefit expenses and other increases, which were individually insignificant.

Other Expense, Net

Other expense, net, in 2014 was \$57.3 million, which included Boise acquisition integration-related and other costs, which primarily relate to severance, retention, travel, and professional fees (\$20.0 million), costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit (\$17.6 million), DeRidder mill restructuring costs primarily related to the conversion of the No. 3 newsprint machine to produce lightweight linerboard and corrugating medium and related start-up costs, and our exit from the newsprint business in September 2014 (\$7.3 million), and asset disposals and write-offs charges (\$10.1 million). In 2013, "Other expense, net" was \$59.0 million, which primarily included acquisition-related costs (\$17.2 million), Boise acquisition integration-related and other costs (\$17.4 million), pension plan curtailment charges (\$10.9 million), and asset disposals and write-offs charges (\$13.2 million).

Income from Operations

Income from operations increased \$220.8 million, or 45.8%, for the year ended December 31, 2014, compared with 2013. Our 2014 income from operations included \$101.8 million of expense from special items, compared with \$67.0 million of expense from special items in 2013. See "Reconciliations of Non-GAAP Financial Measures to Reported Amounts" in this Item 7 for more information on special items. Excluding special items, income from operations

increased \$255.6 million in 2014, compared with 2013. Approximately 90% of the increase was due to a full year of Boise operations, including realized synergies, and the remaining 10% was due to improvement in PCA's historical earnings.

Packaging. Segment income from operations increased \$109.0 million, or 19.7%, to \$663.2 million, compared with \$554.2 million in 2013. Excluding \$70.7 million of special items in 2014 and \$30.3 million in 2013, segment income increased \$149.4 million to \$733.9 million, compared with \$584.5 million. The increase primarily related to a full year of Boise operations in 2014 (approximately 90% of the change, including realized synergies, and excluding special items) and increased income in PCA's historical packaging business, which related to higher sales price and improved mix (\$69.4 million), higher sales volume (\$12.8 million), partially offset by increased costs for labor and benefits (\$28.4 million), depreciation (\$16.6 million), transportation (\$10.9 million), energy (\$10.2 million), wood fiber (\$5.0 million), chemicals (\$2.8 million), and repairs (\$2.8 million).

Paper. Segment income from operations was \$135.4 million in 2014, compared with \$13.5 million for the two months and five days after the Boise acquisition in 2013. Segment income in 2013 included \$3.5 million of acquisition inventory step-up costs included in cost of sales, partially offset by \$1.9 million of income for an insurance settlement related to Boise's former St. Helens, Oregon, mill, net of other expenses. Excluding these special items, segment income in 2013 for the white papers business was \$15.1 million.

Interest Expense, Net, and Income Taxes

Interest expense, net, was \$88.4 million in 2014, compared with \$58.3 million in 2013. The increase in interest expense primarily related to higher average outstanding borrowings following the acquisition of Boise in October of 2013. Interest expense in 2014 and 2013 included \$1.5 million and \$1.1 million of expense, respectively, related to the write-off of deferred financing costs in connection with the repayment of debt. Also, 2013 included \$10.5 million of expenses related to financing the acquisition of Boise.

In 2013, we recorded a \$17.7 million income tax benefit, which included \$166.0 million of income tax benefits from the reversal of the reserve for unrecognized tax benefits from alternative energy tax credits. The IRS completed its audit of PCA's 2008 and 2009 Federal income tax returns and all claimed alternative energy tax credits were allowed. In November 2013, PCA received a confirmation letter from the Joint Committee on Taxation that their review was complete. As a result, a \$103.9 million (\$102.0 million of tax plus \$1.9 million of accrued interest) reserve for unrecognized tax benefits for the Filer City mill's cellulosic biofuel tax credit was fully reversed as a benefit to income taxes in 2013. Excluding the alternative energy tax credits, the 2013 effective tax rate was 35.0%, compared with 36.1% in 2014. The credits are described in Note 7, Alternative Energy Tax Credits, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K. The effective tax rate in 2014 varies from the U.S. federal statutory tax rate of 35.0% principally due to the impact of state and local income taxes and the domestic manufacturers' deduction.

Liquidity and Capital Resources

Sources and Uses of Cash

Our primary sources of liquidity are net cash provided by operating activities and available borrowing capacity under our revolving credit facility. We ended the year with \$184.2 million of cash and \$326.5 million of unused borrowing capacity under the revolving credit facility, net of letters of credit. Currently, our primary uses of cash are for operations, capital expenditures, debt service (including voluntary payments of debt), declared common stock dividends and share repurchases. We believe that net cash generated from operating activities, cash on hand, available borrowings under our revolving credit facility and available capital through access to capital markets will be adequate to meet our liquidity and capital requirements, including payments of any declared common stock dividends for the foreseeable future. As our debt or credit facilities become due, we will need to repay, extend or replace such facilities. Our ability to do so will be subject to future economic conditions and financial, business, and other factors, many of which are beyond our control.

Below is a summary table of our cash flows, followed by a discussion of our sources and uses of cash through operating activities, investing activities, and financing activities (dollars in millions):

| | Year Ended December 31 | | |
|----------------------------------|------------------------|----------|------------|
| | 2015 | 2014 | 2013 |
| Net cash provided by (used for): | | | |
| Operating activities | \$762.6 | \$736.1 | \$608.2 |
| Investing activities | (298.1 |) (451.1 |) (1,411.4 |

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| | | | | | | |
|--|--------|---|---------|---|---------|---|
| Financing activities | (405.2 |) | (351.1 |) | 786.8 | |
| Net increase (decrease) in cash and cash equivalents | \$59.3 | | \$(66.1 |) | \$(16.4 |) |

Operating Activities

2015

During 2015, net cash provided by operating activities was \$762.6 million, compared with \$736.1 million for 2014, an increase of \$26.5 million. Cash from operations excluding changes in cash used for operating assets and liabilities decreased \$0.7 million. The remaining \$27.2 million increase from changes in cash used for operating assets and liabilities was primarily due to the following: (a) no inventory prebuild for our first quarter 2016 planned maintenance outages due to additional capacity added at our reconfigured DeRidder, Louisiana mill and (b) a decrease in accounts receivable related to differences in the timing of collections of receivables. These changes were partially offset by (a) higher required cash tax payments resulting from less net operating loss utilization and (b) a decrease in accrued liabilities due primarily to lower compensation and benefits accruals. Cash requirements for operating activities are subject to PCA's operating needs and the timing of collection of receivables and payments of payables and expenses.

2014

During 2014, net cash provided by operating activities was \$736.1 million, compared with \$608.2 million for 2013, an increase of \$127.9 million. Cash from operations excluding changes in cash used for operating assets and liabilities increased \$216.2 million due to record earnings in 2014, which was driven by the acquisition of Boise in fourth quarter 2013. Cash used for operating assets and liabilities, excluding acquisitions, totaled \$97.0 million in 2014, compared with \$8.7 million in 2013. The higher requirements for operating assets and liabilities, excluding acquisitions, in 2014 were driven primarily by higher containerboard and office papers inventory levels built in advance of four of our five containerboard mills and two of our three white papers mills taking maintenance outages in the first half of 2015 and lower accounts payable levels due to the timing of payments, partially offset by a decrease in federal and state income taxes receivable at December 31, 2014, compared with December 31, 2013.

Investing Activities

2015

We used \$298.1 million for investing activities in 2015, compared with \$451.1 million in 2014. In 2015, we spent \$314.5 million for capital investments, compared with \$420.2 million in 2014. The decrease in capital spending was due primarily to \$104.2 million invested in 2014 for the conversion of the No. 3 newsprint machine at our DeRidder, Louisiana mill to produce containerboard. We received \$23.0 million of cash proceeds for the sale of our Hexacomb corrugated manufacturing operations in Mexico and Europe during 2015. In 2014, we paid \$20.5 million to acquire the assets of Crockett Packaging, a corrugated products manufacturer.

The details of capital expenditures for property and equipment, excluding acquisitions, by segment for the years ended December 31, 2015, 2014, and 2013, are included in the table below (dollars in millions).

| | Year Ended December 31 | | |
|---------------------|------------------------|---------|---------|
| | 2015 | 2014 | 2013 |
| Packaging | \$250.3 | \$362.1 | \$222.2 |
| Paper | 58.5 | 51.7 | 10.0 |
| Corporate and Other | 5.7 | 6.4 | 2.2 |
| | \$314.5 | \$420.2 | \$234.4 |

We expect capital investments in 2016 to be between \$250.0 million and \$265.0 million, including capital required for Boiler MACT spending, but excluding any acquisitions. These expenditures could increase or decrease as a result of a

number of factors, including our financial results, future economic conditions, and our regulatory compliance requirements. We currently estimate capital expenditures to comply with Boiler MACT regulations (as discussed below under "Environmental Matters") in 2016 of up to \$3.0 million and we expect other environmental capital expenditures of about \$5.0 million in 2016. Our estimated environmental expenditures could vary significantly depending upon the enactment of new environmental laws and regulations, including those related to greenhouse gas emissions and industrial boilers. For additional information, see "Environmental Matters" in this Management's Discussion and Analysis of Financial Condition and Results of Operations.

At December 31, 2015, PCA had commitments for capital expenditures of \$83.7 million. PCA believes that cash-on-hand combined with cash flow from operations will be sufficient to fund these commitments.

2014

We used \$451.1 million for investing activities in 2014, compared with \$1,411.4 million in 2013. In 2014, we spent \$420.2 million for capital investments, compared with \$234.4 million in 2013. The increase in capital spending was due primarily to having a full year of Boise capital investments, including \$104.2 million for the conversion of the No. 3 newsprint machine at our DeRidder, Louisiana mill to produce containerboard. In 2014, we spent \$20.5 million for the acquisition of Crockett Packaging. In 2013 we spent \$1,174.5 million on the acquisition of Boise, net of \$121.7 million of cash acquired.

Financing Activities

2015

In 2015, we used \$405.2 million for financing activities, compared with \$351.1 million in 2014. The increase in cash used for financing activities primarily relates to share repurchases and increased dividend payments, partially offset by a decrease in debt repayments, net of proceeds received. In 2015, we made \$47.6 million of principal payments on long-term debt and capital leases, compared with \$193.6 million of payments, net of debt proceeds received, in 2014. In 2014, we also paid \$3.4 million of financing costs. We paid \$200.8 million of dividends in 2015, compared with \$157.4 million of dividends in 2014. On February 26, 2015, PCA's Board of Directors increased the regular quarterly cash dividend to \$0.55 per share from the previous \$0.40 per share dividend, beginning with the dividend paid on April 15, 2015. During 2015, we paid \$154.7 million to repurchase 2,326,493 shares of common stock, and we withheld 129,983 shares from vesting equity awards to cover employee tax liabilities of \$8.7 million, compared with no share repurchases and \$13.2 million of shares withheld on equity award vesting in 2014. Tax benefits from share-based awards and proceeds from the exercise of stock options contributed \$6.0 million in 2015, compared with \$15.9 million in 2014.

Subsequent to year-end, we repurchased 1,868,487 shares of common stock for \$93.4 million, fully depleting the July 2015 authorization of \$150 million. On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of an additional \$200 million of the Company's outstanding common stock. Repurchases may be made from time to time in the open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the Company in its discretion based on factors such as PCA's stock price and market and business conditions.

For more information about our debt, commitments, and treasury lock derivative instruments, see Note 10, Debt, Note 19, Commitments, Guarantees, Indemnifications, and Legal Proceedings, and Note 14, Derivative Instruments and Hedging Activities, respectively, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

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2014

In 2014, we used \$351.1 million for financing activities, while financing activities provided \$786.8 million in 2013. In 2014, we made \$592.5 million of principal payments on long-term debt and capital leases and received \$398.9 million of proceeds (net of debt discount) from long-term debt issuances, for a net reduction in debt of \$193.6 million. To reduce exposure to variable interest rates, in September 2014, we issued \$400 million of ten-year notes with a fixed interest rate of 3.65% and used the proceeds to pay down a portion of our five-year, variable-rate term loan. In October 2013, we entered into \$2.35 billion of new credit facilities, including a \$350.0 million revolver which remains undrawn. We used the proceeds from borrowings under these facilities and cash on hand to finance the acquisition of Boise, repay \$953.6 million of indebtedness, which included \$829.8 million of acquired Boise debt, and for general corporate purposes. In addition, in 2013, we repaid \$12.2 million of outstanding debt prior to the acquisition of Boise and repaid \$109.0 million under our receivables credit facility that we terminated in December 2013. In 2014, we also paid \$3.4 million of financing costs, compared with \$19.4 million in 2013. We paid \$157.4 million of dividends in 2014, compared with \$109.1 million of dividends and \$7.8 million of common stock repurchases in 2013. The lower dividends paid in 2013 resulted from accelerating the dividends that would have been paid in January 2013 to December 2012. During 2014, we withheld 183,170 shares from vesting equity awards to cover employee tax liabilities of \$13.2 million, compared with \$11.0 million in 2013. Proceeds from the exercise of stock options and tax benefits from share-based awards contributed \$15.9 million in 2014, compared with \$10.7 million in 2013.

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Commitments

Contractual Obligations

The table below sets forth our enforceable and legally binding obligations as of December 31, 2015, for the categories described below. Some of the amounts included in the table are based on management's estimates and assumptions about these obligations, including their duration, the possibility of renewal, anticipated actions by third parties, and other factors. Because these estimates and assumptions are necessarily subjective, our actual payments may vary from those reflected in the table. Purchase orders made in the ordinary course of business are excluded from the table below. Any amounts for which we are liable under purchase orders are reflected on the Consolidated Balance Sheets as accounts payable and accrued liabilities (dollars in millions):

| | Payments Due by Period | | | | |
|--|------------------------|---------------------|-----------|-----------|----------------------|
| | Total | Less Than 1 Year | 1-3 Years | 3-5 Years | More Than 5 Years |
| Term loan, due October 2018 | \$25.0 | \$— | \$25.0 | \$— | \$— |
| Term loan, due October 2020 | 637.0 | 6.5 | 13.0 | 617.5 | — |
| 6.50% Senior Notes, due March 2018 | 150.0 | — | 150.0 | — | — |
| 3.90% Senior Notes, due June 2022 | 400.0 | — | — | — | 400.0 |
| 4.50% Senior notes, due November 2023 | 700.0 | — | — | — | 700.0 |
| 3.65% Senior notes, due September 2024 | 400.0 | — | — | — | 400.0 |
| Total short-term and long-term debt (a) | 2,312.0 | 6.5 | 188.0 | 617.5 | 1,500.0 |
| Interest on long-term debt (b) | 560.4 | 85.5 | 162.7 | 146.0 | 166.2 |
| Capital lease obligations, including interest | 33.9 | 2.7 | 5.4 | 5.4 | 20.4 |
| Operating leases (c) | 248.4 | 54.4 | 81.9 | 42.9 | 69.2 |
| Capital commitments | 83.7 | 83.7 | — | — | — |
| Purchase commitments: | | | | | |
| Raw materials (d) | 271.2 | 63.4 | 79.4 | 51.4 | 77.0 |
| Energy related (e) | 40.8 | 31.9 | 8.9 | — | — |
| Other long-term liabilities reflected on our Consolidated Balance Sheet (f): | | | | | |
| Compensation and benefits (g) | 354.3 | 30.1 | 91.4 | 104.4 | 128.4 |
| Other (h) | 73.5 | 20.7 | 8.7 | 4.2 | 39.9 |
| | \$3,978.2 | \$378.9 | \$626.4 | \$971.8 | \$2,001.1 |

The table assumes our long-term debt is held to maturity and includes the current portion of long-term debt. See Note 10, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K. Amounts are reported gross and do not include unamortized debt discounts of \$2.8 million at December 31, 2015.

Amounts represent estimated future interest payments as of December 31, 2015, assuming our long-term debt is held to maturity and using interest rates in effect at December 31, 2015. See "Item 7A. Quantitative and Qualitative Disclosures About Market Risk" for the impact of changes in interest rates on PCA's future cash flows.

We enter into operating leases in the normal course of business. We lease some of our operating facilities, as well as other property and equipment, under operating leases. Some lease agreements provide us with the option to renew the lease or purchase the leased property. Our operating lease obligations would change if we exercised these renewal options and/or if we entered into additional operating lease agreements.

Included among our raw materials purchase obligations are contracts to purchase approximately \$237.3 million of wood fiber. Purchase prices under most of these agreements are set quarterly, semiannually, or annually based on regional market prices, and the estimate is based on contract terms or first quarter 2016 pricing. Except for deposits

required pursuant to wood supply contracts, these obligations are not recorded in our consolidated financial statements until contract payment terms take effect. Our log, fiber, and wood chip obligations are subject to change based on, among other things, the effect of governmental laws and regulations, our manufacturing operations not operating in the normal course of business, log and fiber availability, and the status of environmental appeals.

We enter into utility contracts for the purchase of electricity and natural gas. We also purchase these services under utility tariffs. The contractual and tariff arrangements include multiple-year commitments and minimum annual purchase requirements. Our payment obligations were based upon prices in effect on December 31, 2015, or contract language, if available.

Long-term deferred income taxes of \$347.0 million and unrecognized tax benefits of \$6.7 million, including interest and penalties, are excluded from this table, because the timing of their future cash outflows are uncertain.

Amounts primarily consist of pension and postretirement obligations, including current portion of \$2.9 million. We have minimum qualified pension contributions of approximately \$27 million in 2016. See Note 11, Employee Benefit Plans and Other Postretirement Benefits, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K, for additional information.

Amounts primarily consist of workers compensation, environmental, and asset retirement obligations.

Off-Balance-Sheet Arrangements

The Company does not have any off-balance sheet arrangements as of December 31, 2015.

Inflation and Other General Cost Increases

We are subject to both contractual, inflation, and other general cost increases. If we are unable to offset these cost increases by price increases, growth, and/or cost reductions in our operations, these inflation and other general cost increases could have a material adverse effect on our operating cash flows, profitability, and liquidity.

In 2015, our total company costs including cost of sales (COS) and selling, general, and administrative expenses (SG&A) was \$5.0 billion, and excluding non-cash costs (depreciation, pension and postretirement expense, and share-based compensation expense) was \$4.6 billion. A 1% increase in COS and SG&A costs would increase costs by \$50 million and cash costs by \$46 million.

Certain items of product input costs have historically been subject to more cost volatility including fiber, purchased energy, and chemicals.

Energy

In 2015, our mills, including both packaging and paper mills, consumed about 89 million MMBTU's of fuel, including internally generated and externally purchased, to produce both steam and electricity. The following table for 2015 provides the total MMBTU's purchased externally by fuel type each quarter and the average cost per MMBTU by fuel type for the year. Our mills represent about 90% of our total purchased fuel costs. The cost per MMBTU includes the cost of the fuel plus our transportation and delivery costs.

| Fuel Type | 2015 Fuel Purchased (millions of MMBTU's) | | | | | 2015 Avg. Cost / MMBTU |
|----------------|---|----------------|---------------|----------------|-----------|------------------------|
| | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Full Year | |
| Natural gas | 5.14 | 4.89 | 5.29 | 5.69 | 21.01 | \$3.65 |
| Purchased bark | 2.56 | 2.53 | 2.21 | 2.52 | 9.82 | 2.66 |
| Coal | 1.03 | 0.46 | 0.10 | 0.03 | 1.62 | 3.91 |
| Other fuels | 0.42 | 0.56 | 0.45 | 0.43 | 1.86 | 3.58 |
| Total mills | 9.15 | 8.44 | 8.05 | 8.67 | 34.31 | \$3.38 |

In addition, the mills purchased 22.10 million CkWh (hundred kilowatt hours) of purchased electricity in 2015. The purchases by quarter and the average cost per CkWh were as follows:

| 2015 Purchased Electricity (millions of CkWh) | 2015 Avg. |
|---|-----------|
|---|-----------|

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| | First Quarter | Second Quarter | Third Quarter | Fourth Quarter | Full Year | Cost / CkWh |
|-----------------------|------------------|-------------------|------------------|-------------------|-----------|----------------|
| Purchased electricity | 5.66 | 5.51 | 5.78 | 5.15 | 22.10 | \$5.69 |

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Environmental Matters

Environmental compliance requirements are a significant factor affecting our business. We employ processes in the manufacture of containerboard, paper, and pulp which result in various discharges, emissions and waste disposal. These processes are subject to numerous federal, state, local and foreign environmental laws and regulations. We operate and expect to continue to operate, under environmental permits and similar authorizations from various governmental authorities that regulate such discharges, emissions, and waste disposal. The most significant of these laws affecting the Company are:

- Resource Conservation and Recovery Act (RCRA);
- Clean Water Act (CWA);
- Clean Air Act (CAA);
- The Emergency Planning and Community Right-to-Know-Act (EPCRA);
- Toxic Substance Control Act (TSCA); and
- Safe Drinking Water Act (SDWA).

We believe that we are currently in material compliance with these and all applicable environmental rules and regulations. Because environmental regulations are constantly evolving, the Company has incurred, and will continue to incur, costs to maintain compliance with these and other environmental laws. The Company works diligently to anticipate and budget for the impact of applicable environmental regulations, and does not currently expect that future environmental compliance obligations will materially affect its business or financial condition. For the years ended December 31, 2015, 2014, and 2013, we spent \$42.6 million, \$43.9 million, and \$41.1 million, respectively, to comply with the requirements of these and other environmental laws.

As is the case with any industrial operation, PCA has, in the past, incurred costs associated with the remediation of soil or groundwater contamination, as required by the federal Comprehensive Environmental Response, Compensation and Liability Act, commonly known as the federal "Superfund" law, and analogous state laws. Cleanup requirements arise with respect to properties the Company currently owns or operates, former facilities and off-site facilities where the Company has disposed of hazardous substances. As part of the sale to PCA of the containerboard and corrugated products business of Pactiv Corporation in April 1999, Pactiv agreed to retain all liability for all former facilities and all sites associated with pre-closing off-site waste disposal. Pactiv also retained environmentally impaired real property in Filer City, Michigan unrelated to current mill operations. In addition, OfficeMax (now an indirect, wholly owned subsidiary of Office Depot) retains responsibility for certain environmental liabilities related to some of the businesses, facilities, and assets we acquired from Boise. Generally, this responsibility relates to hazardous substance releases and other environmental incidents that arose before 2004. Some of these liabilities could be significant; however, Office Depot may not have sufficient funds to satisfy its indemnification obligations, and in some cases, we may not be entitled to such indemnification.

In January 2013, the U.S. Environmental Protection Agency (the "EPA") established a three year deadline for compliance with the Boiler MACT regulations, establishing air emissions standards and certain other requirements for industrial boilers. PCA's compliance actions involve modifying or replacing certain of its boilers. PCA estimates that its remaining Boiler MACT compliance obligations will require capital expenditures of \$3.0 million in 2016. We currently expect other environmental capital expenditures of about \$5.0 million in 2016. Total capital expenditures for environmental matters were \$16.0 million in 2015, \$29.0 million in 2014, and \$6.2 million for 2013.

Because liability for remediation costs under environmental laws is strict, meaning that liability is imposed without fault, joint and several, meaning that liability is imposed on each party without regard to contribution, and retroactive, PCA could receive notifications of cleanup liability in the future and this liability could be material. From 2006 through 2015, there were no significant environmental remediation costs at PCA's mills and corrugated plants. As of December 31, 2015, we maintained an environmental reserve of \$24.3 million relating to on-site landfills and surface

impoundments as well as ongoing and anticipated remedial projects. The Company believes that it is not reasonably possible that future environmental expenses above the \$24.3 million accrued at December 31, 2015, will have a material impact on its financial condition, results of operations, and cash flows.

While legislation regarding the regulation of greenhouse gas emissions has been proposed at the federal level, it is uncertain whether such legislation will be passed and, if so, what the breadth and scope of such legislation will be. The result of the regulation of greenhouse gas emissions could be an increase in our future environmental compliance costs, through caps, taxes or additional capital expenditures to modify facilities, which may be material. However, climate change legislation and

the resulting future energy policy could also provide us with opportunities if the use of renewable energy is encouraged. We currently self-generate a significant portion of our power requirements at our mills using bark, black liquor and biomass as fuel, which are derived from renewable resources. While we believe we are well-positioned to take advantage of any renewable energy incentives, it is uncertain what the ultimate costs and opportunities of any climate change legislation will be and how our business and industry will be affected.

Critical Accounting Policies and Estimates

Management's discussion and analysis of financial condition and results of operations are based upon the Company's consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosures of contingent assets and liabilities. On an ongoing basis, PCA evaluates its estimates, including those related to business combinations, goodwill and intangible assets, pensions and other postretirement benefits, environmental liabilities, income taxes, and long-lived asset impairment, among others. PCA bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Critical accounting estimates are those that are most important to the portrayal of our financial condition and results. These estimates require management's most difficult, subjective, or complex judgments. We review the development, selection, and disclosure of our critical accounting estimates with the Audit Committee of our board of directors. The Company believes that of its significant accounting policies, the following involve a higher degree of judgment and/or complexity:

Pensions

The Company accounts for defined benefit pension plans in accordance with Accounting Standards Codification (ASC) 715, "Compensation - Retirement Benefits." The calculation of pension expense and pension liabilities requires decisions about a number of key assumptions that can significantly affect expense and liability amounts, including discount rates, expected return on plan assets, expected rate of compensation increases, longevity and service lives of participants, expected contributions, and other factors. The pension assumptions used to measure pension expense and liabilities are discussed in Note 11, Employee Benefit Plans and Other Postretirement Benefits.

We recognize the funded status of our pension plans on our Consolidated Balance Sheet and recognize the actuarial and experience gains and losses and the prior service costs and credits as a component of "Accumulated Other Comprehensive Loss" in our Consolidated Statement of Changes in Stockholders' Equity. Actual results that differ from assumptions are accumulated and amortized over future periods and, therefore, generally affect recognized expense in future periods. At December 31, 2015, we had approximately \$103.3 million of actuarial losses, net of tax, recorded in "Accumulated other comprehensive loss" on our Consolidated Balance Sheet. Accumulated losses in excess of 10% of the greater of the projected benefit obligation or the market-related value of assets will be recognized on a straight-line basis over the average remaining service period of active employees, which is between seven to ten years, to the extent that losses are not offset by gains in subsequent years. While we believe that the assumptions used to measure our pension obligations are reasonable, differences in actual experience or changes in assumptions may materially affect our pension obligations and future expense.

We believe that the accounting estimate related to pensions is a critical accounting estimate because it is highly susceptible to change from period to period. As discussed above, the future effects of pension plans on our financial position and results of operations will depend on economic conditions, employee demographics, mortality rates, retirement rates, investment performance, and funding decisions, among other factors. The following table presents selected assumptions used and expected to be used in the measurement of pension expense in the following periods (dollars in millions):

| | Year Ending December 31, 2016 | Year Ended December 31 2015 | 2014 | |
|--|-------------------------------------|--------------------------------|--------|---|
| Pension expense | \$26.8 | \$31.3 | \$25.3 | |
| Assumptions | | | | |
| Discount rate | 4.50 | % 4.14 | % 5.00 | % |
| Expected rate of return on plan assets | 6.57 | % 6.73 | % 6.69 | % |

A change of 0.25% in either direction to the discount rate or the expected rate of return on plan assets would have had the following effect on 2015 and 2016 pension expense (dollars in millions):

| | Base Expense | Increase (Decrease) in Pension Expense (a) | |
|--|--------------|---|----------------|
| | | 0.25% Increase | 0.25% Decrease |
| 2015 Expense | | | |
| Discount rate | \$31.3 | \$(3.0) |) \$3.5 |
| Expected rate of return on plan assets | 31.3 | (2.0) |) 2.0 |
| 2016 Expense (b) | | | |
| Discount rate | \$26.8 | \$(2.2) |) \$2.9 |
| Expected rate of return on plan assets | 26.8 | (1.9) |) 1.9 |

- (a) The sensitivities shown above are specific to 2015 and 2016. The sensitivities may not be additive, so the impact of changing multiple factors simultaneously cannot be calculated by combining the individual sensitivities shown. Beginning in 2016, we refined the method used to determine the service and interest cost components of our net periodic benefit cost. Previously, the cost was determined using a single weighted-average discount rate derived from the yield curve. Under the refined method, known as the spot rate approach, we will use individual spot rates along the yield curve that correspond with the timing of each benefit payment. We believe this change provides a more precise measurement of service and interest costs by improving the correlation between projected cash outflows and corresponding spot rates on the yield curve. Compared to the previous method, the spot rate approach will decrease the service and interest components of our benefit costs by about \$8 million in 2016.

For more information related to our pension benefit plans, see Note 11, Employee Benefit Plans and Other Postretirement Benefits, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

Goodwill and Intangible Asset Impairment

Goodwill represents the excess of the cost of an acquired business over the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in a business combination. At December 31, 2015, we had \$544.0 million of goodwill, of which we recorded \$458.6 million in connection with the acquisition of Boise in fourth quarter 2013. At December 31, 2015, we had \$488.8 million and \$55.2 million of goodwill recorded in our Packaging and Paper segments, respectively. All of our intangible assets, excluding goodwill, are amortized over their estimated

useful lives.

We maintain two reporting units for purposes of our goodwill and intangible asset impairment testing, Packaging and Paper, which are the same as our operating segments discussed in Note 18, Segment Information, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K. We test goodwill for impairment annually in the fourth quarter or sooner if events or changes in circumstances indicate that the carrying value of the asset may exceed fair value.

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In conducting our goodwill impairment analysis, we utilize the income approach, based on a discounted cash flow model (Level 3 measurement). The fair value was also calculated using the market approach based primarily on comparable company EBITDA multiples (Level 2 measurement) and was compared to and supported the fair value based upon the discounted cash flow approach. We believe that the discounted cash flow model captures our estimates regarding the results of our future prospects; however, we also considered the market's expectations based on observable market information. The discounted cash flow model estimates the projected future cash flows to be generated by our reporting units, discounted to present value using a discount rate for a potential market participant. The market approach estimates fair value based on multiples of EBITDA. The following assumptions are key to our estimates of fair value:

Business Projections. The discounted cash flow model utilizes business projections that are developed internally by management for use in managing the business. These projections include significant assumptions such as estimates of future revenues, profits, income taxes, and capital expenditures. Our forecasts take into consideration recent sales data for existing products, planned timing of capital projects, and key economic indicators to estimate future production volumes, selling prices, and key input costs for our manufactured products. Our pricing assumptions are estimated based upon an assessment of industry supply and demand dynamics for our major products.

Growth Rates. A growth rate is used to calculate the terminal value in the discounted cash flow model. The growth rate is the expected rate at which earnings or revenue is projected to grow beyond the forecast period.

Discount Rates. Future cash flows are discounted at a rate that is consistent with a weighted average cost of capital for a potential market participant. The weighted average cost of capital is an estimate of the overall after-tax rate of return required by equity and debt holders of a business enterprise. The discount rates selected are based on existing conditions within our industry and reflect adjustments for potential risk premiums in those markets as well as weighting of the market cost of equity versus debt.

EBITDA Multiples. The market approach requires the use of a valuation multiple to calculate the estimated fair value of a reporting unit. We use an EBITDA multiple based on a selection of comparable companies and recent acquisition transactions within our industries.

Based on the results of the first step of the goodwill impairment test, we determined that the fair value of our Packaging and Paper reporting units were substantially in excess of the carrying amount, and therefore, no goodwill impairment existed. As a result, the second step of the goodwill impairment test was not required to be completed.

If management's estimates of future operating results materially change or if there are changes to other assumptions, the estimated fair value of our identifiable intangible assets and goodwill could change significantly. Such change could result in impairment charges in future periods, which could have a significant noncash impact on our operating results and financial condition. We cannot predict the occurrence of future events that might adversely affect the reported value of our goodwill and intangible assets. As additional information becomes known, we may change our estimates.

Long-Lived Asset Impairment

An impairment of a long-lived asset exists when the carrying value of an asset is not recoverable through future undiscounted cash flows from operations and when the carrying value of the asset exceeds its fair value. Long-lived asset impairment is a critical accounting estimate, as it is susceptible to change from period to period.

We review the carrying value of long-lived assets for impairment when events or changes in circumstances indicate that the carrying amount of assets may not be recoverable. For purposes of testing for impairment, we group our long-lived assets at the lowest level for which identifiable cash flows are largely independent of the cash flows from other assets and liabilities. Our asset groupings vary based on the related business in which the long-lived asset is employed and the interrelationship between those long-lived assets in producing net cash flows. Asset groupings could change in the future if changes in the operations of the business or business environment affect the way particular long-lived assets are employed or the interrelationships between assets. To estimate whether the carrying value of an asset or asset group is impaired, we estimate the undiscounted cash flows that could be generated under a range of possible outcomes. To measure future cash flows, we are required to make assumptions about future production volumes, future product pricing, and future expenses to be incurred. In addition, estimates of future cash flows may change based on the availability of fiber, environmental requirements, capital spending, and other strategic management decisions. We estimate the fair value of an asset or asset group based on quoted market prices for similar assets and liabilities or inputs that are observable either directly (Level 1 measurement) or indirectly

(the amount for which the asset(s) could be bought or sold in a current transaction with a third party) when available (Level 2 measurement). When quoted market prices are not available, we use a discounted cash flow model to estimate fair value (Level 3 measurement).

We periodically assess the estimated useful lives of our assets. Changes in circumstances, such as changes to our operational or capital strategy, changes in regulation, or technological advances, may result in the actual useful lives differing from our estimates. Revisions to the estimated useful lives of assets requires judgment and constitutes a change in accounting estimate, which is accounted for prospectively by adjusting or accelerating depreciation and amortization rates. During the years ended December 31, 2015 and 2014, we recognized \$9.0 million and \$42.0 million, respectively, of accelerated depreciation expense related to shortening the useful lives of assets at the DeRidder, Louisiana mill, which primarily related to the newsprint business we exited in 2014.

Income Taxes

We account for income taxes and separately recognize deferred tax assets and deferred tax liabilities. We are subject to income taxes in both the U.S. and foreign jurisdictions. Significant judgments and estimates are required in determining the consolidated income tax expense and our tax basis in assets and liabilities.

PCA's annual tax rate is determined based on income, statutory tax rates and the tax impacts of items treated differently for tax purposes than for financial reporting purposes. Tax law requires some items to be included in the tax return at different times than the items reflected in the financial statements. As a result, the annual tax rate in the financial statements is different than the rate reported on PCA's tax return. Some of these differences are permanent, such as expenses that are not deductible in the tax return, and some differences are temporary, reversing over time, such as depreciation expense. These temporary differences create deferred tax assets and liabilities. We also recognize only the impact of tax positions that, based on their technical merits, are more likely than not to be sustained upon an audit by the taxing authority.

Inherent in determining the annual tax rate are judgments regarding business plans, planning opportunities, and expectations about future outcomes. Significant management judgments are required for the following items: Management reviews PCA's deferred tax assets for realizability. Valuation allowances are established when management believes that it is more likely than not that some portion of the deferred tax assets will not be realized. Changes in valuation allowances from period to period are included in the tax provision.

PCA establishes accruals for unrecognized tax benefits when, despite the belief that PCA's tax return positions are fully supported, PCA believes that an uncertain tax position does not meet the recognition threshold of ASC 740, "Income Taxes." The tax contingency accruals are adjusted in light of changing facts and circumstances, such as the progress of tax audits, the expiration of the statute of limitations for the relevant taxing authority to examine a tax return, case law and emerging legislation. While it is difficult to predict the final outcome or timing of resolution for any particular tax matter, PCA believes that the accruals for unrecognized tax benefits at December 31, 2015, reflect the likely outcome of known tax contingencies as of such date in accordance with accounting for uncertainty in income taxes under ASC 740.

The calculation of our tax liabilities involves dealing with uncertainties in the application of complex U.S. and foreign tax regulations, exposures from not filing in some jurisdictions, and transfer pricing exposures from allocation of income between jurisdictions. It is inherently difficult and subjective to estimate uncertain tax positions, because we have to determine the probability of various possible outcomes. We evaluate these uncertain tax positions on a quarterly basis. This evaluation is based on factors including, but not limited to, changes in facts or circumstances, changes in tax law, effectively settled issues under audit, and new audit activity. Such a change in recognition or measurement would result in the recognition of a tax benefit or an additional charge to the tax provision.

New and Recently Adopted Accounting Standards

For a listing of our new and recently adopted accounting standards, see Note 2, Summary of Significant Accounting Policies, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

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Reconciliations of Non-GAAP Financial Measures to Reported Amounts

Income from operations and net income excluding special items are non-GAAP financial measures. Management excludes special items and uses non-GAAP measures to focus on PCA's on-going operations and assess its operating performance and believes that it is useful to investors because it enables them to perform meaningful comparisons of past and present operating results. Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such. Reconciliations of the non-GAAP measures to the most comparable measure reported in accordance with GAAP for the years ended December 31, 2015, 2014, and 2013, follow (dollars in millions):

| | Year Ended December 31 | | | | | |
|---|------------------------|------------|------------------------|------------|------------------------|------------|
| | 2015 | | 2014 | | 2013 (a) | |
| | Income from Operations | Net Income | Income from Operations | Net Income | Income from Operations | Net Income |
| As reported in accordance with GAAP | \$750.0 | \$436.8 | \$702.7 | \$392.6 | \$481.9 | \$441.3 |
| Special items: | | | | | | |
| DeRidder restructuring (b) | 2.0 | 1.3 | 65.8 | 42.1 | — | — |
| Integration-related and other costs (c) | 13.4 | 8.9 | 18.4 | 12.7 | 17.4 | 11.0 |
| Sale of St. Helens paper mill site (d) | (6.7) | (4.4) | — | — | — | — |
| Class action lawsuit settlement (e) | — | — | 17.6 | 11.2 | — | — |
| Alternative energy tax credits (f) | — | — | — | — | — | (166.0) |
| Acquisition inventory step-up (g) | — | — | — | — | 21.5 | 13.6 |
| Acquisition-related costs (h) | — | — | — | — | 17.2 | 10.9 |
| Acquisition-related financing costs (h) | — | — | — | — | — | 7.4 |
| Pension curtailment charges (i) | — | — | — | — | 10.9 | 7.0 |
| Total special items | 8.7 | 5.8 | 101.8 | 66.0 | 67.0 | (116.1) |
| Excluding special items | \$758.7 | \$442.6 | \$804.5 | \$458.6 | \$548.9 | \$325.2 |

(a) On October 25, 2013, we acquired Boise Inc. Our financial results include Boise subsequent to acquisition.

2015 and 2014 include amounts from restructuring activities at our mill in DeRidder, Louisiana including costs (b) related to the conversion of the No. 3 newsprint machine to containerboard, our exit from the newsprint business, and other improvements.

All periods presented included include Boise acquisition integration-related and other costs, primarily for (c) severance, retention, travel, and professional fees. 2014 also includes \$1.5 million of expense related to the write-off of deferred financing costs in connection with the debt refinancing.

In September 2015, we sold the remaining land, buildings, and equipment at our paper mill site in St. Helens, (d) Oregon where we ceased paper production in December 2012. We recorded a \$6.7 million gain on the sale.

Includes \$17.6 million of costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al (e) class action lawsuit. See Note 19, Commitments, Guarantees, Indemnifications, and Legal Proceedings, for more information.

2013 includes the reversal of \$166.0 million of tax reserves related to alternative energy tax credits. Approximately (f) \$103.9 million of the reversal is due to the completion of the IRS audit of PCA's Filer City mill's cellulosic biofuel tax credits and \$62.1 million is from the reversal of a reserve for the taxability of the alternative energy tax credits acquired in the acquisition of Boise.

Generally accepted accounting principles required us to value the inventory from the acquisition of Boise at fair (g) value, which increased the value of the inventory by \$21.5 million. This reduced the profit on the sale of the acquired inventory to that portion attributable to the selling effort. This step-up in value increased expenses by \$21.5 million as the acquired inventory was sold and charged to cost of sales.

(h) Includes acquisition-related costs, primarily for professional fees related to transaction-advisory services and expenses related to financing the acquisition of Boise.

(i) Includes \$10.9 million of non-cash pension curtailment charges related to pension plan changes in which certain hourly corrugated and containerboard mill employees will transition from a defined benefit pension plan to a defined contribution 401k plan.

The following table reconciles net income (loss) to EBITDA and EBITDA excluding special items for the periods indicated (dollars in millions):

| | Year Ended December 31 | | | | | |
|---|------------------------|-----------|---------|---------|---------|---|
| | 2015 | 2014 | 2013 | 2012 | 2011 | |
| Net income | \$436.8 | \$392.6 | \$441.3 | \$160.2 | \$158.8 | |
| Interest expense, net | 85.5 | 88.4 | 58.3 | 62.9 | 29.2 | |
| Provision (benefit) for income taxes | 227.7 | 221.7 | (17.7 |) 214.5 | 86.0 | |
| Depreciation, amortization, and depletion | 356.5 | 381.0 | 201.8 | 170.8 | 163.6 | |
| EBITDA (a) | \$1,106.5 | \$1,083.7 | \$683.7 | \$608.4 | \$437.6 | |
| Special items: | | | | | | |
| DeRidder restructuring | \$(7.0 |) \$23.9 | \$— | \$— | \$— | |
| Integration-related and other costs | 13.4 | 18.4 | 17.4 | — | — | |
| Sale of St. Helens paper mill site | (6.7 |) — | — | — | — | |
| Class action lawsuit settlement | — | 17.6 | — | — | — | |
| Acquisition inventory step-up | — | — | 21.5 | — | — | |
| Acquisition-related costs | — | — | 17.2 | — | — | |
| Pension curtailment charges | — | — | 10.9 | — | — | |
| Plant closure charges | — | — | — | 2.0 | 7.4 | |
| Alternative energy tax credits | — | — | — | (95.5 |) — | |
| Medical benefits reserve adjustment | — | — | — | — | (1.6 |) |
| EBITDA excluding special items (a) | \$1,106.2 | \$1,143.6 | \$750.7 | \$514.9 | \$443.4 | |

EBITDA and EBITDA, excluding special items, are non-GAAP financial measures. We present these measures because they provide a means to evaluate the performance of our segments and our company on an ongoing basis using the same measures that are used by our management and because these measures are frequently used by investors and other interested parties in the evaluation of companies and the performance of their segments. For (a) each non-GAAP financial measure, we provide a reconciliation to the most directly comparable financial measure presented in accordance with GAAP. These measures may differ from similarly captioned measures of other companies. Any analysis of non-GAAP financial measures should be done in conjunction with results presented in accordance with GAAP. The non-GAAP measures are not intended to be substitutes for GAAP financial measures and should not be used as such.

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The following table reconciles segment income (loss) to EBITDA and EBITDA excluding special items (dollars in millions):

| | Year Ended December 31 | | |
|---|------------------------|-----------|-----------|
| | 2015 | 2014 | 2013 |
| Packaging | | | |
| Segment income | \$714.9 | \$663.2 | \$554.2 |
| Depreciation, amortization, and depletion | 297.3 | 323.0 | 190.2 |
| EBITDA | 1,012.2 | 986.2 | 744.4 |
| DeRidder restructuring | (7.0 |) 23.9 | — |
| Integration-related and other costs | 4.1 | 4.9 | 1.4 |
| Acquisition inventory step-up | — | — | 18.0 |
| Pension curtailment charges | — | — | 10.9 |
| EBITDA excluding special items | \$1,009.3 | \$1,015.0 | \$774.7 |
| Paper | | | |
| Segment income | \$112.5 | \$135.4 | \$13.5 |
| Depreciation, amortization, and depletion | 54.9 | 50.6 | 9.1 |
| EBITDA | 167.4 | 186.0 | 22.6 |
| Sale of St. Helens paper mill site | (6.7 |) — | — |
| Integration-related and other costs | — | — | (1.9 |
| Acquisition inventory step-up | — | — | 3.5 |
| EBITDA excluding special items | \$160.7 | \$186.0 | \$24.2 |
| Corporate and Other | | | |
| Segment income (loss) | \$(77.4 |) \$(95.9 |) \$(85.8 |
| Depreciation, amortization, and depletion | 4.3 | 7.4 | 2.5 |
| EBITDA | (73.1 |) (88.5 |) (83.3 |
| Integration-related and other costs | 9.3 | 13.5 | 17.9 |
| Class action lawsuit settlement | — | 17.6 | — |
| Acquisition-related costs | — | — | 17.2 |
| EBITDA excluding special items | \$(63.8 |) \$(57.4 |) \$(48.2 |
| EBITDA | \$1,106.5 | \$1,083.7 | \$683.7 |
| EBITDA excluding special items | \$1,106.2 | \$1,143.6 | \$750.7 |

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

PCA is exposed to the impact of interest rate changes and changes in the market value of its financial instruments. PCA periodically enters into derivatives in order to minimize these risks, but not for trading purposes. For a discussion of derivatives and hedging activities, see Note 14, Derivative Instruments and Hedging Activities, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of this Form 10-K.

The interest rates on approximately 70% of PCA's debt are fixed. A one percent increase in interest rates related to variable rate debt would have resulted in an increase in interest expense and a corresponding decrease in income before taxes of \$6.6 million annually.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders

Packaging Corporation of America:

We have audited the accompanying consolidated balance sheets of Packaging Corporation of America and subsidiaries as of December 31, 2015 and 2014, and the related consolidated statements of income and comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the two year period ended December 31, 2015. In connection with our audits of the consolidated financial statements, we also have audited financial statement Schedule II - Valuation and Qualifying accounts. These consolidated financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and financial statement schedule based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Packaging Corporation of America and subsidiaries as of December 31, 2015 and 2014, and the results of their operations and their cash flows for each of the years in the two year period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the related financial statement schedule, when considered in relation to the basic consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Packaging Corporation of America's internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO), and our report dated February 26, 2016 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

/s/ KPMG LLP

Boise, Idaho

February 26, 2016

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The Board of Directors and Stockholders

Packaging Corporation of America:

We have audited Packaging Corporation of America's internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Packaging Corporation of America's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying management's report on internal control over financial reporting included in Item 9A. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Packaging Corporation of America maintained, in all material respects, effective internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Packaging Corporation of America and subsidiaries as of December 31, 2015 and 2014, and the related consolidated statements of income and comprehensive income, changes in stockholders' equity, and cash flows for each of the years in the two-year period ended December 31, 2015, and our report dated February 26, 2016 expressed an unqualified opinion on those consolidated financial statements.

/s/ KPMG LLP

Boise, Idaho

February 26, 2016

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Packaging Corporation of America
Board of Directors and Stockholders

We have audited the accompanying consolidated statements of income and comprehensive income, changes in stockholders' equity, and cash flows of Packaging Corporation of America (the "Company") for the year ended December 31, 2013. Our audit also included the information relating to the year ended December 31, 2013 in the financial statement schedule listed in the index at Item 15(a). These financial statements and schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and schedule based on our audits. We did not audit the consolidated financial statements of Boise Inc., a wholly-owned subsidiary, which statements reflect total revenues and net income constituting 12% and 14%, respectively in 2013 of the related consolidated totals. Those statements were audited by other auditors whose report has been furnished to us, and our opinion, insofar as it relates to the amounts included for Boise Inc., is based solely on the report of the other auditors.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit and the report of other auditors provide a reasonable basis for our opinion. In our opinion, based on our audit and the report of other auditors, the financial statements referred to above present fairly, in all material respects, the consolidated results of operations and cash flows of Packaging Corporation of America for the year ended December 31, 2013 in conformity with U.S. generally accepted accounting principles. Also, in our opinion, the related financial statement schedule, when considered in relation to the basic financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Ernst & Young LLP

Chicago, Illinois
February 28, 2014

Packaging Corporation of America
 Consolidated Statements of Income and Comprehensive Income
 (dollars in millions, except per-share data)

| | Year Ended December 31 | | |
|--|------------------------|-----------|-----------|
| | 2015 | 2014 | 2013 |
| Statements of Income: | | | |
| Net sales | \$5,741.7 | \$5,852.6 | \$3,665.3 |
| Cost of sales | (4,533.7) | (4,623.1) | (2,797.8) |
| Gross profit | 1,208.0 | 1,229.5 | 867.5 |
| Selling, general, and administrative expenses | (451.3) | (469.5) | (326.6) |
| Other expense, net | (6.7) | (57.3) | (59.0) |
| Income from operations | 750.0 | 702.7 | 481.9 |
| Interest expense, net | (85.5) | (88.4) | (58.3) |
| Income before taxes | 664.5 | 614.3 | 423.6 |
| (Provision) benefit for income taxes | (227.7) | (221.7) | 17.7 |
| Net income | \$436.8 | \$392.6 | \$441.3 |
| Net income per common share | | | |
| Basic | \$4.47 | \$3.99 | \$4.57 |
| Diluted | \$4.47 | \$3.99 | \$4.52 |
| Dividends declared per common share | \$2.20 | \$1.60 | \$1.51 |
| Statements of Comprehensive Income: | | | |
| Net income | \$436.8 | \$392.6 | \$441.3 |
| Other comprehensive income (loss), net of tax: | | | |
| Foreign currency translation adjustment | 2.7 | (2.6) | (0.1) |
| Reclassification adjustments to cash flow hedges included in net income, net of tax of \$2.2 million, \$2.2 million, and \$2.2 million for 2015, 2014, and 2013, respectively | 3.5 | 3.5 | 3.5 |
| Amortization of pension and postretirement plans actuarial loss and prior service cost, net of tax of \$5.6 million, \$2.8 million, and \$8.5 million for 2015, 2014, and 2013, respectively | 8.8 | 4.2 | 13.4 |
| Changes in unfunded employee benefit obligations, net of tax of \$8.9 million, \$59.2 million, and \$20.4 million for 2015, 2014, and 2013, respectively | 14.0 | (94.0) | 32.2 |
| Other comprehensive income (loss) | 29.0 | (88.9) | 49.0 |
| Comprehensive income | \$465.8 | \$303.7 | \$490.3 |

See notes to consolidated financial statements.

Packaging Corporation of America
 Consolidated Balance Sheets
 (dollars and shares in millions, except per-share data)

| | December 31 | |
|---|-------------|------------|
| | 2015 | 2014 |
| ASSETS | | |
| Current assets: | | |
| Cash and cash equivalents | \$ 184.2 | \$ 124.9 |
| Accounts receivable, net of allowance for doubtful accounts and customer deductions of \$10.3 million and \$11.3 million as of December 31, 2015 and 2014, respectively | 636.5 | 646.1 |
| Inventories | 676.8 | 664.9 |
| Prepaid expenses and other current assets | 28.8 | 61.9 |
| Federal and state income taxes receivable | 28.2 | 5.1 |
| Total current assets | 1,554.5 | 1,502.9 |
| Property, plant, and equipment, net | 2,832.1 | 2,857.6 |
| Goodwill | 544.0 | 546.8 |
| Intangible assets, net | 270.8 | 293.5 |
| Other long-term assets | 83.2 | 72.0 |
| Total assets | \$5,284.6 | \$5,272.8 |
| LIABILITIES AND STOCKHOLDERS' EQUITY | | |
| Current liabilities: | | |
| Current maturities of long-term debt | \$ 6.5 | \$ 6.5 |
| Capital lease obligations | 1.2 | 1.1 |
| Accounts payable | 294.2 | 330.5 |
| Dividends payable | 53.4 | 39.4 |
| Accrued liabilities | 193.5 | 220.0 |
| Accrued interest | 13.1 | 13.5 |
| Total current liabilities | 561.9 | 611.0 |
| Long-term liabilities: | | |
| Long-term debt | 2,302.7 | 2,348.9 |
| Capital lease obligations | 21.6 | 22.8 |
| Deferred income taxes | 347.0 | 334.2 |
| Compensation and benefits | 358.6 | 361.7 |
| Other long-term liabilities | 59.5 | 72.8 |
| Total long-term liabilities | 3,089.4 | 3,140.4 |
| Commitments and contingent liabilities | | |
| Stockholders' equity: | | |
| Common stock, par value \$0.01 per share, 300.0 million shares authorized, 96.1 million and 98.4 million shares issued as of December 31, 2015 and 2014, respectively | 1.0 | 1.0 |
| Additional paid in capital | 439.9 | 432.1 |
| Retained earnings | 1,317.3 | 1,242.2 |
| Accumulated other comprehensive loss | (124.9 |) (153.9) |
| Total stockholders' equity | 1,633.3 | 1,521.4 |
| Total liabilities and stockholders' equity | \$5,284.6 | \$5,272.8 |

See notes to consolidated financial statements.

Packaging Corporation of America
Consolidated Statements of Cash Flows
(dollars in millions)

| | Year Ended December 31 | | |
|---|------------------------|-----------|-------------|
| | 2015 | 2014 | 2013 |
| Cash Flows from Operating Activities: | | | |
| Net income | \$436.8 | \$392.6 | \$441.3 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Depreciation, depletion, and amortization of intangibles and deferred financing costs | 364.3 | 390.8 | 217.9 |
| Share-based compensation expense | 18.2 | 15.6 | 14.8 |
| Deferred income tax provision (benefit) | 1.7 | 2.6 | (160.3) |
| Alternative energy tax credits | — | — | 76.3 |
| Loss on disposals of property, plant, and equipment | 0.5 | 7.0 | 9.4 |
| Pension and post retirement benefits expense, net of contributions | 31.2 | 25.4 | 18.5 |
| Other, net | (20.3) |) (0.9) |) (1.0) |
| Changes in operating assets and liabilities, net of acquisitions: | | | |
| Decrease (increase) in assets — | | | |
| Accounts receivable | 9.5 | (8.5) |) (31.2) |
| Inventories | (11.9) |) (72.4) |) 25.0 |
| Prepaid expenses and other current assets | 4.1 | (5.1) |) (1.9) |
| Increase (decrease) in liabilities — | | | |
| Accounts payable | (37.3) |) (36.0) |) 54.2 |
| Accrued liabilities | (15.5) |) 7.0 | (22.1) |
| Federal and state income tax payable/receivable | (18.7) |) 18.0 | (32.7) |
| Net cash provided by operating activities | 762.6 | 736.1 | 608.2 |
| Cash Flows from Investing Activities: | | | |
| Additions to property, plant, and equipment | (314.5) |) (420.2) |) (234.4) |
| Proceeds from sale of a business | 23.0 | — | — |
| Acquisitions of businesses, net of cash acquired | — | (20.5) |) (1,174.5) |
| Additions to other long term assets | (12.3) |) (12.5) |) (3.1) |
| Other | 5.7 | 2.1 | 0.6 |
| Net cash used for investing activities | (298.1) |) (451.1) |) (1,411.4) |
| Cash Flows from Financing Activities: | | | |
| Proceeds from issuance of debt | — | 398.9 | 1,998.1 |
| Repayments of debt | (47.6) |) (592.5) |) (1,074.8) |
| Financing costs paid | — | (3.4) |) (19.4) |
| Common stock dividends paid | (200.8) |) (157.4) |) (109.1) |
| Repurchases of common stock | (154.7) |) — | (7.8) |
| Proceeds from exercise of stock options | — | 3.7 | 2.9 |
| Excess tax benefits from stock-based awards | 6.0 | 12.2 | 7.8 |
| Shares withheld to cover employee restricted stock taxes | (8.7) |) (13.2) |) (11.0) |
| Other | 0.6 | 0.6 | 0.1 |
| Net cash (used for) provided by financing activities | (405.2) |) (351.1) |) 786.8 |
| Net increase (decrease) in cash and cash equivalents | 59.3 | (66.1) |) (16.4) |
| Cash and cash equivalents, beginning of year | 124.9 | 191.0 | 207.4 |
| Cash and cash equivalents, end of year | \$184.2 | \$124.9 | \$191.0 |

See notes to consolidated financial statements.

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Packaging Corporation of America
Consolidated Statements of Changes in Stockholders' Equity
(dollars in million and shares in thousands)

| | Common Stock | | Treasury Stock | | Additional Paid in Capital | Retained Earnings | Accumulated Other Comprehensive Loss | Total Stockholders' Equity |
|---|--------------|--------|----------------|--------|----------------------------------|----------------------|---|----------------------------------|
| | Shares | Amount | Shares | Amount | | | | |
| Balance at January 1, 2013 | 98,143 | \$1.0 | — | \$— | \$ 378.8 | \$742.5 | \$ (114.0) | \$ 1,008.3 |
| Common stock repurchases and retirements | (171) | — | — | — | (1.1) | (6.7) | — | (7.8) |
| Common stock withheld and retired to cover taxes on vested stock awards | (224) | — | — | — | (1.4) | (9.6) | — | (11.0) |
| Common stock dividends declared | — | — | — | — | — | (148.4) | — | (148.4) |
| Restricted stock grants and cancellations | 297 | — | — | — | 6.9 | — | — | 6.9 |
| Exercise of stock options | 127 | — | — | — | 3.7 | — | — | 3.7 |
| Share-based compensation expense | — | — | — | — | 14.8 | — | — | 14.8 |
| Comprehensive income | — | — | — | — | — | 441.3 | 49.0 | 490.3 |
| Balance at December 31, 2013 | 98,172 | \$1.0 | — | \$— | \$ 401.7 | \$1,019.1 | \$ (65.0) | \$ 1,356.8 |
| Common stock withheld and retired to cover taxes on vested stock awards | (183) | — | — | — | (1.2) | (12.0) | — | (13.2) |
| Common stock dividends declared | — | — | — | — | — | (157.5) | — | (157.5) |
| Restricted stock grants and cancellations | 228 | — | — | — | 9.7 | — | — | 9.7 |
| Exercise of stock options | 151 | — | — | — | 6.3 | — | — | 6.3 |
| Share-based compensation expense | — | — | — | — | 15.6 | — | — | 15.6 |
| Comprehensive income | — | — | — | — | — | 392.6 | (88.9) | 303.7 |
| Balance at December 31, 2014 | 98,368 | \$1.0 | — | \$— | \$ 432.1 | \$1,242.2 | \$ (153.9) | \$ 1,521.4 |
| Common stock repurchases and retirements | (2,326) | — | — | — | (15.6) | (139.1) | — | (154.7) |
| Common stock withheld and retired to cover taxes on vested stock awards | (131) | — | — | — | (0.8) | (7.9) | — | (8.7) |

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| | | | | | | | | |
|--|--------|-------|---|-----|---------|-----------|-------------|------------|
| Common stock dividends declared | — | — | — | — | — | (214.7) | — | (214.7) |
| Restricted stock/performance unit grants and cancellations | 218 | — | — | — | 6.0 | — | — | 6.0 |
| Share-based compensation expense | — | — | — | — | 18.2 | — | — | 18.2 |
| Comprehensive income | — | — | — | — | — | 436.8 | 29.0 | 465.8 |
| Balance at December 31, 2015 | 96,129 | \$1.0 | — | \$— | \$439.9 | \$1,317.3 | \$ (124.9) | \$ 1,633.3 |

See notes to consolidated financial statements.

Notes to Consolidated Financial Statements

1. Nature of Operations and Basis of Presentation

Packaging Corporation of America ("we," "us," "our," "PCA," or the "Company") was incorporated on January 25, 1999. In April 1999, PCA acquired the containerboard and corrugated packaging products business of Pactiv Corporation (Pactiv), formerly known as Tenneco Packaging, Inc., a wholly owned subsidiary of Tenneco Inc. On October 25, 2013, PCA acquired Boise Inc. (Boise). For more information, see Note 3, Acquisitions and Dispositions. After the acquisition of Boise, we became a large diverse manufacturer of both packaging and paper products. We are headquartered in Lake Forest, Illinois and we operate primarily in the United States with some converting and distribution operations in Canada. We have approximately 13,000 employees.

We report our businesses in three reportable segments: Packaging, Paper, and Corporate and Other. Our Packaging segment produces a wide variety of corrugated packaging products. The Paper segment manufactures and sells a range of papers, including communication-based papers, and pressure sensitive papers (collectively, white papers), and market pulp. Corporate and other includes support staff services and related assets and liabilities, transportation assets, and activity related to other ancillary support operations. For more information about our segments, see Note 18, Segment Information.

In these consolidated financial statements, certain amounts in prior periods' consolidated financial statements have been reclassified to conform with the current period presentation.

Effective December 31, 2015, the Company adopted Accounting Standards Update 2015-17, Balance Sheet Classification of Deferred Taxes. The guidance eliminates the requirement to classify deferred taxes between current and noncurrent and requires that all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. Related to the adoption of this guidance, we reclassified \$75.7 million from current assets to long term liabilities on our December 31, 2014 Consolidated Balance Sheet to conform with the current period presentation.

The consolidated financial statements include the accounts of PCA and its majority-owned subsidiaries after elimination of intercompany balances and transactions. Boise's results are included in our results subsequent to October 25, 2013, the date of acquisition.

2. Summary of Significant Accounting Policies

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions about future events. These estimates and the underlying assumptions affect the amounts of assets and liabilities reported, disclosures about contingent assets and liabilities, and reported amounts of revenues and expenses. These estimates and assumptions are based on management's best estimates and judgment. Management evaluates its estimates and assumptions on an ongoing basis using historical experience and other factors, including the current economic environment. We adjust such estimates and assumptions when facts and circumstances dictate. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates. Changes in these estimates will be reflected in the consolidated financial statements in future periods.

Revenue Recognition

We recognize revenue when the following criteria are met: persuasive evidence of an agreement exists, the customer takes title and assumes risk and rewards of ownership or services have been rendered, our price to the buyer is fixed or determinable, and collectability is reasonably assured. The timing of revenue recognition is dependent on transfer of title which is normally either on exit from our plants (i.e., shipping point) or on arrival at customer's location (i.e., destination point). Shipping and handling billings to a customer are included in net sales. Shipping and handling costs, such as freight to our customers' destinations, are included in cost of sales. We present taxes collected from customers and remitted to governmental authorities on a net basis in our Consolidated Statements of Income.

Planned Major Maintenance Costs

The Company accounts for its planned major maintenance activities in accordance with ASC 360, "Property, Plant, and Equipment," using the deferral method. All maintenance costs incurred during the year are expensed in the year in which the maintenance activity occurs.

Share-Based Compensation

We recognize compensation expense for awards granted under the PCA long-term equity incentive plans based on the fair value on the grant date. We recognize the cost of the equity awards expected to vest over the period the awards vest. See Note 13, Share-Based Compensation, for more information.

Research and Development

Research and development costs are expensed as incurred. The amount charged to expense was \$13.1 million, \$12.3 million, and \$11.5 million for the years ended December 31, 2015, 2014, and 2013, respectively.

Foreign Currency

Local currencies are the functional currencies for our operations outside the United States. Assets and liabilities are remeasured into U.S. dollars using the exchange rates as of the Consolidated Balance Sheet date. Revenue and expense items are remeasured into U.S. dollars using an average exchange rate prevailing during the period. Any resulting translation adjustments are recorded in the Consolidated Statements of Comprehensive Income. The foreign exchange gain (loss) resulting from remeasuring transactions into the functional currencies is reported in the Consolidated Statements of Income.

Cash and Cash Equivalents

Cash and cash equivalents include all cash balances and highly liquid investments with a stated maturity of three months or less. Cash equivalents are stated at cost, which approximates market. Cash and cash equivalents totaled \$184.2 million and \$124.9 million at December 31, 2015 and 2014, respectively, which included cash equivalents of \$140.9 million and \$79.9 million, respectively. At December 31, 2015 and 2014, we had \$3.1 million and \$10.4 million, respectively, of cash at our operations outside the United States.

Trade Accounts Receivable, Allowance for Doubtful Accounts, and Customer Deductions

Trade accounts receivable are stated at the amount we expect to collect. The collectability of our accounts receivable is based upon a combination of factors. In circumstances where a specific customer is unable to meet its financial obligations to PCA (e.g., bankruptcy filings, substantial downgrading of credit sources), a specific reserve for bad debts is recorded against amounts due to the Company to reduce the net recorded receivable to the amount the Company reasonably believes will be collected. For all other customers, reserves for bad debts are recognized based on historical collection experience. If collection experience deteriorates (i.e., higher than expected defaults or an unexpected material adverse change in a major customer's ability to meet its financial obligations to the Company), the estimate of the recoverability of amounts due could be reduced by a material amount. We periodically review our allowance for doubtful accounts and adjustments to the valuation allowance are recorded as income or expense. Trade accounts receivable balances that remain outstanding after we have used reasonable collection efforts are written off through a charge to the valuation allowance and a credit to accounts receivable. At December 31, 2015 and 2014, the allowance for doubtful accounts was \$3.9 million and \$4.9 million, respectively.

The customer deductions reserve represents the estimated amount required for customer returns, allowances, and earned discounts. Based on the Company's experience, customer returns, allowances, and earned discounts have averaged approximately 1% of gross selling price. Accordingly, PCA reserves 1% of its open customer accounts receivable balance for these items. The reserves for customer deductions of \$6.4 million for both December 31, 2015 and 2014, respectively, are also included as a reduction of the accounts receivable balance.

Derivative Instruments and Hedging Activities

The Company records its derivatives, if any, in accordance with ASC 815, "Derivatives and Hedging." The guidance requires the Company to recognize derivative instruments as either assets or liabilities on the balance sheet at fair value. The accounting for changes in the fair value of a derivative depends on the intended use and designation of the derivative

instrument. For a derivative designated as a fair value hedge, the gain or loss on the derivative is recognized in earnings in the period of change at fair value together with the offsetting gain or loss on the hedged item. For a derivative instrument designated as a cash flow hedge, the effective portion of the derivative's gain or loss is initially reported as a component of accumulated other comprehensive income (loss) (AOCI) and is subsequently recognized in earnings when the hedged exposure affects earnings. The ineffective portion of the gain or loss is recognized in earnings. We were not party to any derivative-based arrangements at December 31, 2015 and 2014.

Fair Value Measurements

PCA measures the fair value of its financial instruments in accordance with ASC 820, "Fair Value Measurements and Disclosures." The guidance defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. It is determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, ASC 820 establishes the following hierarchy that prioritizes the inputs to valuation methodologies used to measure fair value: Level 1 — Valuations based on quoted prices for identical assets and liabilities in active markets. Level 2 — Valuations based on observable inputs other than quoted prices included in Level 1, such as 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. Level 3 — Valuations based on unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

Financial instruments measured at fair value on a recurring basis include the fair value of our pension and postretirement benefit assets and liabilities. See Note 11, Employee Benefit Plans and Other Postretirement Benefits for more information. Other assets and liabilities measured and recognized at fair value on a nonrecurring basis include assets acquired and liabilities assumed in acquisitions and our asset retirement obligations. Given the nature of these assets and liabilities, evaluating their fair value from the perspective of a market participant is inherently complex. Assumptions and estimates about future values can be affected by a variety of internal and external factors. Changes in these factors may require us to revise our estimates and could require us to retroactively adjust provisional amounts that we recorded for the fair values of assets acquired and liabilities assumed in connection with business combinations. These adjustments could have a material effect on our financial condition and results of operations. See Note 3, Acquisitions and Dispositions, and Note 12, Asset Retirement Obligations, for more information.

Inventory Valuation

We value our raw materials, work in process, and finished goods inventories using lower of cost, as determined by the average cost method, or market. Supplies and materials are valued at the first-in, first-out (FIFO) or average cost methods.

The components of inventories were as follows (dollars in millions):

| | December 31 | |
|------------------------|-------------|---------|
| | 2015 | 2014 |
| Raw materials | \$260.6 | \$261.9 |
| Work in process | 14.2 | 11.3 |
| Finished goods | 189.7 | 216.3 |
| Supplies and materials | 212.3 | 175.4 |
| Inventories | \$676.8 | \$664.9 |

Property, Plant, and Equipment

Property, plant, and equipment are recorded at cost. Cost includes expenditures for major improvements and replacements and the amount of interest cost associated with significant capital additions. Repairs and maintenance costs are expensed as incurred. When property and equipment are retired, sold, or otherwise disposed of, the asset's carrying amount and related accumulated depreciation are removed from the accounts and any gain or loss is included in "Net income" in our Consolidated Statements of Income.

Property, plant, and equipment consisted of the following (dollars in millions):

| | December 31 | |
|---|-------------|------------|
| | 2015 | 2014 |
| Land and land improvements | \$ 146.4 | \$ 143.5 |
| Buildings | 640.9 | 654.6 |
| Machinery and equipment | 4,747.1 | 4,508.0 |
| Construction in progress | 119.1 | 154.8 |
| Other | 61.3 | 54.5 |
| Property, plant, and equipment, at cost | 5,714.8 | 5,515.4 |
| Less accumulated depreciation | (2,882.7 |) (2,657.8 |
| Property, plant, and equipment, net | \$2,832.1 | \$2,857.6 |

The amount of interest capitalized from construction in progress was \$2.0 million, \$2.8 million, and \$1.7 million for the years ended December 31, 2015, 2014, and 2013, respectively.

Depreciation is computed on the straight-line basis over the estimated useful lives of the related assets. Assets under capital leases are depreciated on the straight-line method over the term of the lease or the useful life, if shorter. The following lives are used for the various categories of assets:

| | |
|---------------------------------|--|
| Buildings and land improvements | 5 to 40 years |
| Machinery and equipment | 3 to 25 years |
| Trucks and automobiles | 3 to 10 years |
| Furniture and fixtures | 3 to 20 years |
| Computers and hardware | 3 to 10 years |
| Leasehold improvements | Period of the lease or useful life, if shorter |

The amount of depreciation expense was \$323.0 million, \$348.2 million, and \$191.2 million for the years ended December 31, 2015, 2014, and 2013, respectively. During the years ended December 31, 2015 and 2014, we recognized \$9.0 million and \$42.0 million, respectively, of incremental depreciation expense primarily related to shortening the useful lives of assets related to the restructuring at the DeRidder, Louisiana, mill.

Pursuant to the terms of an industrial revenue bond, title to certain property, plant, and equipment was transferred to a municipal development authority in 2009 in order to receive a property tax abatement. The title of these assets will revert back to PCA upon retirement or cancellation of the bond. The assets are included in the consolidated balance sheet under the caption "Property, plant, and equipment, net" as all risks and rewards remain with the Company.

Leases

We assess lease classification as either capital or operating at lease inception or upon modification. We lease some of our locations, as well as other property and equipment, under operating leases. For purposes of determining straight-line rent expense, the lease term is calculated from the date of possession of the facility, including any periods of free rent and any renewal option periods that are reasonably assured of being exercised.

Long-Lived Asset Impairment

Long-lived assets other than goodwill and other intangibles are reviewed for impairment in accordance with provisions of ASC 360, "Property, Plant and Equipment." In the event that facts and circumstances indicate that the carrying amount of any long-lived assets may be impaired, an evaluation of recoverability is performed. If an evaluation is required, the estimated future undiscounted cash flows associated with the asset (or group of assets) is

compared to the assets (or group of assets) carrying amount to determine if a write-down to fair value is required.

Goodwill and Intangible Assets

The Company has capitalized certain intangible assets, primarily goodwill, customer relationships, and trademarks and trade names, based on their estimated fair value at the date of acquisition. Amortization is provided for customer relationships on a straight-line basis over periods ranging from ten to 40 years, and trademarks and trade names over periods ranging from three to 20 years.

Goodwill, which amounted to \$544.0 million and \$546.8 million for the years ended December 31, 2015 and 2014, respectively, is not amortized but is subject to an annual impairment test in accordance with ASC 350, "Intangibles - Goodwill and Other." We test goodwill for impairment annually in the fourth quarter or sooner if events or changes in circumstances indicate that the carrying value of the asset may exceed fair value. Additionally, we evaluate the remaining useful lives of our finite-lived purchased intangible assets to determine whether any adjustments to the useful lives are necessary. The Company concluded that none of the goodwill or intangible assets were impaired in the 2015, 2014, and 2013 annual impairment tests. See Note 8, Goodwill and Intangible Assets for additional information.

Pension and Postretirement Benefits

Several estimates and assumptions are required to record pension costs and liabilities, including discount rate, return on assets, and longevity and service lives of employees. We review and update these assumptions annually unless a plan curtailment or other event occurs, requiring we update the estimates on an interim basis. While we believe the assumptions used to measure our pension and postretirement benefit obligations are reasonable, differences in actual experience or changes in assumptions may materially affect our pension and postretirement benefit obligations and future expense. See Note 11, Employee Benefit Plans and Other Postretirement Benefits, for additional information.

For postretirement health care plan accounting, the Company reviews external data and its own historical trends for health care costs to determine the health care cost trend rate assumption.

Environmental Matters

Environmental expenditures that extend the life of the related property or mitigate or prevent future environmental contamination are capitalized. Liabilities are recorded for environmental contingencies when such costs are probable and reasonably estimable. These liabilities are adjusted as further information develops or circumstances change. Environmental expenditures related to existing conditions resulting from past or current operations from which no current or future benefit is discernible are expensed as incurred.

Asset Retirement Obligations

The Company accounts for its retirement obligations related predominantly to landfill closure, wastewater treatment pond dredging, closed-site monitoring costs, and certain leasehold improvements under ASC 410, "Asset Retirement and Environmental Obligations," which requires recognition of legal obligations associated with the retirement of long-lived assets whether these assets are owned or leased. These legal obligations are recognized at fair value at the time that the obligations are incurred. When we record the liability, we capitalize the cost by increasing the carrying amount of the related long-lived asset which is amortized to expense over the useful life of the asset. See Note 12, Asset Retirement Obligations, for additional information.

Deferred Financing Costs

PCA has capitalized certain costs related to obtaining its financing. These costs are amortized to interest expense using the effective interest rate method over the terms of the related financing, which range from five to ten years.

Unamortized deferred financing costs of \$12.3 million and \$14.1 million at December 31, 2015 and 2014, respectively, were recorded in "Other long-term assets" on our Consolidated Balance Sheets.

Cutting Rights and Fiber Farms

We lease the cutting rights to approximately 83,000 acres of timberland and we lease 9,000 acres of land where we operate fiber farms as a source of future fiber supply. For our cutting rights and fiber farms, we capitalized the annual lease payments and reforestation costs associated with these leases. Costs are recorded as depletion when the timber or fiber is harvested and used in operations or sold to customers. Capitalized long-term lease costs for our cutting rights and fiber farms,

primarily recorded in "Other long-term assets" on our Consolidated Balance Sheet, were \$40.2 million and \$38.0 million as of December 31, 2015 and 2014, respectively. The amount of depletion expense was \$7.0 million, \$7.3 million, and \$2.5 million for the years ended December 31, 2015, 2014, and 2013, respectively.

Deferred Software Costs

PCA capitalizes costs related to the purchase and development of software which is used in its business operations. The costs attributable to these software systems are amortized over their estimated useful lives based on various factors such as the effects of obsolescence, technology, and other economic factors. Net capitalized software costs recorded in "Other long-term assets" on our Consolidated Balance Sheets were \$6.9 million and \$6.8 million for the years ended December 31, 2015 and 2014, respectively. Software amortization expense was \$3.0 million, \$2.9 million, and \$1.1 million for the years ended December 31, 2015, 2014, and 2013, respectively.

Income Taxes

PCA utilizes the liability method of accounting for income taxes whereby it recognizes deferred tax assets and liabilities for the future tax consequences of temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements. Deferred tax assets will be reduced by a valuation allowance if, based upon management's estimates, it is more likely than not that a portion of the deferred tax assets will not be realized in a future period. The estimates utilized in the recognition of deferred tax assets are subject to revision in future periods based on new facts or circumstances. PCA's practice is to recognize interest and penalties related to unrecognized tax benefits in income tax expense.

Trade Agreements

PCA regularly trades containerboard with other manufacturers primarily to reduce shipping costs. These agreements are entered into with other producers on an annual basis, pursuant to which both parties agree to ship an identical number of tons of containerboard to each other within the agreement period. These agreements lower transportation costs by allowing each party's containerboard mills to ship containerboard to the other party's closer corrugated products plant. PCA tracks each shipment to ensure that the other party's shipments to PCA match PCA's shipments to the other party during the agreement period. Such transfers are possible because containerboard is a commodity product with no distinguishing product characteristics. These transactions are accounted for at carrying value, and revenue is not recorded as the transactions do not represent the culmination of an earnings process. The transactions are recorded into inventory accounts, and no sale or income is recorded until such inventory is converted to a finished product and sold to an end-use customer.

New and Recently Adopted Accounting Standards

In November 2015, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2015-17 (Topic 740): Balance Sheet Classification of Deferred Taxes. The new guidance conforms U.S. Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) and eliminates the requirement to classify deferred taxes between current and noncurrent. The ASU requires all deferred tax assets and liabilities, along with any related valuation allowance, be classified as noncurrent on the balance sheet. We early adopted this guidance as of December 31, 2015. Related to the adoption of this guidance, we reclassified \$75.7 million from current assets to long term liabilities on our December 31, 2014 Consolidated Balance Sheet to conform with the current period presentation.

In July 2015, the FASB issued ASU 2015-11 (Topic 330): Simplifying the Measurement of Inventory, as part of its simplification initiative. Under the ASU, inventory is measured at the "lower of cost and net realizable value," which eliminates the other two options that currently exist for "market," including replacement cost and net realizable value less an approximately normal profit margin. No other changes were made to the current guidance on inventory measurement. The ASU is effective January 1, 2017, and we do not expect the adoption of this update to have a material effect on our financial position or results of operations.

In May 2015, the FASB issued ASU 2015-07 (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent), which removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share practical expedient. Further, the guidance removes the requirement to make certain disclosures for all investments that are eligible to be measured at fair value using the net asset value per share practical expedient. This ASU is effective for annual and interim periods beginning after December 15, 2015, and requires the new guidance be applied retrospectively to all prior periods presented. We do not believe the adoption of this update will have a material effect on our financial position and results of operations.

In April 2015, the FASB issued ASU 2015-03 (Topic 835): Simplifying the Presentation of Debt Issuance Costs. This ASU conforms the presentation of debt issuance costs with that required for debt discounts under U.S. GAAP. Under the ASU, debt issuance costs are presented in the balance sheet as a direct deduction from the related debt liability rather than as an asset. The guidance is effective for annual and interim reporting periods beginning after December 15, 2015, and requires the new guidance be applied retrospectively to all prior periods presented. We do not believe the adoption of this update will have a material effect on our financial position and results of operations.

In February 2015, the FASB issued ASU 2015-02 (Topic 810): Amendments to the Consolidation Analysis. This ASU makes targeted amendments to the current consolidation guidance and affects both the variable interest entity and voting interest entity consolidation models. The guidance is effective for annual reporting periods beginning after December 15, 2015. We do not believe the adoption of this update will have a material effect on our financial position and results of operations.

In May 2014, the FASB issued ASU 2014-09 (Topic 606): Revenue from Contracts with Customers. This ASU amends the guidance for revenue recognition to replace numerous, industry-specific requirements and converges areas under this topic with those of the International Financial Reporting Standards. The ASU implements a five-step process for customer contract revenue recognition that focuses on transfer of control, as opposed to transfer of risk and rewards. The amendment also requires enhanced disclosures regarding the nature, amount, timing, and uncertainty of revenues and cash flows from contracts with customers. Entities can transition to the standard either retrospectively or as a cumulative-effect adjustment as of the date of adoption. In August 2015, the FASB issued ASU 2015-14: Revenue From Contracts with Customers (Topic 606): Deferral of the Effective Date. This ASU defers the effective date of the revenue standard, ASU 2014-09, by one year so that it is now effective for reporting periods beginning

after December 15, 2017. We are still assessing the impact of ASU 2014-09, but we do not expect it to have a material effect on our financial position or results of operations.

There were no other accounting standards recently issued that had or are expected to have a material impact on our financial position or results of operations.

3. Acquisitions and Dispositions

Sale of European and Mexican Operations

On April 1, 2015, we completed the sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico for approximately \$23.0 million. The sale included three locations in Europe and two locations in Mexico. Sales, net income, and total assets of these locations are not material to our consolidated financial position or results of operations in any period presented. The gain on the sale was insignificant.

Crockett Packaging Acquisition

On April 28, 2014, we acquired the assets of Crockett Packaging, a corrugated products manufacturer, for \$21.2 million, before \$0.7 million of working capital adjustments. The assets included a corrugated plant and a sheet plant in Southern California. Sales and total assets of the acquired company are not material to our overall sales and total assets. Operating results of the acquired assets subsequent to April 28, 2014, are included in our Packaging segment's operating results. In connection with the acquisition, we allocated the purchase price to the assets acquired and liabilities assumed based on estimates of the fair value at the date of the acquisition.

Boise Acquisition

On October 25, 2013, we acquired 100% of the outstanding stock and voting equity interests of Boise for \$2.1 billion including the assumption of debt. We paid \$12.55 per share to shareholders, or \$1.2 billion, net of \$121.7 million of cash acquired, and assumed the fair value of Boise's debt, of \$829.8 million. During the year ended December 31, 2014 we recorded approximately \$6.4 million of purchase price adjustments that increased goodwill. These adjustments related primarily to a true-up to the valuation of fixed assets, the associated impact to income tax liabilities, and residual goodwill. Boise's financial results are included in our Packaging, Paper, and Corporate and Other segments from the date of acquisition. For more information, see Note 18, Segment Information.

4. Earnings Per Share

The following table sets forth the computation of basic and diluted income per common share for the periods presented (dollars and shares in millions, except per share data).

| | Year Ended December 31 | | |
|--|------------------------|---------|---------|
| | 2015 | 2014 | 2013 |
| Numerator: | | | |
| Net income | \$436.8 | \$392.6 | \$441.3 |
| Less: distributed and undistributed earnings allocated to participating securities | (5.2 |) (5.7 |) — |
| Net income attributable to common shareholders | \$431.6 | \$386.9 | \$441.3 |
| Denominator: | | | |
| Weighted average basic common shares outstanding | 96.6 | 97.0 | 96.6 |
| Effect of dilutive securities | 0.1 | 0.1 | 0.9 |
| Diluted common shares outstanding | 96.7 | 97.1 | 97.5 |
| Basic income per common share | \$4.47 | \$3.99 | \$4.57 |
| Diluted income per common share | \$4.47 | \$3.99 | \$4.52 |

As of June 29, 2014, we had no remaining options to purchase shares. For the years ended 2014 and 2013, all outstanding options to purchase shares were included in the computation of diluted common shares outstanding.

5. Other Expense, Net

The components of other income (expense), net, were as follows (dollars in millions):

| | Year Ended December 31 | | |
|---|------------------------|----------|----------|
| | 2015 | 2014 | 2013 |
| Asset disposals and write-offs | \$(14.0) | \$(10.1) | \$(13.2) |
| Integration-related and other costs (a) | (12.9) | (20.0) | (17.4) |
| DeRidder restructuring (b) | 7.1 | (7.3) | — |
| Sale of St. Helens Paper Mill Site (c) | 6.7 | — | — |
| Refundable state tax credit (d) | 3.6 | — | — |
| Class action lawsuit settlement (e) | — | (17.6) | — |
| Acquisition-related costs (f) | — | — | (17.2) |
| Pension curtailment charges (g) | — | — | (10.9) |
| Other | 2.8 | (2.3) | (0.3) |
| Total | \$(6.7) | \$(57.3) | \$(59.0) |

(a) Includes Boise acquisition integration-related and other costs, which primarily relate to severance, retention, travel, and professional fees.

2015 and 2014 include amounts from restructuring activities at our mill in DeRidder, Louisiana including costs related to the conversion of the No. 3 newsprint machine to containerboard, our exit from the newsprint business, and other improvements. We completed the restructuring activities in first quarter 2015. In 2015, we recorded \$7.1 million of income from vendor settlements.

(c) In September 2015, we sold the remaining land, buildings, and equipment at our paper mill site in St. Helens, Oregon where we ceased paper production in December 2012. We recorded a \$6.7 million gain on the sale.

(d) Includes a \$3.6 million tax credit from the State of Louisiana related to our recent capital investment and the jobs retained at the DeRidder, Louisiana mill, which was recorded as a benefit.

(e) Includes \$17.6 million of costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit. See Note 19, Commitments, Guarantees, Indemnifications, and Legal Proceedings, for more information.

(f) Includes \$17.2 million of acquisition-related costs, primarily for professional fees related to transaction-advisory services and expenses related to financing the acquisition of Boise.

(g) Includes \$10.9 million of non-cash pension curtailment charges related to pension plan changes in which certain hourly corrugated plant and containerboard mill employees will transition from a defined benefit pension plan to a defined contribution (401k) plan.

6. Income Taxes

The following is an analysis of the components of the consolidated income tax provision (dollars in millions):

| | 2015 | 2014 | 2013 |
|--|---------|---------|---------|
| Current income tax provision (benefit) - | | | |
| U.S. Federal | \$205.1 | \$185.1 | \$129.6 |
| State and local | 20.5 | 33.1 | 12.7 |
| Foreign | 0.4 | 0.9 | 0.3 |
| Total current provision for taxes | 226.0 | 219.1 | 142.6 |
| Deferred - | | | |
| U.S. Federal | (3.8) | (5.0) | (160.5) |
| State and local | 5.6 | 7.6 | 0.3 |
| Foreign | (0.1) | — | (0.1) |
| Total deferred provision (benefit) for taxes | 1.7 | 2.6 | (160.3) |

| | | | | |
|-------------------------------------|---------|---------|----------|---|
| Total provision (benefit) for taxes | \$227.7 | \$221.7 | \$(17.7) |) |
|-------------------------------------|---------|---------|----------|---|

The effective tax rate varies from the U.S. Federal statutory tax rate principally due to the following (dollars in millions):

| | 2015 | 2014 | 2013 |
|--|---------|---------|----------|
| Provision computed at U.S. Federal statutory rate of 35% | \$232.6 | \$215.0 | \$148.3 |
| Alternative fuel mixture and cellulosic biofuel producer credits | — | — | (166.0) |
| State and local taxes, net of federal benefit | 20.0 | 20.5 | 13.6 |
| Domestic manufacturers deduction | (19.9) | (16.5) | (11.7) |
| Other | (5.0) | 2.7 | (1.9) |
| Total | \$227.7 | \$221.7 | \$(17.7) |

Tax benefits in 2013 included \$166.0 million for the release of ASC 740 uncertain tax positions related to the taxability of the alternative energy tax credits acquired in the acquisition of Boise and the completion of the IRS audit of PCA's 2008 and 2009 Federal income tax returns including the Filer City mill's cellulosic biofuel tax credits. For further discussion regarding these credits, see Note 7, Alternative Energy Tax Credits.

The following details the scheduled expiration dates of our tax effected net operating loss (NOL) and other tax carryforwards at December 31, 2015 (dollars in millions):

| | 2016 Through 2025 | 2026 Through 2035 | Indefinite | Total |
|--|----------------------|----------------------|------------|--------|
| U.S. federal and non-U.S. NOLs | \$— | \$70.9 | \$— | \$70.9 |
| State taxing jurisdiction NOLs | 1.6 | 0.7 | — | 2.3 |
| U.S. federal, non-U.S., and state tax credit carryforwards | — | 0.1 | — | 0.1 |
| U.S. federal capital loss carryforwards | 5.1 | — | — | 5.1 |
| Total | \$6.7 | \$71.7 | \$— | \$78.4 |

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts for income tax purposes. Deferred income tax assets and liabilities at December 31 are summarized as follows (dollars in millions):

| | December 31 | |
|---|-------------|------------|
| | 2015 | 2014 |
| Deferred tax assets: | | |
| Accrued liabilities | \$ 18.3 | \$ 19.0 |
| Employee benefits and compensation | 32.5 | 44.2 |
| Inventories | 3.9 | — |
| Net operating loss carryforwards | 73.2 | 85.2 |
| Stock options and restricted stock | 10.7 | 8.9 |
| Pension and postretirement benefits | 148.2 | 139.1 |
| Derivatives | 13.7 | 16.0 |
| Capital loss, general business, foreign, and AMT credit carryforwards | 5.2 | 1.8 |
| Gross deferred tax assets | \$305.7 | \$314.2 |
| Valuation allowance (a) | (5.1 |) (1.7 |
| Net deferred tax assets | \$300.6 | \$312.5 |
| Deferred tax liabilities: | | |
| Property, plant, and equipment | \$(545.8 |) \$(531.6 |
| Goodwill and intangible assets | (101.8 |) (107.7 |
| Inventories | — | (7.4 |
| Total deferred tax liabilities | \$(647.6 |) \$(646.7 |
| Net deferred tax liabilities (b) | \$(347.0 |) \$(334.2 |

Deferred tax assets are reduced by a valuation allowance when it is more likely than not that some portion of the deferred tax assets will not be realized. The 2015 valuation allowance relates to capital losses. In 2014, of the \$1.7 million valuation allowance, \$1.1 million relates to foreign net operating loss carryforwards and credits and \$0.6 million relates to capital losses. We do not expect to generate capital gains before the capital losses expire. If or when recognized, the tax benefits relating to the reversal of any of or all of the valuation allowance would be recognized as a benefit to income tax expense.

As of December 31, 2015, we did not recognize U.S. deferred income taxes on our cumulative total of undistributed foreign earnings for our non-U.S. subsidiaries. We indefinitely reinvest our earnings in operations outside the United States. It is not practicable to determine the amount of unrecognized deferred tax liability on these undistributed earnings because the actual tax liability, if any, is dependent on circumstances existing when the repatriation occurs.

Cash payments for federal, state, and foreign income taxes were \$238.3 million, \$189.5 million, and \$90.7 million for the years ended December 31, 2015, 2014, and 2013, respectively.

The following table summarizes the changes related to PCA's gross unrecognized tax benefits excluding interest and penalties (dollars in millions):

| | 2015 | 2014 | 2013 |
|---|--------|----------|------------|
| Balance as of January 1 | \$(4.4 |) \$(5.4 |) \$(111.3 |
| Increase related to acquisition of Boise Inc. (a) | — | — | (65.2 |
| Increases related to prior years' tax positions | (2.8 |) (1.0 |) (0.1 |
| Increases related to current year tax positions | (0.4 |) (0.3 |) (1.5 |
| Decreases related to prior years' tax positions (b) | — | 0.9 | 64.8 |
| Settlements with taxing authorities (c) | 0.7 | 0.5 | 106.2 |

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| | | | | |
|--|--------|----------|----------|---|
| Expiration of the statute of limitations | 1.1 | 0.9 | 1.7 | |
| Balance at December 31 | \$(5.8 |) \$(4.4 |) \$(5.4 |) |

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(a) In 2013, PCA acquired \$65.2 million of gross unrecognized tax benefits from Boise Inc. that related primarily to the taxability of the alternative energy tax credits.

The 2013 amount includes a \$64.3 million gross decrease related to the taxability of the alternative energy tax credits claimed in 2009 excise tax returns by Boise Inc. For further discussion regarding these credits, see Note 7, Alternative Energy Tax Credits.

(b) The 2013 amount includes a \$104.7 million gross decrease related to the conclusion of the Internal Revenue Service audit of PCA's alternative energy tax credits. For further discussion regarding these credits, see Note 7, Alternative Energy Tax Credits.

At December 31, 2015, PCA had recorded a \$5.8 million gross reserve for unrecognized tax benefits, excluding interest and penalties. Of the total, \$4.2 million (net of the federal benefit for state taxes) would impact the effective tax rate if recognized.

PCA recognizes interest accrued related to unrecognized tax benefits and penalties as income tax expense. At December 31, 2015 and 2014, we had an insignificant amount of interest and penalties recorded for unrecognized tax benefits included in the table above. PCA does not expect the unrecognized tax benefits to change significantly over the next 12 months.

PCA is subject to taxation in the United States and various state and foreign jurisdictions. A federal examination of the tax years 2010 - 2012 was concluded in February 2015. A federal examination of the 2013 tax year began in October 2015. The tax years 2014 - 2015 remain open to federal examination. The tax years 2011 - 2015 remain open to state examinations. Some foreign tax jurisdictions are open to examination for the 2008 tax year forward. Through the Boise acquisition, PCA recorded net operating losses and credit carryforwards from 2008 through 2011 and 2013 that are subject to examinations and adjustments for at least three years following the year in which utilized.

7. Alternative Energy Tax Credits

The Company generates black liquor as a by-product of its pulp manufacturing process, which entitled it to certain federal income tax credits. When black liquor is mixed with diesel, it is considered an alternative fuel that was eligible for a \$0.50 per gallon refundable alternative energy tax credit for gallons produced before December 31, 2009. Black liquor was also eligible for a \$1.01 per gallon taxable cellulosic biofuel producer credit for gallons of black liquor produced and used in 2009.

In 2013, we reversed \$166.0 million of a reserve for unrecognized tax benefits for alternative energy tax credits as a benefit to income taxes. Approximately \$103.9 million (\$102.0 million of tax, net of the federal benefit for state taxes, plus \$1.9 million of accrued interest) of the reversal is due to the completion of the IRS audit and receipt of a confirmation letter from the Joint Committee on Taxation that their review of the Filer City claimed credits was complete. This reserve was established in 2010 as an unrecognized tax benefit under ASC 740, "Income Taxes," because the IRS guidelines did not specifically address the unique and proprietary nature of the Filer City mill process for which we had claimed cellulosic biofuel credits. The remaining \$62.1 million (net of federal benefit for state taxes) of the reversal was acquired from Boise for the 2009 alternative energy tax credits that Boise had claimed through excise tax refunds. In November 2013, an IRS Chief Counsel Memorandum was published that provided guidance concerning the taxability of the alternative energy tax credits. Based on this new fact, the reserve acquired from Boise was also reversed as a benefit to income taxes.

8. Goodwill and Intangible Assets

Goodwill

Goodwill represents the excess of the cost of an acquired business over the fair value of the identifiable tangible and intangible assets acquired and liabilities assumed in a business combination. At December 31, 2015 and 2014, we had \$488.8 million and \$491.6 million, respectively, of goodwill recorded in our Packaging segment and \$55.2 million for both years in our Paper segment on our Consolidated Balance Sheets.

Changes in the carrying amount of our goodwill were as follows (dollars in millions):

| | Packaging | Paper | Goodwill |
|--|-----------|--------|----------|
| Balance at January 1, 2014 | \$472.9 | \$53.9 | \$526.8 |
| Acquisitions (a) | 12.2 | — | 12.2 |
| Adjustments related to purchase accounting (b) | 6.5 | 1.3 | 7.8 |
| Balance at December 31, 2014 | 491.6 | 55.2 | 546.8 |
| Sale of Hexacomb Europe and Mexico (c) | (2.8) |) — | (2.8) |
| Balance at December 31, 2015 | \$488.8 | \$55.2 | \$544.0 |

In April 2014, we acquired the assets of Crockett Packaging, a corrugated products manufacturer, for \$21.2 million, before \$0.7 million of working capital adjustments, and recorded \$12.2 million of goodwill in our Packaging segment.

(b) Adjustments relate primarily to the Boise acquisition, see Note 3, Acquisitions and Dispositions, for more information.

(c) During 2015, we sold the assets of Hexacomb Europe and Mexico, a corrugated products manufacturer, for \$23.0 million and reduced goodwill in our Packaging segment by \$2.8 million.

Intangible Assets

Intangible assets are comprised of customer relationships and trademarks and trade names.

The weighted average useful life, gross carrying amount, and accumulated amortization of our intangible assets were as follows (dollars in millions):

| | As of December 31, 2015 | | | As of December 31, 2014 | | |
|--|---|-----------------------------|-----------------------------|---|-----------------------------|-----------------------------|
| | Weighted Average Remaining Useful Life (in Years) | Gross Carrying Amount | Accumulated Amortization | Weighted Average Remaining Useful Life (in Years) | Gross Carrying Amount | Accumulated Amortization |
| Customer relationships | 13.3 | \$311.5 | \$57.3 | 14.3 | \$311.5 | \$36.9 |
| Trademarks and trade names | 12.5 | 21.8 | 5.2 | 13.4 | 21.8 | 3.0 |
| Other | 1.2 | 0.2 | 0.2 | 2.2 | 0.2 | 0.1 |
| Total intangible assets (excluding goodwill) | 13.3 | \$333.5 | \$62.7 | 14.2 | \$333.5 | \$40.0 |

Amortization expense was \$22.7 million, \$22.6 million, and \$6.4 million for the years ended December 31, 2015, 2014, and 2013, respectively. Estimated amortization expense of intangible assets over the next five years is expected to approximate \$22.5 million (2016), \$22.4 million (2017), \$22.2 million (2018), \$21.3 million (2019), and \$21.3 million (2020).

Impairment Testing

We test goodwill for impairment annually in the fourth quarter or sooner if events or changes in circumstances indicate that the carrying value of the asset may exceed fair value. Additionally, when we experience changes to our business or operating environment, we evaluate the remaining useful lives of our finite-lived purchased intangible assets to determine whether any adjustments to the useful lives are necessary. We completed our test in the fourth quarter and there was no indication of goodwill or intangible asset impairment.

9. Accrued Liabilities

The components of accrued liabilities were as follows (dollars in millions):

| | December 31, | |
|--|--------------|---------|
| | 2015 | 2014 |
| Compensation and benefits | \$106.4 | \$130.8 |
| Medical insurance and workers' compensation | 31.1 | 27.0 |
| Franchise, property, sales and use taxes | 16.0 | 17.5 |
| Customer volume discounts and rebates | 15.3 | 13.9 |
| Severance, retention, and relocation | 7.3 | 8.3 |
| Environmental liabilities and asset retirement obligations | 7.9 | 7.1 |
| Other | 9.5 | 15.4 |
| Total | \$193.5 | \$220.0 |

10. Debt

At December 31, 2015 and 2014, our long-term debt and interest rates on that debt were as follows (dollars in millions):

| | December 31, 2015 | | December 31, 2014 | | |
|--|-------------------|---------------|-------------------|---------------|---|
| | Amount | Interest Rate | Amount | Interest Rate | |
| Revolving Credit Facility, due October 2018 | \$— | — | % \$— | — | % |
| Five-Year Term Loan, due October 2018 | 25.0 | 1.80 | 65.0 | 1.54 | |
| Seven-Year Term Loan, due October 2020 | 637.0 | 2.05 | 643.5 | 1.79 | |
| 6.50% Senior Notes due March 2018 | 150.0 | 6.50 | 150.0 | 6.50 | |
| 3.90% Senior Notes, net of discounts of \$0.3 million as of both December 31, 2015 and 2014, respectively, due June 2022 | 399.7 | 3.90 | 399.7 | 3.90 | |
| 4.50% Senior Notes, net of discount of \$1.5 million and \$1.7 million as of December 31, 2015 and 2014, respectively, due November 2023 | 698.5 | 4.50 | 698.3 | 4.50 | |
| 3.65% Senior Notes, net of discount of \$1.0 million and \$1.1 million as of December 31, 2015 and 2014, due September 2024 | 399.0 | 3.65 | 398.9 | 3.65 | |
| Total | 2,309.2 | 3.67 | 2,355.4 | 3.56 | |
| Less current portion | 6.5 | 2.05 | 6.5 | 1.79 | |
| Total long-term debt | \$2,302.7 | 3.67 | % \$2,348.9 | 3.56 | % |

As of December 31, 2015, the details of our borrowings were as follows:

Senior Unsecured Credit Agreement. On October 18, 2013, we entered into a \$1.65 billion senior unsecured credit facility. Loans bear interest at LIBOR plus a margin that is determined based upon our credit ratings. The financing consisted of:

Revolving Credit Facility: A \$350.0 million unsecured revolving credit facility with variable interest (LIBOR plus a margin) due October 2018. During 2015, we did not borrow under the Revolving Credit Facility. At December 31, 2015, we had \$23.5 million of outstanding letters of credit that were considered outstanding on the revolving credit facility, resulting in \$326.5 million of unused borrowing capacity. The outstanding letters of credit were primarily for workers compensation. We are required to pay commitment fees on the unused portions of the credit facility.

Five-Year Term Loan: A \$650.0 million unsecured term loan with variable interest (LIBOR plus 1.375%), payable quarterly, due October 2018. The balance outstanding at December 31, 2015 was \$25.0 million.

Seven-Year Term Loan: A \$650.0 million unsecured term loan with variable interest (LIBOR plus 1.625%), payable quarterly, due October 2020. The balance outstanding at December 31, 2015 was \$637.0 million.

6.50% Senior Notes. On March 25, 2008, we issued \$150.0 million of 6.50% senior notes due March 15, 2018, through a registered public offering.

3.90% Senior Notes. On June 26, 2012, we issued \$400.0 million of 3.90% senior notes due June 15, 2022, through a registered public offering.

4.50% Senior Notes. On October 22, 2013, we issued \$700.0 million of 4.50% senior notes due November 1, 2023, through a registered public offering.

3.65% Senior Notes. On September 5, 2014, we issued \$400.0 million of 3.65% fixed-rate senior notes due September 15, 2024, through a registered public offering. In connection with the \$400.0 million debt issuance, we paid \$3.4 million of deferred financing costs, which we are amortizing to interest expense using the effective interest method over the term of the debt.

The instruments governing our indebtedness contain financial and other covenants that limit the ability of PCA and its subsidiaries to enter into sale and leaseback transactions, incur liens, incur indebtedness at the subsidiary level, enter into certain transactions with affiliates, merge or consolidate with any other person or sell or otherwise dispose of all or substantially all of our assets. Our credit facility also requires us to comply with certain financial covenants, including maintaining a minimum interest coverage ratio and a maximum leverage ratio. A failure to comply with these restrictions could lead to an

event of default, which could result in an acceleration of any outstanding indebtedness and/or prohibit us from drawing on the revolving credit facility. Such an acceleration may also constitute an event of default under the senior notes indenture. At December 31, 2015, we were in compliance with these covenants.

At December 31, 2015, we have \$1,647.2 million of fixed-rate senior notes and \$662.0 million of variable-rate term loans outstanding. At December 31, 2015, the fair value of our fixed-rate debt was estimated to be \$1,698.2 million. The difference between the book value and fair value is due to the difference between the period-end market interest rate and the stated rate of our fixed-rate debt. We estimated the fair value of our fixed-rate debt using quoted market prices (Level 2 inputs), discussed further in Note 2, Summary of Significant Accounting Policies. The fair value of our variable-rate term debt approximates the carrying amount as our cost of borrowing is variable and approximates current market rates.

Repayments, Interest, and Other

In 2015, we used cash on hand to repay \$40.0 million of debt outstanding under the Five-Year Term Loan and \$6.5 million under the Seven-Year Term Loan.

In 2014, we used the proceeds of our \$400.0 million of 3.65% fixed-rate senior notes offering and other cash on hand to repay \$591.5 million of debt outstanding under the Five-Year and Seven-Year Term Loans.

On December 23, 2013, we repaid in full the \$109.0 million that was outstanding under, and terminated, the receivables credit facility that was scheduled to terminate in October 2014.

In October 2013, we used debt and cash on hand to finance the acquisition of Boise, repay \$953.6 million of indebtedness, which included \$829.8 million of acquired Boise debt, and for general corporate purposes.

As of December 31, 2015, annual principal maturities for debt, excluding unamortized debt discount, are: \$6.5 million each year for 2016 and 2017; \$181.5 million for 2018; \$6.5 million for 2019; \$611.0 million for 2020; and \$1.5 billion for 2020 and thereafter.

At both December 31, 2015 and 2014, the reference interest rate (LIBOR) of our variable rate debt for both our Five-Year Term Loan, due October 2018, and Seven-Year Term Loan, due October 2020, was 0.42%. The applicable margin of our variable rate debt at both December 31, 2015 and 2014, for our Five-Year Term Loan, due October 2018, and Seven-Year Term Loan, due October 2020, was 1.375% and 1.625%, respectively.

Interest payments and redemption premium payments paid in connection with the Company's debt obligations for the years ended December 31, 2015, 2014, and 2013, were \$85.5 million, \$77.0 million, and \$105.7 million (including a \$54.8 million redemption premium in 2013 related to the acquired Boise Inc. debt), respectively.

Included in interest expense, net, are amortization of financing costs and amortization of treasury lock settlements. Amortization of treasury lock settlements was a \$5.7 million net loss in 2015, 2014, and 2013. Amortization of financing costs in 2015, 2014, and 2013 was \$1.8 million, \$3.3 million (including a \$1.5 million write-off of deferred financing costs related to the September 2014 debt refinancing), and \$10.3 million (including \$8.2 million for acquisition-related financing fees), respectively.

11. Employee Benefit Plans and Other Postretirement Benefits

PCA has defined pension benefit plans for both salaried and hourly employees. The plans covering salaried employees are closed to new entrants with only certain current active participants still accruing benefits. The plans covering

certain hourly employees are closed to new participants. We also have a Supplemental Executive Retirement Plan (SERP) and other nonqualified defined benefit pension plans that provide unfunded supplemental retirement benefits to certain of our executives and former executives. The SERP provides for incremental pension benefits in excess of those offered in our principal pension plans.

Other Postretirement Benefits

PCA provides postretirement medical benefits for certain salaried employees and postretirement medical and life insurance benefits for certain hourly employees. For salaried employees, the plan covers employees retiring from PCA on or after attaining age 58 who have had at least 10 years of full-time service with PCA after attaining age 48. For hourly employees,

the postretirement medical and life insurance coverage, where applicable, is available according to the eligibility provisions contained in the applicable collective bargaining agreement in effect at the employee's work location.

Obligations and Funded Status of Defined Benefit Pension and Other Postretirement Benefits Plans

The funded status of PCA's plans change from year to year based on the plan asset investment return, contributions, benefit payments, the discount rate used to measure the liability, and expected participant longevity. The following table, which includes only company-sponsored defined benefit and other postretirement benefit plans, reconciles the beginning and ending balances of the projected benefit obligation and the fair value of plan assets. We recognize the unfunded status of these plans on the Consolidated Balance Sheets, and we recognize changes in funded status in the year changes occur through the Consolidated Statements of Comprehensive Income (dollars in millions):

| | Pension Plans | | Postretirement Plans | |
|--|------------------------|------------|------------------------|----------|
| | Year Ended December 31 | | Year Ended December 31 | |
| | 2015 | 2014 | 2015 | 2014 |
| Change in Benefit Obligation | | | | |
| Benefit obligation at beginning of period | \$ 1,129.6 | \$ 929.8 | \$ 31.9 | \$ 26.3 |
| Service cost | 24.0 | 22.7 | 1.7 | 1.6 |
| Interest cost | 46.2 | 45.9 | 1.2 | 1.2 |
| Plan amendments | 3.0 | 2.6 | — | — |
| Actuarial (gain) loss (a) | (75.7 |) 159.2 | (11.4 |) 4.1 |
| Special termination benefits | — | 0.3 | — | — |
| Participant contributions | — | — | 1.2 | 1.2 |
| Benefits paid | (34.6 |) (30.9 |) (3.2 |) (2.5 |
| Benefit obligation at plan year end | \$ 1,092.5 | \$ 1,129.6 | \$ 21.4 | \$ 31.9 |
| Accumulated benefit obligation portion of above | \$ 1,048.5 | \$ 1,078.6 | | |
| Change in Fair Value of Plan Assets | | | | |
| Plan assets at fair value at beginning of period | \$ 805.9 | \$ 772.1 | \$ — | \$ — |
| Actual return on plan assets | (8.1 |) 63.4 | — | — |
| Company contributions | 1.2 | 1.3 | 2.0 | 1.3 |
| Participant contributions | — | — | 1.2 | 1.2 |
| Benefits paid | (34.6 |) (30.9 |) (3.2 |) (2.5 |
| Fair value of plan assets at plan year end | \$ 764.4 | \$ 805.9 | \$ — | \$ — |
| Underfunded status | \$ (328.1 |) (323.7 |) (21.4 |) (31.9 |
| Amounts Recognized on Consolidated Balance Sheets | | | | |
| Current liabilities | \$ (0.9 |) (1.1 |) (1.1 |) (1.4 |
| Noncurrent liabilities | (327.2 |) (322.6 |) (20.3 |) (30.5 |
| Accrued obligation recognized at December 31 | \$ (328.1 |) (323.7 |) (21.4 |) (31.9 |
| Amounts Recognized in Accumulated Other Comprehensive (Income) Loss (Pre-Tax) | | | | |
| Prior service cost | \$ 25.1 | \$ 27.6 | \$ 0.2 | \$ 0.3 |
| Actuarial loss | 149.4 | 172.6 | (6.0 |) 5.5 |
| Total | \$ 174.5 | \$ 200.2 | \$ (5.8 |) \$ 5.8 |

In 2015, the increase in the weighted average discount rate used to estimate our pension benefit obligations and (a) changes in mortality assumptions from the Society of Actuaries resulted in an actuarial gain. The actuarial loss in 2014 was due primarily to a decrease in the weighted average discount rate and updated mortality assumptions.

Components of Net Periodic Benefit Cost and Other Comprehensive (Income) Loss

The components of net periodic benefit cost and other comprehensive (income) loss (pretax) were as follows (dollars in millions):

| | Pension Plans | | | Postretirement Plans | | |
|--|------------------------|---------|-----------|------------------------|--------|----------|
| | Year Ended December 31 | | | Year Ended December 31 | | |
| | 2015 | 2014 | 2013 | 2015 | 2014 | 2013 |
| Service cost | \$24.0 | \$22.7 | \$24.5 | \$1.7 | \$1.6 | \$2.1 |
| Interest cost | 46.2 | 45.9 | 21.5 | 1.2 | 1.2 | 1.3 |
| Expected return on plan assets | (53.1) | (50.7) | (21.4) | — | — | — |
| Special termination benefits | — | 0.3 | — | — | — | — |
| Net amortization of unrecognized amounts | | | | | | |
| Prior service cost | 5.5 | 6.5 | 6.2 | 0.1 | (0.2) | (0.4) |
| Actuarial loss | 8.7 | 0.6 | 4.7 | 0.1 | 0.1 | 0.5 |
| Curtailment loss (a) | — | — | 10.9 | — | — | — |
| Net periodic benefit cost | \$31.3 | \$25.3 | \$46.4 | \$3.1 | \$2.7 | \$3.5 |
| Changes in plan assets and benefit obligations recognized in other comprehensive (income) loss | | | | | | |
| Actuarial net (gain) loss | \$(14.5) | \$146.4 | \$(58.7) | \$(11.4) | \$4.2 | \$(7.8) |
| Prior service cost | 3.0 | 2.6 | 13.8 | — | — | — |
| Amortization of prior service cost | (5.5) | (6.5) | (6.2) | (0.1) | 0.2 | 0.4 |
| Amortization of actuarial loss | (8.7) | (0.6) | (4.7) | (0.1) | (0.1) | (0.5) |
| Curtailment loss (a) | — | — | (10.9) | — | — | — |
| Total recognized in other comprehensive (income) loss (b) | (25.7) | 141.9 | (66.7) | (11.6) | 4.3 | (7.9) |
| Total recognized in net periodic benefit cost and other comprehensive (income) loss - pretax | \$5.6 | \$167.2 | \$(20.3) | \$(8.5) | \$7.0 | \$(4.4) |

In 2013, we recognized curtailment losses in "Other expense, net" in the Consolidated Statements of Income for recent USW negotiations, resulting in the bifurcation of the active USW population between those grandfathered in (a) the current formula (with continued accruals) and non-grandfathered in the current formula (frozen benefits at the contract date).

Accumulated losses in excess of 10% of the greater of the projected benefit obligation or the market-related value of assets will be recognized on a straight-line basis over the average remaining service period of active employees, (b) which is between seven to ten years, to the extent that losses are not offset by gains in subsequent years. The estimated net loss and prior service cost that will be amortized from "Accumulated other comprehensive loss" into pension expense in 2016 is \$10.5 million.

The accumulated benefit obligations for the plans with obligations in excess of plan assets, is \$1.05 billion.

Assumptions

The following table presents the assumptions used in the measurement of our benefits obligations:

| | Pension Plans | | | Postretirement Plans | | |
|--|---------------|-------|-------|----------------------|-------|-------|
| | December 31 | | | December 31 | | |
| | 2015 | 2014 | 2013 | 2015 | 2014 | 2013 |
| Weighted-Average Assumptions Used to Determine Benefit Obligations at December 31 | | | | | | |
| Discount rate | 4.51% | 4.14% | 5.00% | 4.35% | 3.95% | 4.85% |
| Rate of compensation increase | 4.00% | 4.00% | 4.00% | N/A | N/A | N/A |
| Weighted-Average Assumptions Used to Determine Net Periodic Benefit Cost for the Years Ended December 31 | | | | | | |
| Discount rate | 4.14% | 5.00% | 4.57% | 3.95% | 4.85% | 4.00% |
| Expected return on plan assets | 6.73% | 6.69% | 6.53% | N/A | N/A | N/A |
| Rate of compensation increase | 4.00% | 4.00% | 4.00% | N/A | N/A | N/A |

Discount Rate Assumption. The discount rate reflects the current rate at which the pension obligations could be settled on the measurement date: December 31. The discount rate assumption used to calculate the present value of pension and postretirement benefit obligations reflects the rates available on high-quality, fixed-income debt instruments on December 31. In all periods, the bonds included in the models reflect anticipated investments that would be made to match the expected monthly benefit payments over time. The plans' projected cash flows were duration-matched to these models to develop an appropriate discount rate.

Beginning in 2016, we refined the method used to determine the service and interest cost components of our net periodic benefit cost. Previously, the cost was determined using a single weighted-average discount rate derived from the yield curve. Under the refined method, known as the spot rate approach, we will use individual spot rates along the yield curve that correspond with the timing of each benefit payment. We believe this change provides a more precise measurement of service and interest costs by improving the correlation between projected cash outflows and corresponding spot rates on the yield curve. Compared to the previous method, the spot rate approach will decrease the service and interest components of our benefit costs about \$8 million in 2016. There is no impact on the total benefit obligation. We will account for this change prospectively as a change in accounting estimate.

Asset Return Assumption. The expected return on plan assets reflects the expected long-term rates of return for the categories of investments currently held in the plans as well as anticipated returns for additional contributions made in the future. The expected long-term rate of return is adjusted when there are fundamental changes in expected returns on the plan investments. The weighted-average expected return on plan assets we will use in our calculation of 2016 net periodic pension benefit cost is 6.57%.

Rate of Compensation Increase. The rate of compensation increase is determined by PCA based upon annual reviews. The compensation increase assumption is not applicable for all plans as many of our pension plans are frozen and not accruing benefits.

Health Care Cost Trend Rate Assumptions. PCA assumed health care cost trend rates for its postretirement benefits plans were as follows:

| | 2015 | 2014 | 2013 |
|---|-------|-------|-------|
| Health care cost trend rate assumed for next year | 7.60% | 7.75% | 7.75% |
| Rate to which the cost trend rate is assumed to decline (the ultimate trend rate) | 4.50% | 5.00% | 5.00% |

| | | | |
|--|------|------|------|
| Year that the rate reaches the ultimate trend rate | 2024 | 2023 | 2020 |
|--|------|------|------|

Postretirement Health Care Plan Assumptions. For postretirement health care plan accounting, PCA reviews external data and its own historical trends for health care costs to determine the health care cost trend rate assumption.

A one-percentage point change in assumed health care cost trend rates would have the following effects on the 2015

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postretirement benefit obligation and the 2015 net post retirement benefit cost (dollars in millions):

| | 1-Percentage Point Increase | 1-Percentage Point Decrease |
|---|--------------------------------|--------------------------------|
| Effect on postretirement benefit obligation | \$0.8 | \$(0.7) |
| Effect on net postretirement benefit cost | — | (0.1) |

Investment Policies and Strategies

PCA has retained the services of professional advisors to oversee pension investments and provide recommendations regarding investment strategy. PCA's overall strategy and related apportionments between equity and debt securities may change from time to time based on market conditions, external economic factors, and the funded status of the plans. The general investment objective for all of our plan assets is to optimize growth of the pension plan trust assets, while minimizing the risk of significant losses to enable the plans to satisfy their benefit payment obligations over time. The objectives take into account the long-term nature of the benefit obligations, the liquidity needs of the plans, and the expected risk/return trade-offs of the asset classes in which the plans may choose to invest. Assets of our pension plans were invested in the following classes of securities at December 31, 2015 and 2014:

| | Percentage of Fair Value | | |
|---------------------------------|-----------------------------|------|---|
| | 2015 | 2014 | |
| Fixed income securities | 55 | % 54 | % |
| International equity securities | 22 | 23 | |
| Domestic equity securities | 20 | 20 | |
| Real estate securities | 1 | 1 | |
| Other | 2 | 2 | |

At December 31, 2015, the targeted investment allocations differed between the acquired Boise plans and PCA's historical plans based on funded status. At December 31, 2015, PCA's historical plans, which comprised \$275.2 million of the fair value of plan assets, targeted 39% invested in equities, 58% invested in bonds, and 3% in other, whereas the Boise plans, which comprised \$489.2 million of the total fair value of plan assets, targeted 45% in equities and 55% in bonds. Our retirement committee reviews the investment allocations for reasonableness at a minimum, semi-annually.

Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility risk, all of which are subject to change. Due to the level of risk associated with some investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term, and such changes could materially affect the reported amounts.

Fair Value Measurements of Plan Assets

The following tables set forth, by level within the fair value hierarchy, discussed in Note 2, Summary of Significant Accounting Policies, the pension plan assets, by major asset category, at fair value at December 31, 2015 and 2014 (dollars in millions):

| Asset Category | Fair Value Measurements at December 31, 2015 | | | Total |
|------------------------------------|--|---|---|---------|
| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Observable Inputs (Level 2) | Significant Other Unobservable Inputs (Level 3) | |
| Short-term investments (a) | \$— | \$4.1 | \$— | \$4.1 |
| Mutual funds (b): | | | | |
| Domestic equities | 47.1 | — | — | 47.1 |
| International equities | 50.7 | — | — | 50.7 |
| Real estate | 8.5 | — | — | 8.5 |
| Fixed income | 156.5 | — | — | 156.5 |
| Common/collective trust funds (a): | | | | |
| Domestic equities | — | 104.4 | — | 104.4 |
| International equities | — | 121.6 | — | 121.6 |
| Fixed income | — | 263.0 | — | 263.0 |
| Private equity securities (c) | — | — | 6.4 | 6.4 |
| Total securities at fair value | \$262.8 | \$493.1 | \$6.4 | \$762.3 |
| Receivables and accrued expenses | | | | 2.1 |
| Total fair value of plan assets | | | | \$764.4 |

| Asset Category | Fair Value Measurements at December 31, 2014 | | | Total |
|------------------------------------|--|---|---|---------|
| | Quoted Prices in Active Markets for Identical Assets (Level 1) | Significant Observable Inputs (Level 2) | Significant Other Unobservable Inputs (Level 3) | |
| Short-term investments (a) | \$— | \$1.8 | \$— | \$1.8 |
| Mutual funds (b): | | | | |
| Domestic equities | 38.2 | — | — | 38.2 |
| International equities | 49.9 | — | — | 49.9 |
| Real estate | 8.9 | — | — | 8.9 |
| Fixed income | 178.2 | — | — | 178.2 |
| Common/collective trust funds (a): | | | | |
| Domestic equities | — | 122.3 | — | 122.3 |
| International equities | — | 137.8 | — | 137.8 |
| Fixed income | — | 259.3 | — | 259.3 |
| Private equity securities (c) | — | — | 8.1 | 8.1 |
| Total securities at fair value | \$275.2 | \$521.2 | \$8.1 | \$804.5 |
| Receivables and accrued expenses | | | | 1.4 |
| Total fair value of plan assets | | | | \$805.9 |

(a) Investments in common/collective trust funds valued using net asset values (NAV) provided by the administrator of the funds. We use NAV as a practical expedient to fair value. The NAV is based on the value of the underlying assets owned by the fund, minus its liabilities, and then divided by the number of units outstanding. While the underlying assets are actively traded on an exchange, the funds are not. There are currently no redemption

restrictions on these investments. There are certain funds with one-day redeemable notice.

- (b) Investments in mutual funds valued at quoted market values on the last business day of the fiscal year.

Investments in this category are invested in the Pantheon Global Secondary Fund IV, LP. The fund specializes in investments in the private equity secondary market and occasionally directly in private companies to maximize capital growth. Fund investments are carried at fair value as determined quarterly using the market approach to estimate the fair value of private investments. The market approach utilizes prices and other relevant information generated by market transactions, type of security, size of the position, degree of liquidity, restrictions on the disposition, latest round of financing data, current financial position, and operating results, among other factors. In circumstances where fair values are not provided with respect to any of the company's fund investments, the

- (c) investment advisor will seek to determine the fair value of such investments based on information provided by the general partners or managers of such funds or from other sources. Audited financial statements are provided by fund management annually. Notwithstanding the above, the variety of valuation bases adopted and quality of management data of the ultimate underlying investee companies means that there are inherent difficulties in determining the value of the investments. Amounts realized on the sale of these investments may differ from the calculated values. Boise had originally committed to a \$15.0 million investment, with \$5.0 million of the commitment unfunded at December 31, 2015.

The following table sets forth a summary of changes in the fair value of the pension plans' Level 3 assets for the year ended December 31, 2015 (dollars in millions):

| | |
|----------------------------|--------|
| | 2015 |
| Balance, beginning of year | \$8.1 |
| Sales | (1.8) |
| Unrealized gain | 0.1 |
| Balance, end of year | \$6.4 |

Funding and Cash Flows

PCA makes pension plan contributions that are sufficient to fund its actuarially determined costs, generally equal to the minimum amounts required by the Employee Retirement Income Security Act (ERISA). From time to time, PCA may make discretionary contributions based on the funded status of the plans, tax deductibility, income from operations, and other factors. In 2015, we did not make any contributions to our qualified pension plans. We made contributions of \$0.4 million and \$30.0 million to our qualified pension plans in 2014 and 2013, respectively. We expect to contribute at least the estimated required minimum contributions to our qualified pension plans of approximately \$27 million in 2016.

The following are estimated benefit payments to be paid to current plan participants by year (dollars in millions). Qualified pension benefit payments are paid from plan assets, while nonqualified pension benefit payments are paid by the Company.

| | Pension Plans | Postretirement Plans |
|-------------|---------------|----------------------|
| 2016 | \$37.8 | \$1.1 |
| 2017 | 40.9 | 1.1 |
| 2018 | 44.8 | 1.3 |
| 2019 | 48.6 | 1.3 |
| 2020 | 52.4 | 1.5 |
| 2021 - 2025 | 312.7 | 7.9 |

Defined Contribution Plans

Some of our employees participate in contributory defined contribution savings plans, available to most of our salaried and hourly employees. The defined contribution plans permit participants to make contributions by salary reduction pursuant to Section 401(k) of the Code. PCA made employer-matching contributions of \$37.9 million, \$28.3 million, and \$15.0 million in 2015, 2014, and 2013, respectively. Company matching contributions to certain full-time salaried employees were made in company stock, through our Employee Stock Ownership Plan (ESOP). All other matching contributions were in cash. Beginning in 2016, all company matching contributions to all employees will be made in cash. We expense employer matching contributions and charge dividends on shares held by the ESOP to retained earnings. Shares of company stock held by the ESOP are included in basic shares for earnings-per-share computations. At December 31, 2015 and 2014, the ESOP held 3.1 million and 2.2 million shares of company stock, respectively.

Certain salaried and hourly employees that are not participating in a PCA sponsored defined benefit pension plan receive a service-related company retirement contribution to their defined contribution plan account in addition to any employer matching contribution. This contribution increases with years of service and ranges from 3% to 5% of base pay. We contributed \$12.4 million, \$7.4 million, and \$5.3 million for this retirement contribution during the years ended December 31, 2015, 2014, and 2013, respectively.

Deferred Compensation Plans

Key managers can elect to participate in a deferred compensation plan. The deferred compensation plan is unfunded; therefore, benefits are paid from our general assets. At December 31, 2015 and 2014, we had \$12.8 million and \$12.4 million, respectively, of liabilities attributable to participation in our deferred compensation plan on our Consolidated Balance Sheets.

12. Asset Retirement Obligations

Our asset retirement obligations relate predominantly to landfill closure, wastewater treatment pond dredging, closed-site monitoring costs, and certain leasehold improvements. In accordance with ASC 410, "Asset Retirement and Environmental Obligations," we recognize the fair value of these liabilities as an asset retirement obligation and capitalize that cost as part of the cost basis of the related asset in the period in which the costs are incurred if sufficient information is available to reasonably estimate the fair value of the obligation. Fair value estimates are determined using Level 3 inputs in the fair value hierarchy. The fair value of our asset retirement obligations is measured using expected future cash outflows discounted using the company's credit-adjusted risk-free interest rate. Over time, the liability is accreted to its settlement value, and the capitalized cost is depreciated over the useful life of the related asset. These liabilities are based on the best estimate of costs and are updated periodically to reflect current technology, laws and regulations, inflation, and other economic factors. Occasionally, we become aware of events or circumstances that require us to revise our future estimated cash flows. When revisions become necessary, we recalculate our obligation and adjust our asset and liability accounts utilizing appropriate discount rates. No assets are legally restricted for purposes of settling asset retirement obligations. Upon settlement of the liability, we will recognize a gain or loss for any difference between the settlement amount and the liability recorded.

The following table describes changes to the asset retirement obligation liability (dollars in millions):

| | Year Ended December 31 | |
|--|------------------------|---------|
| | 2015 | 2014 |
| Asset retirement obligation at beginning of period | \$37.0 | \$32.0 |
| Sale of St. Helens (a) | (11.2) |) — |
| Accretion expense | 2.1 | 1.0 |
| Payments | (1.6) |) (0.1) |
| Revisions in estimated cash flows | 0.2 | — |
| Liabilities incurred | (0.3) |) — |
| Acquisition | — | 4.1 |
| Asset retirement obligation at end of period | \$26.2 | \$37.0 |

In September 2015, we sold the remaining land, buildings, and equipment at our paper mill site in St. Helens, Oregon where we ceased paper production in December 2012. We recorded a \$6.7 million gain on the sale. In connection with the sale, we eliminated \$11.2 million of asset retirement obligations that were assumed by the buyer.

We have additional asset retirement obligations with indeterminate settlement dates. The fair value of these asset retirement obligations cannot be estimated due to the lack of sufficient information to estimate the settlement dates of

the obligations. These asset retirement obligations include, for example, (i) removal and disposal of potentially hazardous materials related to equipment and/or an operating facility if the equipment and/or facilities were to undergo major maintenance, renovation, or demolition and (ii) storage sites or owned facilities for which removal and/or disposal of chemicals and other related materials are required if the operating facility is closed. We will recognize a liability in the period in which sufficient information becomes available to reasonably estimate the fair value of these obligations.

13. Share-Based Compensation

The Company has a long-term equity incentive plan, which allows for grants of stock options, stock appreciation rights, restricted stock, and performance awards to directors, officers, and employees, as well as others who engage in services for PCA. The plan, as amended, terminates May 1, 2023, and authorizes 10.6 million shares of common stock for grant over the life of the plan. As of December 31, 2015, 1.6 million shares remained available for future issuance under the plan. Forfeitures are added back to the pool of shares of common stock available to be granted at a future date.

Restricted Stock

Restricted stock awards granted to officers and employees generally vest at the end of a four-year period, and restricted stock awards granted to directors vest immediately. The fair value of restricted stock is determined based on the closing price of the Company's stock on the grant date. A summary of the Company's restricted stock activity follows:

| | 2015 | | 2014 | | 2013 | |
|---------------------------------|------------|--|------------|--|------------|--|
| | Shares | Weighted Average Grant- Date Fair Value | Shares | Weighted Average Grant- Date Fair Value | Shares | Weighted Average Grant- Date Fair Value |
| Restricted stock at January 1 | 1,184,299 | \$41.71 | 1,463,694 | \$31.48 | 1,771,664 | \$23.44 |
| Granted | 218,957 | 65.16 | 229,489 | 70.24 | 331,053 | 51.99 |
| Vested (a) | (389,481) | 32.77 | (507,222) | 26.29 | (605,458) | 19.54 |
| Forfeitures | (5,981) | 66.42 | (1,662) | 61.05 | (33,565) | 24.76 |
| Restricted stock at December 31 | 1,007,794 | \$49.47 | 1,184,299 | \$41.71 | 1,463,694 | \$31.48 |

(a) The total fair value of awards upon vesting for the years ended December 31, 2015, 2014, and 2013 was \$26.3 million, \$36.4 million, and \$29.5 million, respectively.

Performance Units

Performance award units granted to certain key employees vest four years after the grant date based on the achievement of defined performance rankings compared to a peer group. The performance units are paid out entirely in shares of the Company's common stock. The awards are valued at the closing price of the Company's stock on the grant date and expensed over the requisite service period based on the most probable number of awards expected to vest.

| | 2015 | | 2014 | | 2013 | |
|----------------------------------|----------|--|---------|--|--------|---|
| | Units | Weighted Average Grant- Date Fair Value | Units | Weighted Average Grant- Date Fair Value | Units | Weighted Average Grant-Date Fair Value |
| Performance units at January 1 | 127,489 | \$58.25 | 70,600 | \$47.83 | — | \$— |
| Granted | 53,102 | 65.04 | 56,889 | 71.19 | 70,600 | 47.83 |
| Vested (a) | (4,916) | 71.19 | — | — | — | — |
| Forfeitures | — | — | — | — | — | — |
| Performance units at December 31 | 175,675 | \$59.94 | 127,489 | \$58.25 | 70,600 | \$47.83 |

The total fair value of awards upon vesting for the year ended December 31, 2015 was \$0.3 million. Upon vesting (a) of the awards, PCA issued 5,090 shares of its common stock, which included 174 shares for dividends accrued during the vesting period.

Compensation Expense

Our share-based compensation expense is recorded in "Selling, general, and administrative expenses." Compensation expense for share-based awards recognized in the Consolidated Statements of Income, net of forfeitures was as follows (dollars in millions):

| | Year Ended December 31 | | |
|--------------------------------------|------------------------|---------|---------|
| | 2015 | 2014 | 2013 |
| Restricted stock | \$ 15.2 | \$ 13.8 | \$ 14.3 |
| Performance units | 3.0 | 1.8 | 0.5 |
| Impact on income before income taxes | 18.2 | 15.6 | 14.8 |
| Income tax benefit | (7.1 |) (6.1 |) (5.8 |
| Impact on net income | \$ 11.1 | \$ 9.5 | \$ 9.0 |

The fair value of restricted stock and performance units is determined based on the closing price of the Company's common stock on the grant date. As PCA's Board of Directors has the ability to accelerate vesting of share-based awards upon an employee's retirement, the Company accelerates the recognition of compensation expense for certain employees approaching normal retirement age.

The unrecognized compensation expense for all share-based awards was as follows (dollars in millions):

| | December 31, 2015 | |
|---|-----------------------------------|--|
| | Unrecognized Compensation Expense | Remaining Weighted Average Recognition Period (in years) |
| Restricted stock | \$ 26.6 | 2.5 |
| Performance units | 6.2 | 2.8 |
| Total unrecognized share-based compensation expense | \$ 32.8 | 2.6 |

We evaluate share-based compensation expense on a quarterly basis based on our estimate of expected forfeitures, review of recent forfeiture activity, and expected future turnover. We recognize the effect of adjusting the forfeiture rate for all expense amortization in the period that we change the forfeiture estimate. The effect of forfeiture adjustments was insignificant in all periods presented.

14. Derivative Instruments and Hedging Activities

Hedging Strategy

When appropriate, we use derivatives as a risk management tool to mitigate the potential impact of certain market risks. The primary risks managed by using derivative financial instruments are interest rate and foreign currency exchange rate risks. We do not enter into derivative financial instruments for trading or speculative purposes.

Interest Rate Risk

The Company has used treasury lock derivative instruments to manage interest costs and the risk associated with changing interest rates. In connection with contemplated issuances of ten-year debt securities, PCA entered into interest rate protection agreements with counterparties in 2008, 2010, and 2011 to protect against increases in the ten-year U.S. Treasury Note rate. These treasury rates served as references in determining the interest rates applicable to the debt securities the Company issued in March 2008, February 2011, and June 2012. As a result of changes in the

interest rates on those treasury securities between the time PCA entered into the derivative agreements and the time PCA priced and issued the debt securities, the Company: (1) made a payment of \$4.4 million to the counterparty upon settlement of the 2008 interest rate protection agreement on March 25, 2008; (2) received a payment of \$9.9 million from the counterparties upon settlement of the 2010 interest rate protection agreements on February 4, 2011; and (3) made a payment of \$65.5 million to the counterparty upon settlement of the 2011 interest rate protection agreement on June 26, 2012. The Company recorded the effective portion of the settlements in AOCI, and these amounts are being amortized over the terms of the respective notes.

Derivative Instruments

The impact of derivative instruments on the consolidated statements of income and accumulated OCI was as follows (dollars in millions):

| | Net Loss Recognized in Accumulated OCI (Effective Portion) December 31 | | |
|--|--|-----------|----------|
| | 2015 | 2014 | |
| Treasury locks, net of tax | \$(21.2 |) \$(24.7 |) |
| | Gain (Loss) Reclassified from Accumulated OCI into Income (Effective Portion) Year Ended December 31 | | |
| Location | 2015 | 2014 | 2013 |
| Amortization of treasury locks (included in interest expense, net) | \$(5.7 |) \$(5.7 |) \$(5.7 |

The net amount of settlement gains or losses on derivative instruments included in accumulated OCI to be amortized over the next 12 months is a net loss of \$5.7 million (\$3.5 million after-tax).

15. Stockholders' Equity

Dividends

During the year ended December 31, 2015, we paid \$200.8 million of dividends to shareholders. On December 15, 2015, PCA's Board of Directors approved a regular quarterly cash dividend of \$0.55 per share, which was paid on January 15, 2016, to shareholders of record as of December 28, 2015. The dividend payment was \$53.1 million.

On February 26, 2015, PCA announced an increase of its quarterly cash dividend on its common stock from an annual payout of \$1.60 per share to an annual payout of \$2.20 per share. The first quarterly dividend of \$0.55 per share was paid on April 15, 2015 to shareholders of record as of March 13, 2015.

Share Repurchase Program

On July 21, 2015, PCA announced that its Board of Directors authorized the repurchase of an additional \$150 million of the company's outstanding common stock. Together with remaining authority under previously announced programs, at the time of the announcement, the company was authorized to repurchase approximately \$205 million of additional shares. Repurchases may be made from time to time in open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the company in its discretion based on factors such as PCA's stock price and market and business conditions. Share repurchase activity follows (in millions, except share and per share amounts).

| | Shares | Weighted Average Price Per Share | Total |
|------|---------|-------------------------------------|-------|
| 2013 | 171,263 | \$45.54 | \$7.8 |
| 2014 | — | — | — |

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| | | | |
|------|-----------|-------|-------|
| 2015 | 2,326,493 | 66.50 | 154.7 |
|------|-----------|-------|-------|

All shares repurchased have been retired. At December 31, 2015, \$93.4 million of the authorized amount remained available for repurchase of the Company's common stock.

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Subsequent to year-end, we repurchased 1,868,487 shares of common stock for \$93.4 million, fully depleting the July 2015 authorization of \$150 million. On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of an additional \$200 million of the Company's outstanding common stock. Repurchases may be made from time to time in the open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the Company in its discretion based on factors such as PCA's stock price and market and business conditions.

Accumulated Other Comprehensive Income (Loss)

Changes in AOCI, net of taxes, by component follows (dollars in millions). Amounts in parentheses indicate losses.

| | Foreign Currency Translation Adjustments | Unrealized Loss On Treasury Locks, Net | Unrealized Loss on Foreign Exchange Contracts | Unfunded Employee Benefit Obligations | Total |
|--|---|---|---|--|-----------|
| Balance at December 31, 2014 | \$ (2.7) | \$(24.7) | \$(0.4) | \$(126.1) | \$(153.9) |
| Other comprehensive income (loss) before reclassifications, net of tax | (1.5) | — | — | 14.0 | 12.5 |
| Amounts reclassified from AOCI, net of tax | 4.2 | 3.5 | — | 8.8 | 16.5 |
| Net current-period other comprehensive income (loss) | 2.7 | 3.5 | — | 22.8 | 29.0 |
| Balance at December 31, 2015 | \$ — | \$(21.2) | \$(0.4) | \$(103.3) | \$(124.9) |

The following table presents information about reclassifications out of AOCI (dollars in millions). Amounts in parentheses indicate expenses in the Consolidated Statements of Income.

| Details about AOCI Components | Amounts Reclassified from AOCI | | Affected Line Item in the Statement Where Net Income is Presented | |
|--|--|-----------|---|------------------|
| | 2015 | 2014 | | |
| Foreign currency translation adjustments | \$ (4.2) | \$ — | Other expense, net | |
| | — | — | Tax benefit | |
| | \$(4.2) | \$ — | Net of tax | |
| Unrealized loss on treasury locks, net | \$ (5.7) | \$(5.7) | See (a) below | |
| | 2.2 | 2.2 | Tax benefit | |
| | \$(3.5) | \$(3.5) | Net of tax | |
| Unfunded employee benefit obligations | | | | |
| | Amortization of prior service costs | \$ (5.6) | \$(6.3) | See (b) below |
| | Amortization of actuarial gains / (losses) | (8.8) | (0.7) | See (b) below |
| | | (14.4) | (7.0) | Total before tax |
| | | 5.6 | 2.8 | Tax benefit |
| | \$(8.8) | \$(4.2) | Net of tax | |

(a) This AOCI component is included in interest expense, net. Amount relates to the amortization of the effective portion of treasury lock derivative instruments recorded in AOCI. The net amount of settlement gains or losses on derivative instruments included in AOCI to be amortized over the next 12 months is a net loss of \$5.7 million (\$3.5 million after-tax). For a discussion of treasury lock derivative instrument activity, see Note 14, Derivative

Instruments and Hedging Activities, for additional information.

- (b) These AOCI components are included in the computation of net pension and postretirement benefit costs. See Note 11, Employee Benefit Plans and Other Postretirement Benefits, for additional information.

16. Concentrations of Risk

Our Paper segment has had a long-standing commercial and contractual relationship with Office Depot, our largest customer in the paper business. Office Depot agreed to be acquired by Staples, Inc. on February 4, 2015. The pending acquisition by Staples is subject to the satisfaction of certain conditions, including regulatory approval. This relationship exposes us to a significant concentration of business and financial risk. Our sales to Office Depot represented 9% of our total company sales, for both 2015 and 2014, and about 45% of our Paper segment sales revenue for those periods. At December 31, 2015 and 2014, we had \$39.5 million and \$52.6 million of accounts receivable due from Office Depot, respectively, which represents 6% and 8% of our total company receivables, respectively.

Our agreement with Office Depot will continue to remain in effect after a merger or acquisition as to the office paper requirements of the legacy Office Depot business. However, we cannot predict how any merger or acquisition will affect the financial condition of the ultimate entity, the paper requirements of the legacy Office Depot business, the purchasing decisions of the ultimate entity or the effects on pricing or competition for office papers. In 2015, sales to Office Depot represented 45% of our Paper segment sales. If these sales are reduced, whether as a result of the future acquisition of Office Depot by Staples or otherwise, we would need to find new customers. We may not be able to fully replace any lost sales, and any new sales may be at lower prices or higher costs. Any significant deterioration in the financial condition of the ultimate entity affecting its ability to pay or any other change that affects its willingness to purchase our products will harm our business and results of operations.

Labor

At December 31, 2015, we had approximately 13,000 employees and approximately 50% of these employees worked pursuant to collective bargaining agreements. Approximately 70% of our hourly employees are represented by unions. The majority of our unionized employees are represented by the United Steel Workers (USW), the International Brotherhood of Teamsters (IBT), the International Association of Machinists (IAM), and the Association of Western Pulp and Paper Workers (AWPPW). Approximately 10% of our employees work pursuant to collective bargaining agreements that will expire within the next twelve months.

17. Transactions With Related Parties

Louisiana Timber Procurement Company, L.L.C. (LTP) is a variable-interest entity that is 50% owned by PCA and 50% owned by Boise Cascade Company (Boise Cascade). LTP procures sawtimber, pulpwood, residual chips, and other residual wood fiber to meet the wood and fiber requirements of PCA and Boise Cascade in Louisiana. PCA is the primary beneficiary of LTP, and has the power to direct the activities that most significantly affect the economic performance of LTP. Therefore, we consolidate 100% of LTP in our financial statements in our Corporate and Other segment. The carrying amounts of LTP's assets and liabilities (which relate primarily to non-inventory working capital items) on our Consolidated Balance Sheets were both \$4.5 million at December 31, 2015, and \$5.2 million at December 31, 2014. For 2015, 2014, and 2013, we recorded \$88.8 million, \$75.8 million, and \$10.3 million, respectively, of LTP sales to Boise Cascade in "Net Sales" in the Consolidated Statements of Income and approximately the same amount of expenses in "Cost of Sales".

For 2015, 2014, and 2013, fiber purchases from related parties were \$20.7 million, \$28.7 million, and \$3.7 million, respectively. Most of these purchases related to chip and log purchases by LTP from Boise Cascade's wood products business. These purchases are recorded in "Cost of Sales" in the Consolidated Statements of Income.

18. Segment Information

We report our business in three reportable segments: Packaging, Paper, and Corporate and Other. These segments represent distinct businesses that are managed separately because of differing products and services. Each of these businesses require distinct operating and marketing strategies.

Packaging. We manufacture and sell a wide variety of corrugated packaging products, including conventional shipping containers used to protect and transport manufactured goods, multi-color boxes and displays with strong visual appeal that help to merchandise the packaged product in retail locations. In addition, we are a large producer of packaging for meat, fresh fruit and vegetables, processed food, beverages, and other industrial and consumer products.

Paper. We manufacture and sell a range of white papers, including communication papers, and pressure sensitive papers, and market pulp. Our white papers can be manufactured as either commodity papers or specialty papers with specialized or custom features, such as colors, coatings, high brightness, or recycled content. We ship to customers both directly

from our mills and through distribution centers. In 2015, our sales to Office Depot, our largest paper segment customer, represented 45% of our Paper segment sales revenue.

Corporate and Other. Our Corporate and Other segment includes corporate support staff services and related assets and liabilities, and foreign exchange gains and losses. This segment also includes transportation assets, such as rail cars and trucks, which we use to transport our products from some of our manufacturing sites and assets related to LTP. See Note 17, Transactions With Related Parties, for more information related to LTP. Sales in this segment relate primarily to LTP and our rail and truck business. We provide transportation services not only to our own facilities but also, on a limited basis, to third parties when geographic proximity and logistics are favorable. Rail cars and trucks are generally leased.

Each segments' profits and losses are measured on operating profits before interest expense and interest income. For many of these allocated expenses, the related assets and liabilities remain in the Corporate and Other segment.

Segment sales to external customers by product line were as follows (dollars in millions):

| | Year Ended December 31 | | |
|---------------------|------------------------|-----------|-----------|
| | 2015 | 2014 | 2013 |
| Packaging sales | \$4,477.3 | \$4,540.3 | \$3,431.7 |
| Paper sales | | | |
| White papers | 1,089.6 | 1,138.5 | 207.0 |
| Market pulp | 53.5 | 62.9 | 9.9 |
| | 1,143.1 | 1,201.4 | 216.9 |
| Corporate and Other | 121.3 | 110.9 | 16.7 |
| | \$5,741.7 | \$5,852.6 | \$3,665.3 |

Sales to foreign unaffiliated customers during the years ended December 31, 2015, 2014, and 2013 were \$177.2 million, \$378.8 million, and \$162.4 million, respectively. At December 31, 2015, we do not have significant long-lived assets held by foreign operations. At December 31, 2014, the net carrying value of long-lived assets held by foreign operations, all of which were in our Packaging segment, was \$12.4 million. The sales to foreign unaffiliated customers and the net carrying value of long-lived assets held by foreign operations decreased in 2015 as we completed the sale of our Hexacomb corrugated manufacturing operations in Europe and Mexico on April 1, 2015.

An analysis of operations by reportable segment is as follows (dollars in millions):

| Year Ended December 31, 2015 | Sales, net | | | Operating Income (Loss) | Depreciation, Amortization, and Depletion | Capital Expenditures (1) | Assets |
|------------------------------------|------------|-------------------|-----------|-------------------------------|---|--------------------------------|-----------|
| | Trade | Inter- segment | Total | | | | |
| Packaging | \$4,474.1 | \$3.2 | \$4,477.3 | \$714.9 | (a) \$297.3 | \$250.3 | \$4,027.9 |
| Paper | 1,143.1 | — | 1,143.1 | 112.5 | (b) 54.9 | 58.5 | 976.5 |
| Corporate and Other | 124.5 | 133.8 | 258.3 | (77.4) | (c) 4.3 | 5.7 | 280.2 |
| Intersegment eliminations | — | (137.0) | (137.0) | — | — | — | — |
| | \$5,741.7 | \$— | \$5,741.7 | 750.0 | \$356.5 | \$314.5 | \$5,284.6 |
| Interest expense, net | | | | (85.5) |) | | |
| Income before taxes | | | | \$664.5 | | | |

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| Year Ended December 31, 2014 | Sales, net | | | Operating Income (Loss) | Depreciation, Amortization, and Depletion | Capital Expenditures (l) | Assets |
|--|------------|-------------------|-----------|-------------------------------|---|--------------------------------|-----------|
| | Trade | Inter- segment | Total | | | | |
| Packaging | \$4,534.5 | \$5.8 | \$4,540.3 | \$663.2 | (d) \$323.0 | \$362.1 | \$4,105.3 |
| Paper | 1,201.4 | — | 1,201.4 | 135.4 | 50.6 | 51.7 | 968.6 |
| Corporate and Other | 116.7 | 144.9 | 261.6 | (95.9 |) (e) 7.4 | 6.4 | 198.9 |
| Intersegment eliminations | — | (150.7 |) (150.7 |) — | — | — | — |
| | \$5,852.6 | \$— | \$5,852.6 | 702.7 | \$381.0 | \$420.2 | \$5,272.8 |
| Interest expense, net | | | | (88.4 |) (f) | | |
| Income before taxes | | | | \$614.3 | | | |
| Year Ended December 31, 2013 (g) | Sales, net | | | Operating Income (Loss) | Depreciation, Amortization, and Depletion | Capital Expenditures (l) | Assets |
| | Trade | Inter- segment | Total | | | | |
| Packaging | \$3,431.3 | \$0.4 | \$3,431.7 | \$554.2 | (h) \$190.2 | \$222.2 | \$3,988.5 |
| Paper | 216.9 | — | 216.9 | 13.5 | (i) 9.1 | 10.0 | 938.4 |
| Corporate and Other | 17.1 | 28.0 | 45.1 | (85.8 |) (j) 2.5 | 2.2 | 269.3 |
| Intersegment eliminations | — | (28.4 |) (28.4 |) — | — | — | — |
| | \$3,665.3 | \$— | \$3,665.3 | 481.9 | \$201.8 | \$234.4 | \$5,196.2 |
| Interest expense, net | | | | (58.3 |) (k) | | |
| Income before taxes | | | | \$423.6 | | | |

(a) Includes net charges of \$2.0 million primarily related to restructuring activities at our mill in DeRidder, Louisiana and \$4.1 million of Boise acquisition integration-related and other costs.

(b) In September 2015, we sold the remaining land, buildings, and equipment at our paper mill site in St. Helens, Oregon where we ceased paper production in December 2012. We recorded a \$6.7 million gain on the sale.

(c) Includes \$9.3 million of Boise acquisition integration-related and other costs. These costs primarily relate to professional fees, severance, retention, relocation, travel, and other integration-related costs.

(d) Includes \$65.8 million of costs related primarily to the conversion of the No. 3 newsprint machine at our DeRidder, Louisiana mill to produce lightweight linerboard and corrugating medium, and our exit from the newsprint business in September 2014. Includes \$4.9 million of Boise acquisition integration-related and other costs.

(e) Includes \$13.5 million of Boise acquisition integration-related and other costs and \$17.6 million of costs for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit. See Note 19, Commitments, Guarantees, Indemnifications, and Legal Proceedings, for more information.

(f) Includes \$1.5 million of expense related to the write-off of deferred financing costs in connection with the debt refinancing discussed in Note 10, Debt.

(g) On October 25, 2013, we acquired Boise Inc. (Boise). Our financial results include Boise subsequent to acquisition.

(h) Includes \$18.0 million of expense for the acquisition inventory step-up and \$1.4 million of integration-related and other costs incurred in connection with the acquisition of Boise in fourth quarter 2013.

- (i) Includes \$3.5 million of expense for acquisition inventory step-up and \$1.9 million of income for integration-related and other costs.
- (j) Includes \$17.2 million of acquisition-related costs and \$17.9 million of integration-related and other costs.
- (k) Includes \$10.5 million of expenses for financing the Boise acquisition and \$1.1 million of expense for the write-off of deferred financing costs.
- (l) Includes "Additions to property, plant, and equipment" and excludes cash used for "Acquisitions of businesses, net of cash acquired" as reported on our Consolidated Statements of Cash Flows.

19. Commitments, Guarantees, Indemnifications, and Legal Proceedings

We have financial commitments and obligations that arise in the ordinary course of our business. These include long-term debt (discussed in Note 10, Debt), capital commitments, lease obligations, purchase commitments for goods and services, and legal proceedings (discussed below).

Capital Commitments

The Company had capital commitments of approximately \$83.7 million and \$94.7 million as of December 31, 2015 and 2014, respectively, in connection with the expansion and replacement of existing facilities and equipment.

Lease Obligations

PCA leases space for certain of its facilities, cutting rights to approximately 83,000 acres of timberland, land for a fiber farm, and equipment, primarily vehicles and rolling stock. Remaining lease terms range from one to 15 years and may contain renewal options or escalation clauses. Substantially all lease agreements have fixed payment terms based on the passage of time. Some lease agreements provide us with the option to purchase the leased property.

Additionally, some agreements contain renewal options averaging approximately six years. Some leases may require the Company to pay executory costs, which may include property taxes, maintenance and insurance. The minimum lease payments under non-cancelable operating leases with lease terms in excess of one year were as follows (dollars in millions):

| | |
|------------|---------|
| 2016 | \$54.4 |
| 2017 | 45.0 |
| 2018 | 36.9 |
| 2019 | 25.7 |
| 2020 | 17.2 |
| Thereafter | 69.2 |
| Total | \$248.4 |

Total lease expense, including base rent on all leases and executory costs, such as insurance, taxes, and maintenance, for the years ended December 31, 2015, 2014, and 2013, was \$87.9 million, \$85.6 million and \$56.0 million, respectively. These costs are included in "Cost of sales" and "Selling, general, and administrative expenses" in our Consolidated Statements of Income. We had an insignificant amount of sublease rental income in the periods presented.

PCA was obligated under capital leases covering buildings and machinery and equipment in the amount of \$22.8 million and \$23.9 million at December 31, 2015 and 2014, respectively. Assets held under capital lease obligations were included in property, plant, and equipment as follows (dollars in millions):

| | Year Ended December 31 | |
|-------------------------------|------------------------|---------|
| | 2015 | 2014 |
| Buildings | \$0.3 | \$0.3 |
| Machinery and equipment | 28.5 | 28.5 |
| Total | 28.8 | 28.8 |
| Less accumulated amortization | (12.2 |) (10.5 |
| Total | \$16.6 | \$18.3 |

Amortization of assets under capital lease obligations is included in depreciation expense.

The future minimum payments under capitalized leases at December 31, 2015 were as follows (dollars in millions):

| | | |
|--|--------|---|
| 2016 | \$2.7 | |
| 2017 | 2.7 | |
| 2018 | 2.7 | |
| 2019 | 2.7 | |
| 2020 | 2.7 | |
| Thereafter | 20.4 | |
| Total minimum capital lease payments | 33.9 | |
| Less amounts representing interest | (11.1 |) |
| Present value of net minimum capital lease payments | 22.8 | |
| Less current maturities of capital lease obligations | (1.2 |) |
| Total long-term capital lease obligations | \$21.6 | |

Interest expense related to capital lease obligations was \$1.6 million during the year ended December 31, 2015, and \$1.6 million during both the years ended December 31, 2014 and 2013.

Purchase Commitments

In the table below, we set forth our enforceable and legally binding purchase obligations as of December 31, 2015. Some of the amounts are based on management's estimates and assumptions about these obligations, including their duration, the possibility of renewal, anticipated actions by third parties, and other factors. Because these estimates and assumptions are necessarily subjective, our actual payments may vary from those reflected in the table. Purchase orders made in the ordinary course of business are excluded below. Any amounts for which we are liable under purchase orders are reflected on the Consolidated Balance Sheets as accounts payable and accrued liabilities. These obligations relate to various purchase agreements for items such as minimum amounts of fiber and energy purchases over periods ranging from one year to 20 years. Total purchase commitments were as follows (dollars in millions):

| | |
|------------|---------|
| 2016 | \$95.3 |
| 2017 | 60.3 |
| 2018 | 28.0 |
| 2019 | 28.0 |
| 2020 | 23.4 |
| Thereafter | 77.0 |
| Total | \$312.0 |

The Company purchased a total of \$299.6 million, \$265.9 million, and \$61.7 million during the years ended December 31, 2015, 2014, and 2013, respectively, under these purchase agreements. The increase in purchases The increase in purchases under these agreements in 2014, compared with 2013, relates to the acquisition of Boise in fourth quarter 2013.

Environmental Liabilities

The potential costs for various environmental matters are uncertain due to such factors as the unknown magnitude of possible cleanup costs, the complexity and evolving nature of governmental laws and regulations and their interpretations, and the timing, varying costs and effectiveness of alternative cleanup technologies. From 2006 through 2015, there were no significant environmental remediation costs at PCA's mills and corrugated plants. At December 31, 2015, the Company had \$24.3 million of environmental-related reserves recorded on its Consolidated Balance Sheet. Of the \$24.3 million, approximately \$15.8 million related to environmental-related asset retirement obligations discussed in Note 12, Asset Retirement Obligations, and \$8.5 million related to our estimate of other environmental contingencies. The Company recorded \$7.9 million in "Accrued liabilities" and \$16.4 million in "Other

long-term liabilities" on the Consolidated Balance Sheet. Liabilities recorded for environmental contingencies are estimates of the probable costs based upon available information and assumptions. Because of these uncertainties, PCA's estimates may change. The Company believes that it is not reasonably

possible that future environmental expenditures for remediation costs and asset retirement obligations above the \$24.3 million accrued as of December 31, 2015, will have a material impact on its financial condition, results of operations, or cash flows.

Guarantees and Indemnifications

We provide guarantees, indemnifications, and other assurances to third parties in the normal course of our business. These include tort indemnifications, environmental assurances, and representations and warranties in commercial agreements. At December 31, 2015, we are not aware of any material liabilities arising from any guarantee, indemnification, or financial assurance we have provided. If we determined such a liability was probable and subject to reasonable determination, we would accrue for it at that time.

Legal proceedings

During 2010, PCA and eight other U.S. and Canadian containerboard producers were named as defendants in five purported class action lawsuits filed in the United States District Court for the Northern District of Illinois, alleging violations of the Sherman Act. The lawsuits were consolidated in a single complaint under the caption Kleen Products LLC v Packaging Corp. of America et al. The consolidated complaint alleges that the defendants conspired to limit the supply of containerboard, and that the purpose and effect of the alleged conspiracy was to artificially increase prices of containerboard products during the period of August 2005 to October 2010 (the time of filing of the complaint). The complaint was filed as a class action suit on behalf of all purchasers of containerboard products during such period. In 2014, we settled the class action lawsuit for \$17.6 million. These costs were recorded in "Other expense, net" in our Consolidated Statement of Income for the year ended December 31, 2014.

We are also a party to other legal actions arising in the ordinary course of our business. These legal actions include commercial liability claims, premises liability claims, and employment-related claims, among others. As of the date of this filing, we believe it is not reasonably possible that any of the legal actions against us will, either individually or in the aggregate, have a material adverse effect on our financial condition, results of operations, or cash flows.

20. Quarterly Results of Operations (unaudited, dollars in millions, except per-share and stock price information)

| | Quarter | | | | |
|----------------------------|-----------|------------|-----------|------------|-----------|
| 2015: | First (a) | Second (b) | Third (c) | Fourth (d) | Total |
| Net sales | \$1,425.7 | \$1,454.3 | \$1,470.8 | \$1,390.9 | \$5,741.7 |
| Gross profit | 277.0 | 317.6 | 328.3 | 285.0 | 1,208.0 |
| Income from operations | 157.1 | 197.6 | 219.4 | 175.9 | 750.0 |
| Net income | 90.8 | 114.0 | 127.8 | 104.3 | 436.8 |
| Basic earnings per share | 0.92 | 1.16 | 1.31 | 1.07 | 4.47 |
| Diluted earnings per share | 0.92 | 1.16 | 1.31 | 1.07 | 4.47 |
| Stock price - high | 84.88 | 78.98 | 73.60 | 70.04 | 84.88 |
| Stock price - low | 73.03 | 62.48 | 58.29 | 59.54 | 58.29 |
| | Quarter | | | | |
| 2014: | First (e) | Second (f) | Third (g) | Fourth (h) | Total |
| Net sales | \$1,431.3 | \$1,468.4 | \$1,518.9 | \$1,434.0 | \$5,852.6 |
| Gross profit | 301.4 | 310.8 | 320.3 | 297.0 | 1,229.5 |
| Income from operations | 160.9 | 180.2 | 188.4 | 173.2 | 702.7 |
| Net income | 90.1 | 99.6 | 104.4 | 98.5 | 392.6 |
| Basic earnings per share | 0.92 | 1.01 | 1.06 | 1.00 | 3.99 |
| Diluted earnings per share | 0.92 | 1.01 | 1.06 | 1.00 | 3.99 |
| Stock price - high | 75.10 | 72.74 | 72.82 | 80.14 | 80.14 |

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| | | | | | |
|-------------------|-------|-------|-------|-------|-------|
| Stock price - low | 61.35 | 65.00 | 63.11 | 57.06 | 57.06 |
|-------------------|-------|-------|-------|-------|-------|

Note: The sum of the quarters may not equal the total of the respective year's earnings per share on either a basic or diluted basis due to changes in the weighted average shares outstanding throughout the year.

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- Includes \$10.3 million of DeRidder restructuring charges (\$6.6 million after-tax or \$0.07 per diluted share) and \$3.5 million of integration-related and other costs (\$2.2 million after-tax or \$0.02 per diluted share). Also includes
- (a) a \$3.6 million tax credit from the State of Louisiana related to our recent capital investment and the jobs retained at the DeRidder, Louisiana mill.
- Includes \$1.0 million of income from DeRidder restructuring (\$0.7 million after-tax or \$0.01 per diluted share) and \$3.7 million of integration-related and other costs (\$2.3 million after-tax or \$0.03 per diluted share). Gross profit
- (b) has been revised to correct an error in the previous presentation totaling \$6.0 million reclassified from "Selling, general, and administrative expenses" to "Cost of Sales" for the three months ended June 30, 2015.
- Includes \$3.8 million of income from DeRidder restructuring (\$2.3 million after-tax or \$0.02 per diluted share) and \$2.4 million of integration-related and other costs (\$1.7 million after-tax or \$0.02 per diluted share). Also includes
- (c) \$6.7 million gain from the sale of our paper mill site at St. Helens, Oregon (\$4.4 million after tax or \$0.05 per diluted share).
- Includes \$3.5 million of income from DeRidder restructuring (\$2.2 million after-tax or \$0.02 per diluted share) and \$3.8 million of integration-related and other costs (\$2.6 million after-tax or \$0.03 per diluted share).
- Includes \$17.6 million of costs accrued for the settlement of the Kleen Products LLC v Packaging Corp. of America et al class action lawsuit (\$11.2 million after-tax or \$0.11 per diluted share), \$4.1 million of
- (e) integration-related costs (\$2.6 million after-tax or \$0.03 per diluted share), and \$4.0 million of DeRidder restructuring charges (\$2.6 million after-tax or \$0.02 per diluted share).
- Includes \$17.8 million of DeRidder restructuring charges (\$11.2 million after-tax or \$0.12 per diluted share) and
- (f) \$4.9 million of integration-related and other costs (\$3.0 million after-tax or \$0.03 per diluted share).
- Includes \$26.0 million of DeRidder restructuring charges (\$16.6 million after-tax or \$0.17 per diluted share) and
- (g) \$4.5 million of integration-related and other costs (\$2.9 million after-tax or \$0.03 per diluted share).
- Includes \$18.0 million of DeRidder restructuring charges (\$11.7 million after-tax or \$0.12 per diluted share) and
- (h) \$6.4 million of integration-related and other costs (\$4.2 million after-tax or \$0.04 per diluted share).

21. Subsequent Event

Subsequent to year-end, we repurchased 1,868,487 shares of common stock for \$93.4 million, fully depleting the July 2015 authorization of \$150 million. On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of an additional \$200 million of the Company's outstanding common stock. Repurchases may be made from time to time in the open market or privately negotiated transactions in accordance with applicable securities regulations. The timing and amount of repurchases will be determined by the Company in its discretion based on factors such as PCA's stock price and market and business conditions.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

Item 9A. CONTROLS AND PROCEDURES

Controls and Procedures

PCA maintains disclosure controls and procedures (as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934) that are designed to provide reasonable assurance that information required to be disclosed in PCA's filings under the Securities Exchange Act is recorded, processed, summarized and reported within the periods specified in the rules and forms of the SEC and that such information is accumulated and communicated to PCA's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Prior to filing this report, PCA completed an evaluation under the supervision and with the participation of PCA's management, including PCA's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of PCA's disclosure controls and procedures as of December 31, 2015. The evaluation of PCA's disclosure controls and procedures included a review of the controls' objectives and design, PCA's implementation of the controls and the effect of the controls on the information generated for use in this report. Based on this evaluation, PCA's Chief Executive Officer and Chief Financial Officer concluded that PCA's disclosure controls and procedures were effective at the reasonable assurance level as of December 31, 2015.

During the quarter ended December 31, 2015, there were no changes in internal controls over financial reporting that have materially affected, or are reasonably likely to materially affect, PCA's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

PCA's management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). 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. Internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Company's assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only with proper authorizations; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, PCA's internal control over financial reporting may not prevent or detect misstatements. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls become inadequate because of changes in conditions, or that the degree of compliance with the policies and procedures may deteriorate.

PCA's management, under the supervision of and with the participation of the Chief Executive Officer and Chief Financial Officer, assessed the Company's internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, PCA's management concluded that its internal control over financial reporting was effective as of December 31, 2015, based on the specified criteria.

KPMG LLP, the independent registered public accounting firm that audited PCA's financial statements included in this Form 10-K, has also audited the effectiveness of the Company's internal control over financial reporting. Their attestation report precedes PCA's audited financial statements included elsewhere in this report.

Item 9B. OTHER INFORMATION

None.

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PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

Information regarding PCA's executive officers required by this Item 10 is set forth in Item 1 of Part I of this report under the caption "Executive Officers of the Registrant."

The following information required by this Item 10 will be included in PCA's Proxy Statement for the 2016 Annual Meeting of Stockholders and is incorporated by reference herein:

Information regarding PCA's directors included under the caption "Election of Directors"

Information regarding PCA's Audit Committee and financial experts included under the caption "Election of Directors - Audit Committee"

Information regarding PCA's code of ethics included under the caption "Election of Directors - Code of Ethics"

Information regarding PCA's stockholder nominating procedures included under the captions "Election of Directors - Nominating and Governance Committee," "Other Information - Recommendations for Board - Nominated Director Nominees," and "Other Information - Procedures for Nominating Directors or Bringing Business Before the 2017 Annual Meeting"

Information regarding compliance with Section 16(a) of the Securities Exchange Act of 1934 included under the caption "Section 16(a) Beneficial Ownership Reporting Compliance"

Item 11. EXECUTIVE COMPENSATION

Information with respect to executive compensation required by this Item 11 will be included in PCA's Proxy Statement under the captions "Compensation Discussion and Analysis," "Executive Officer and Director Compensation" (including all subcaptions and tables thereunder) and "Board Committees - Compensation Committee" and is incorporated herein by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information with respect to security ownership of certain beneficial owners and management required by this Item 12 will be included in PCA's Proxy Statement under the caption "Ownership of Our Stock" and is incorporated herein by reference.

Authorization of Securities under Equity Compensation Plans — Securities authorized for issuance under our equity compensation plans at December 31, 2015 are as follows:

| Plan Category | Column | | |
|---|--|--|---|
| | A | B | C |
| | 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 | Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column A) |
| Equity compensation plans approved by securityholders | — | \$— | 1,551,452 |
| Equity compensation plans not approved by securityholders | N/A | N/A | N/A |
| Total | — | \$— | 1,551,452 |

(a) Does not include 1,183,469 shares of unvested restricted stock and performance units granted pursuant to our Amended and Restated 1999 Long-Term Equity Incentive Plan.

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Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information with respect to certain relationships and related transactions and director independence required by this Item 13 will be included in PCA's Proxy Statement under the captions "Transactions with Related Persons" and "Election of Directors - Determination of Director Independence," respectively, and is incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information with respect to fees and services of the principal accountant required by this Item 14 will be included in PCA's Proxy Statement under the caption "Ratification of Appointment of the Independent Registered Public Accounting Firm" under the subcaptions "- Fees to the Independent Registered Public Accounting Firm" and "- Audit Committee Preapproval Policy for Audit and Non-Audit Fees" and are incorporated herein by reference.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as a part of this report:

- (1) The financial statements listed in the "Index to Financial Statements."
- (2) Financial Statement Schedule.

The following consolidated financial statement schedule of PCA for the years ended December 31, 2015, 2014, and 2013 is included in this report.

Schedule II - Packaging Corporation of America - Valuation and Qualifying Accounts (dollars in millions).

| Description | Balance Beginning of Year | Acquired Reserves | Charged to Expenses | Deductions | | Balance End of Year |
|--|---------------------------------|----------------------|---------------------------|------------|-------|---------------------------|
| Year ended December 31, 2015: | | | | | | |
| Deducted from assets accounts: | | | | | | |
| Allowance for doubtful accounts | \$4.9 | \$— | \$0.9 | \$(1.9 |) (a) | \$3.9 |
| Reserve for customer deductions | 6.4 | — | 46.2 | (46.2 |) (b) | 6.4 |
| Deferred tax asset valuation allowance | 1.7 | — | 4.5 | (1.1 |) | 5.1 |
| Total | \$13.0 | \$— | \$51.6 | \$(49.2 |) | \$15.4 |
| Year ended December 31, 2014: | | | | | | |
| Deducted from assets accounts: | | | | | | |
| Allowance for doubtful accounts | \$3.9 | \$— | \$2.2 | \$(1.2 |) (a) | \$4.9 |
| Reserve for customer deductions | 6.7 | — | 44.5 | (44.8 |) (b) | 6.4 |
| Deferred tax asset valuation allowance | 2.7 | — | 0.1 | (1.1 |) | 1.7 |
| Total | \$13.3 | \$— | \$46.8 | \$(47.1 |) | \$13.0 |
| Year ended December 31, 2013: | | | | | | |
| Deducted from assets accounts: | | | | | | |
| Allowance for doubtful accounts | \$1.9 | \$— | \$2.8 | \$(0.8 |) (a) | \$3.9 |
| Reserve for customer deductions | 3.4 | 3.4 | 39.5 | (39.6 |) (b) | 6.7 |
| Deferred tax asset valuation allowance | — | 2.7 | — | — | | 2.7 |
| Total | \$5.3 | \$6.1 | \$42.3 | \$(40.4 |) | \$13.3 |

(a) Consists primarily of uncollectable accounts written off, net of recoveries, during the year.

(b) Consists primarily of discounts taken by customers during the year.

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions, are inapplicable or not material, or the information called for thereby is otherwise included in the financial statements or the accompanying notes to the financial statements and therefore, have been omitted.

(2) Exhibits

| Exhibit Number | Description |
|----------------|---|
| 2.1 | Contribution Agreement, dated as of January 25, 1999, among Pactiv Corporation (formerly known as Tenneco Packaging Inc.) ("Pactiv"), PCA Holdings LLC ("PCA Holdings") and Packaging Corporation of America ("PCA"). (Incorporated herein by reference to Exhibit 2.1 to PCA's registration Statement on Form S-4, Registration No. 333-79511). |
| 2.2 | Letter Agreement Amending the Contribution Agreement, dated as of April 12, 1999, among Pactiv, PCA Holdings and PCA. (Incorporated herein by reference to Exhibit 2.2 to PCA's Registration Statement on Form S-4, Registration No. 333-79511). |
| 2.3 | Agreement and Plan of Merger, dated September 16, 2013, between PCA, Bee Acquisition Corp. and Boise, Inc. (Incorporated herein by reference to Exhibit 2.1 to PCA's Current Report on Form 8-K filed September 17, 2013, File No. 1-15399). PCA will furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request; provided, however, that PCA may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any schedule or exhibit so furnished. |
| 3.1 | Restated Certificate of Incorporation of PCA. (Incorporated herein by reference to Exhibit 3.1 to PCA's Registration Statement on Form S-4, Registration No. 333-79511). |
| 3.2 | Certificate of Amendment to Restated Certificate of Incorporation of PCA. (Incorporated herein by reference to Exhibit 3.2 to PCA's Registration Statement on Form S-4, Registration No. 333-109437.) |
| 3.3 | Amended and Restated By-laws of PCA. (Incorporated herein by reference to Exhibit 3.1 to PCA's Current Report on Form 8-K filed December 7, 2012, File No. 1-15399.) |
| 4.1 | Form of certificate representing shares of common stock. (Incorporated herein by reference to Exhibit 4.9 to PCA's Registration Statement on Form S-1, Registration No. 333-86963.) |
| 4.2 | Indenture, dated as of July 21, 2003, between PCA and U.S. Bank National Association. (Incorporated herein by reference to Exhibit 4.2 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2003, File No. 1-15399.) |
| 4.3 | First Supplemental Indenture, dated as of July 21, 2003, between PCA and U.S. Bank National Association. (Incorporated herein by reference to Exhibit 4.3 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2003, File No. 1-15399.) |
| 4.4 | Form of Rule 144A Global Note. (Incorporated herein by reference to Exhibit 4.5 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2003, File No. 1-15399.) |
| 4.5 | Officers' Certificate, dated March 25, 2008, pursuant to Section 301 of the Indenture filed herewith as Exhibit 4.2 (Incorporated herein by reference to Exhibit 4.1 to PCA's Current Report on Form 8-K filed March 25, 2008, File No. 1-15399.) |
| 4.6 | 6.50% Senior Notes due 2018. (Incorporated herein by reference to Exhibit 4.2 to PCA's Current Report on Form 8-K filed March 25, 2008, File No. 1-15399.) |
| 4.7 | Officers' Certificate and 3.90% Senior Notes due 2022. (Incorporated herein by reference to Exhibit 4.2 to PCA's Current Report on Form 8-K filed June 26, 2012, File No. 1-15399.) |
| 4.8 | Officers' Certificate, dated as of October 22, 2013, pursuant to Section 301 of the Indenture filed herewith as Exhibit 4.2. (Incorporated herein by reference to Exhibit 4.1 to PCA's Current Report on Form 8-K filed October 22, 2013, File No 1-15399.) |
| 4.9 | 4.500% Senior Notes due 2023. (Incorporated herein by reference to Exhibit 4.2 to PCA's Current Report on Form 8-K filed October 22, 2013, File No 1-15399.) |
| 4.10 | Officers' Certificate, dated September 5, 2014, pursuant to Section 301 of the Indenture, dated July 21, 2003, by and between Packaging Corporation of America and U.S. Bank National Association (Incorporated herein by reference to Exhibit 4.1 to PCA's Current Report on Form 8-K filed September 5, 2014, File No. 1-15399). |
| 4.11 | |

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3.650% Senior Notes due 2024 (Incorporated herein by reference to Exhibit 4.2 to PCA's Current Report on Form 8-K filed September 5, 2014, File No. 1-15399).

10.1 Credit Agreement, dated as of October 18, 2013, by and among PCA and the lenders and agents named therein. (Incorporated herein by reference to Exhibit 10.1 to PCA's Current Report on Form 8-K filed October 22, 2013, File No. 1-15399, which incorporates by reference Exhibit (b)(2) to Amendment No. 6 to PCA's Schedule filed October 21, 2013).

10.2 Packaging Corporation of America Thrift Plan for Hourly Employees and First Amendment of Packaging Corporation of America Thrift Plan for Hourly Employees, effective February 1, 2000. (Incorporated herein by reference to Exhibit 4.5 to PCA's Registration Statement on Form S-8, Registration No. 333-33176.)*

10.3 Packaging Corporation of America Retirement Savings Plan, effective February 1, 2000. (Incorporated herein by reference to Exhibit 4.6 to PCA's Registration Statement on Form S-8, Registration No. 333-33176.)*

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- 10.4 Form of Restricted Stock Award Agreement for employees and non-employee directors under the Amended and Restated 1999 Long-term Equity Incentive Plan. (Incorporated herein by reference to Exhibit 10.3 to PCA's Current Report on Form 8-K, filed March 14, 2006, File No. 1-15399.)*
- 10.5 Packaging Corporation of America Supplemental Executive Retirement Plan, as Amended and Restated Effective as of January 1, 2005. (Incorporated herein by reference to Exhibit 10.31 to PCA's Annual Report on Form 10-K for the year ended December 31, 2006, File No. 1-15399.)*
- 10.6 Packaging Corporation of America Deferred Compensation Plan, effective as of January 1, 2009. (Incorporated herein by reference to Exhibit 10.15 to PCA's Annual Report on Form 10-K for the year ended December 31, 2008, File No. 1-15399.)*
- 10.7 First Amendment of Packaging Corporation of America Supplemental Executive Retirement Plan, effective as of January 1, 2008. (Incorporated herein by reference to Exhibit 10.17 to PCA's Annual Report on Form 10-K for the year ended December 31, 2008, file No. 1-15399.)*
- 10.8 Amended and Restated 1999 Long-Term Equity Incentive Plan, effective as of May 1, 2013. (Incorporated herein by reference to Appendix A to PCA's Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 22, 2013, File No 1-15399.)*
- 10.9 PCA Amended and Restated Performance Incentive Plan, effective as of May 12, 2015. (Incorporated herein by reference to Appendix A to PCA's Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 27, 2015, File No. 1-15399.)*
- 10.10 Amended and Restated Agreement, dated February 26, 2015, between Packaging Corporation of America and Paul T. Stecko. (Incorporated herein by reference to Exhibit 10.12 to PCA's Annual Report on Form 10-K for the year ended December 31, 2014, File No. 1-15399).
- 10.11 Second Amendment of Packaging Corporation of America Supplemental Executive Retirement Plan, effective as of February 28, 2013. (Incorporated herein by reference to Exhibit 10.22 to PCA's Annual Report on Form 10-K for the year ended December 31, 2012, File No. 1-15399.)*
- 10.12 Third Amendment of Packaging Corporation of America Supplemental Executive Retirement Plan, effective as of February 28, 2013. (Incorporated herein by reference to Exhibit 10.23 to PCA's Annual Report on Form 10-K for the year ended December 31, 2012, File No. 1-15399.) *
- 10.13 Form of Restricted Stock Agreement for executive officer awards made in June 2013. (Incorporated by reference to Exhibit 10.1 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2013, File No. 1-15399).*
- 10.14 Form of Performance Unit Agreement for executive officer awards made in June 2013. (Incorporated by reference to Exhibit 10.2 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2013, File No. 1-15399).*
- 10.15 Performance Based Equity Award Pool for Executive Officers relating to awards made in June 2013. (Incorporated by reference to Exhibit 10.3 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2013, File No. 1-15399).*
- 10.16 Paper Purchase Agreement, dated June 25, 2011 (the "Paper Purchase Agreement"), between Boise White Paper, L.L. C. and OfficeMax Incorporated (Incorporated by reference to Exhibit 10.1 to Boise, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2013, File No. 1-33541)
- 10.17 First Amendment to Paper Purchase Agreement, dated June 20, 2013, between Boise White Paper, L.L.C. and OfficeMax Incorporated (Incorporated by reference to Exhibit 10.2 to Boise, Inc.'s Quarterly Report on Form 10-Q for the period ended June 30, 2013, File No. 1-33541)
- 10.18 Second Amendment to Paper Purchase Agreement, effective January 1, 2015 and executed and delivered August 19, 2015, between Boise White Paper, L.L.C. and Office Depot Inc. (Incorporated by reference to Exhibit 10.1 to PCA's Quarterly Report on Form 10-Q for the period ended September 30, 2015, File No. 1-33541)
- 10.19 Form of Restricted Stock Award Agreement for December 16, 2013 awards to Mark W. Kowlzan, Thomas A. Hassfurth and Richard B. West. (Incorporated herein by reference to Exhibit 10.1 to PCA's Current Report on Form 8-K, filed December 17, 2013, File No. 1-15399).*

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- 10.20 Form of Performance Unit Agreement for executive officer awards made in June 2014. (Incorporated by reference to Exhibit 10.1 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2014, File No. 1-15399).*
- 10.21 Form of Restricted Stock Agreement for executive officer awards made in June 2014. (Incorporated by reference to Exhibit 10.2 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2014, File No. 1-15399).*
- 10.22 Form of Performance Unit Agreement for executive officer awards made in 2015. (Incorporated by reference to Exhibit 10.1 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2015, File No. 1-15399).*
- 10.23 Form of Restricted Stock Agreement for executive officer awards made in 2015. (Incorporated by reference to Exhibit 10.2 to PCA's Quarterly Report on Form 10-Q for the period ended June 30, 2014, File No. 1-15399).*
- 10.24 Agreement, dated December 16, 2015, between Packaging Corporation of America and Paul T. Stecko, director and Senior Advisor (Incorporated by reference to Exhibit 10.2 to PCA's Current Report on Form 8-K filed on December 17, 2015, File No. 1-15399).

- 10.25 Agreement, dated January 19, 2016, between Packaging Corporation of America and Richard B. West (Incorporated by reference to Exhibit 10.2 to PCA's Current Report on Form 8-K filed on January 22, 2016, File No. 1-15399)*
- 12.1 Statement Regarding Computation of Ratio of Earnings to Fixed Charges†
- 16.1 Letter from Ernst & Young LLP dated November 15, 2013. (Incorporated herein by reference to Exhibit 16 to PCA's Current Report on Form 8-K, filed November 15, 2013, File No. 1-15399).
- 16.2 Letter from Ernst & Young LLP dated March 3, 2014. (Incorporated herein by reference to Exhibit 16.1 to PCA's Current Report on Form 8-K, filed March 3, 2014, File No. 1-15399).
- 21.1 Subsidiaries of the Registrant.†
- 23.1 Consent of KPMG LLP (2015 & 2014).†
- 23.2 Consent of KPMG LLP (2013).†
- 23.3 Consent of Ernst & Young LLP.†
- 24.1 Powers of Attorney.†
- 31.1 Certification of Chief Executive Officer, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.†
- 31.2 Certification of Chief Financial Officer, As Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.†
- 32 Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. §1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.†
- 99.1 Independent Auditors' Report (KPMG).†
- 101 The following financial information from Packaging Corporation of America's Annual Report on Form 10-K for the year ended December 31, 2015, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Statements of Income for the years ended December 31, 2015, 2014, and 2013, (ii) Consolidated Balance Sheets at December 31, 2015 and 2014, (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2015, 2014, and 2013, (iv) Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2015, 2014, and 2013, (v) the Notes to Consolidated Financial Statements, and (vi) Financial Statement Schedule-Valuation and Qualifying Accounts.

*Management contract or compensatory plan or arrangement.
Filed herewith.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrants have duly caused this report to be signed on their behalf by the undersigned, thereunto duly authorized on February 26, 2016.

Packaging Corporation of America

/s/ MARK W. KOWLZAN

Mark W. Kowlzan

Chairman of the Board and Chief Executive Officer

/s/ ROBERT P. MUNDY

Robert P. Mundy

Senior Vice President and Chief Financial Officer

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Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below on February 26, 2016, by the following persons on behalf of the registrants and in the capacities indicated.

| Signature | Capacity |
|--|---|
| /s/ MARK W. KOWLZAN Mark W. Kowlzan | Chairman of the Board and Chief Executive Officer (Principal Executive Officer) |
| /s/ ROBERT P. MUNDY Robert P. Mundy | Senior Vice President and Chief Financial Officer (Principal Financial and Accounting Officer) |
| * Cheryl K. Beebe | Director |
| * Duane Farrington | Director |
| * Hasan Jameel | Director |
| * Robert C. Lyons | Director |
| * Thomas P. Maurer | Director |
| * Samuel M. Mencoff | Director |
| * Roger B. Porter | Director |
| * Thomas S. Soules | Director |
| * Paul T. Stecko | Director |
| * James D. Woodrum | Director |
| /s/ ROBERT P. MUNDY Robert P. Mundy (Attorney-In-Fact) | |